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Pork, Power and Public Participation: A Comparative Analysis of Perceived Conflict, Successes and Challenges of Public Participation for Siting Intensive Hog Operations in Alberta.

by

Jody Lynn Mackenzie 

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of Masters of Science

In

Rural Sociology

Department of Rural Economy

Edmonton, Alberta

Fall 2000

University of Alberta

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Degree: Master of Science

Year this Degree Granted: 2000

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The undersigned certify that they have read, and recommended to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled Pork, Power and Public Participation: A Comparative Analysis of Perceived Conflict, Successes and Challenges of Public Participation for Siting Intensive Hog Operations in Alberta submitted by Jody Lynn Mackenzie in partial fulfillment of the requirements for the degree of Masters of Science in Rural Sociology.

Dr. Naomi Krogman

Dr. Debra Davidson

Dr. Eric Higgs

Date approved by the Committee
Wednesday, August 9th, 2000

ABSTRACT

This research is a comparative analysis of perceptions of conflict and public participation for intensive hog operations in Alberta. Four cases in Alberta are compared that vary in process, outcome and level of conflict. Using data from public meetings and appeal hearing field notes, content analysis from government and media documents, and 43 qualitative interviews with provincial and municipal government staff, community members, pork producers and other stakeholders, I identify the major similarities and differences of the perceptions and outcomes of the public participation processes. The social constructionist approach identifies the claim-makers, the claims being made and how the distribution of power for the claims may be affected by the structure of the claims-making process. Perceptions of conflict and public participation are affected by levels of trust that has or has not been developed through strong community networks, levels of knowledge, dominant worldviews, and the timing of the process.

ACKNOWLEDGEMENTS

I would like to thank Dr. Naomi Krogman for her exemplary supervisory skills and invaluable contributions to my learning process. Her thought-provoking courses, attention to detail, encouragement, and support throughout my graduate studies have inspired my newfound fascination with sociology. I could never have asked for a more wonderful advisor, whom I also consider a dear friend. I would also like to thank Dr. Debra Davidson and Dr. Eric Higgs who participated in my defense. It was a pleasure to learn from their expertise and to have an enthusiastic academic discussion of my thesis. Dr. Higgs' enthusiasm and motivating course on big agriculture was also a catalyst for the development of an exciting and challenging research project. I would like to thank all of my committee members for their time and stimulating ideas. I would also like to thank the Department of Rural Economy administrative staff whose expertise was helpful every step of the way.

This research would not have been possible without the financial support from the Alberta Agricultural Research Institute and Canada-Alberta Hog Industry Development Fund. I would like to thank these two organizations for funding this research project.

I am also greatly indebted to Nancy Mackenzie, who volunteered many days transcribing my interview tapes. I would like to give her special thanks for being not only a wonderful loving mother, but also a giving and hard-working spirit. I would also like to extend my thanks to Jeanne Oh, whose generosity, friendship, and interest in my work has filled my graduate studies with so much fun. To all of my friends and family who have been there along the way, thank you from the bottom of my heart.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

Intensive hog barns have generated intense legal, political and environmental debates across North America. These 'hog wars' have hit rural Alberta, and across the province, rural citizens are challenging the expansion of the intensive hog industry through heated public debates and expensive legal disputes. Rural communities in Alberta are polarized as families and neighbours hold opposing positions in the local hog barn debate. As the polarization of rural communities continues across Alberta, the well being (ecological, social and economic) of rural communities is being questioned. Alberta's rural communities are challenging the adequacy of environmental regulations for intensive livestock operations and the fairness of imposing unwanted environmental and social costs on rural communities. Community opposition to these intensive hog operations has raised academic and public debate about environmental justice and rural community sustainability.

As rural residents raise concerns about environmental, economic and community impacts, the municipal and provincial governments are seeking alternative routes for dispute resolution that reduce conflict and foster cooperation between stakeholders. A better understanding of public participation processes in land use conflicts may be employed to reduce conflict, and foster informed choices that are perceived as fair and effective. This research examines the strengths and weaknesses of public participation processes for intensive hog development permits in Alberta. This information seeks to develop a greater understanding of the perceived conflict and to develop recommendations for public processes that advocate greater community sustainability.

BACKGROUND

Alberta's rural landscape has undergone changes that have affected their economic, ecological and social structures. The most striking trend in Alberta's rural communities is the industrialization of agricultural practices, a steady shift to fewer and bigger farms. These changes to food production that are feeding much of the growth in agri-business are partly related to the industry remaining competitive in global commodity markets (Alberta Agriculture, Food and Rural Development, 2000). Another factor that contributed to this shift to large hog farms is the federal government removing a national subsidy on the export of grains (the crow rate). This policy resulted in an increase in export costs, thereby encouraging local grain consumption. Alberta's two main grain crops are wheat and barley (StatsCan, 1999), which are the main ingredients for a swine diet. This change to the movement of grains, coupled with Alberta packers marketing more chilled and processed pork to the Asian markets, has resulted in an aggressive expansion program for intensive hog operations in Alberta (Alberta Agriculture, Food and Rural Development, 1998c).

Intensive hog operations, or large-scale hog confinements, are large metal buildings where hogs are raised indoors, never seeing the light of day. Feeding, watering and waste removal are mainly automated procedures and the effluent is stored outside in earthen lagoons. Earthen manure lagoons hold millions of gallons of untreated pig effluent. The effluent has leaked into groundwater and streams in some cases. In North Carolina and Iowa, there have been instances where the lagoons walls have collapsed; resulting in massive manure spills causing fish kills and water pollution (Mayerfield Bell, 1998). Intensive hog operations pose visible environmental threats to water sources and public health and are contributing to the degradation of water quality in Alberta (Golder Associates Ltd., 1999; Canada-Alberta Environmentally Sustainable Agriculture Agreement, 1998; Reichelderfer, 1991). Resident concerns over odour, surface water quality, ground water quality, decreases in property values, and the health impacts of animal waste have generated considerable conflict and controversy in rural areas (Molnar, Hoban, Parrish, Futreal, 1997). Concerns have also been

raised about the connections between industrialized hog production and the well being and continued viability of small and medium sized family farms (Mayerfield Bell, 1998; Molnar et al, 1997; Goldschmidt, 1978).

These environmental and social concerns are some of the reasons why the hog industry is the most controversial animal industry and often creates widespread hostility in surrounding communities (Molnar et al., 1997). The emergence of intensive swine facilities has resulted in affronts to core beliefs that trigger individual and collective responses, manifested in long and costly appeals and lawsuits (Thu, DeLind, Durrenberger, Flora, Flora, Hefferman, and Padgitt, 1995). Across North America, communities are involved in local resistance to intensive hog operations (Seipel, Kleiner and Rikoon, 1999; Thu and Durrenberger, 1998).

Similarly, rural Albertans are questioning the rapid growth of intensive hog operations in their communities and are pursuing expensive and confrontational appeals to stop and/or delay such developments. This conflict results in polarized communities, which is tearing the fabric of rural community life. The industrialization of the hog industry has been a long-standing trend, however the acceleration in the growth and concentration of large farms presents challenges for natural resource management, public health and the well being of rural communities in Alberta.

Conflict in these communities may have resulted from decision systems that did not involve the public constructively (Waddell and Small, 1995; Wolsink, 1994; Lober, 1993; Petts, 1995; Rich, Edelstein, and Wandersman, 1995). Public participation has been increasingly accepted as an essential ingredient of sustainable rural development (Beckley, 1999; Duinker, 1998; Shindler, B. and J. Nebruka, 1997; Kofinas, 1996; Perkins, 1995; Petts, 1995; Zeiss and Lefsrud, 1995; Rich et al., 1995). The increasing number of legal challenges being filed across the country suggests the need for public involvement in intensive livestock management.

PURPOSE OF THE STUDY

Public involvement can assist decision-makers in reducing the number of expensive legal battles, and further more sustainable agricultural development. To promote environmental justice and reduce conflict in rural communities, local municipal governments need to ensure that their land use development policies are facilitating citizens' rights to legitimately participate in the decision-making process (Capek, 1993; Murdock, Colberg and Leistritz, 1991). Traditionally, farmers have been perceived as stewards of the land, have been exempt from stringent environmental regulations and have been provincially and federally subsidized. In Canada, agricultural land is privately owned, but farming practices have negatively impacted the quality of water, soil, and air, which are public goods transcending private boundaries (Canada-Alberta Environmentally Sustainable Agriculture Agreement, 1998). Since impacts from intensive hog operations have the potential to affect public goods, the siting of these developments is a public involvement issue.

This thesis examines public participation initiatives across four communities in Alberta. The purpose of this project is to identify, through perceptions of the stakeholders, the strengths and limitations of public participation processes for a controversial land issue. Four communities in Alberta that differed in levels of conflict, decision outcome and public participation processes were compared to understand the relationship between the public participation process and conflict.

RESEARCH OBJECTIVES

The results of this information may be used to avoid expensive delays, escalation of municipal and legal conflict, and to increase community democratic decision-making. This thesis has two main objectives:

- To identify the key problems and successes, from the perspective of various stakeholders, in the public participation processes for the siting of intensive hog facilities.

- To understand the relationship between public participation processes and escalated conflict, or no conflict, across several cases. Such comparative work will allow an examination of the relative importance of public participation processes for a controversial land use issue.

SIGNIFICANCE OF THE STUDY

The proposed research probes important theoretical and policy questions that have emerged in Alberta as a result of significant community conflict. The hog industry in Alberta is faced with the sociological challenge of understanding how to address, and reduce community conflict over hog operations. A key component of conflict resolution is a common understanding of the contentious issues across the stakeholder groups. This study has the potential to shed light on stakeholders' perceptions of the conflict. A better understanding of the similarities and differences in stakeholders' social construction of the conflict can sensitize policy makers to core issues in the hog barn conflict. This study addresses this challenge, and can provide specific suggestions that can inform municipalities as to the most effective methods of public participation. The results of this information may inform public officials, pork producers and concerned community residents about ways to avoid expensive delays, decrease municipal and legal conflict, and increase community democratic decision-making.

This research program is methodologically unique within the public participation literature. Public participation literature has mainly focused on the practical side and examined individual cases. This research compares four communities that vary in public participation process and outcome. These communities were controlled for socio-economic indicators and the size and type of intensive hog operations. This comparative analysis will further our understanding of how variances in public participation processes can affect perceptions of conflict and outcomes, and can identify the challenges and successes across various public participation processes. Also, this research makes connections between public participation and social theory, extending public participation

literature beyond the practical and into theoretical implications.

Stakeholders' perceptions of problems and solutions are compared across communities and public participation processes. This will help managers and decision-makers better understand key components to a successful public participation process. These lessons learned will be a valuable tool for pork producers, community residents, and government officials who are involved in public participation processes for rural land use decisions. This project builds on a recent socio-economic impact study of hog operations in Alberta sponsored by Alberta Agriculture, Food and Rural Development (AAFRD), which identified a need for better public policies (Serecon, 1998). AAFRD is also currently revising pork facility siting regulations to "ensure the industry continues to prosper and expand in a manner that is environmentally sustainable and that protects both human health and the rights of individuals" (AAFRD, 1999, p. 4). My goal is also to inform community residents about how they can protect their rights through a participatory process that promotes community empowerment, democratic justice, and long-term sustainability. Alberta Agriculture Research Institute and the Canada-Alberta Hog Industry Development Fund funded this study, thus there is a direct outlet for communicating these results to the government and hog industry.

This research proposes to identify key themes in stakeholders' proposed solutions to improve public participation. If AAFRD is going to take steps to encourage agricultural development, it needs to take equally large strides towards ensuring that such development is socially acceptable and ecologically sound. In fact, AAFRD has recently reoriented many research goals to fall under sustainable development[1]. The objectives of this research project aim to facilitate the shift of Alberta's sustainable development goals from rhetoric to action.

[1] Several structural changes were made to AAFRD as of April 6, 1999. These changes include consolidation of department activities related to environmental sustainability and food safety under Sustainable Development in order to respond to public concerns in these areas.

RESEARCH DESIGN

This study uses a qualitative methodological approach that identifies the perceived problems and suggested solutions of different stakeholders involved in four different public participation processes for siting intensive hog operations. The key research method was informal face-to-face interviews with involved stakeholders who reflected on their experiences. This interview information is supplemented by secondary data sources including: municipal bylaws, documents from public hearings, media reports, current livestock development permit policy, current intensive livestock research, and academic literature. While in the field, other secondary data sources of information were gathered at an appeal hearing, a public hearing for proposed changes to intensive livestock regulations, and a hog industry-sponsored conference.

The study includes a range of municipal decision-making processes that would provide the greatest opportunity for comparison. Thus, four agricultural communities were identified that are similar in terms of type and size of intensive hog operations and socio-economic indicators, but that vary in the decision-making process, and the outcome of the process. The objective of this research was to include all of the key players in each of the communities selected who were involved or highly informed about the issues around the siting of a new or expanded hog facility. Representatives from the following stakeholder groups were included in the sample: pork producers, members of municipal district boards who evaluate hog industry permits, opponents of hog facility permits, members of the municipal Development Appeal Boards, attorneys who have been involved in Court of Appeal cases for appeals to municipal hog industry permits, consultants and government personnel who have been working with communities and pork producers on the issues associated with the siting of new or expanded hog facilities.

As the interviews were being conducted, themes and concepts emerged from the respondent's interview data that were used to develop a theoretical framework. These themes and concepts were

coded using NUD*IST 4.0 qualitative data analysis software. Secondary sources were analyzed in order to supplement this theoretical framework and the analysis and interpretation of these two sources of information provide the basis for this research project. This study reports the problems cited, the perceived successes, and how they vary according to the position of the stakeholder, the outcome of the siting decision and the features of the decision-making process.

CHAPTER 2

LITERATURE REVIEW

The need to include public participation in land use decisions has received attention from the provincial and municipal governments of Alberta. Public managers are faced with the challenge of making decisions with limited resources while trying to mitigate risks and remain accountable to the communities effected by their decisions. This chapter provides background on the structural mechanisms and conceptual theories of public participation. By ensuring access to centres of power through public participation processes, the distribution of power and mitigation of risks may facilitate more legitimate choices. Public participation aims to restore the public's place in the decision-making arena. The application of a certain public participation process has a function to distribute power among varied interests, thus promoting the opportunity for justice and democracy. We need to understand the institutional mechanisms and conceptual strategies through which rural communities can become empowered.

One goal of public participation is sustainable community development, therefore this chapter begins with a review of community sustainability literature. Definitions of community and community sustainability provide working definitions of this research project. The following section reviews public participation literature to develop a better understanding of current public participation practices. For participation mechanisms to occur, there must be some form of organization or mobilization. Therefore, environmental mobilization within rural communities is discussed to describe the social composition of rural social movements. Mobilization of actors depends on existing social networks, access to resources, and individuals' social-psychological variables. Additionally, the stages of environmental organization development are discussed using social capital and resource mobilization theory to help explain some of the factors that influence

participation in the environmental movement.

Public participation mechanisms are then reviewed to develop an appreciation of the types of processes that public managers, grassroots organizations or industry representatives have traditionally employed in other rural communities. The review of these practices probes some of the strengths and weaknesses of various public participation mechanisms. This section is important for the comparative analysis of and development of practical recommendations for Alberta's public participation process for siting intensive hog operations.

The final section in this chapter outlines the theoretical framework this research drew upon in order to better understand the sociological relevance of the findings. Since this research draws upon stakeholders' constructed perceptions of a political process, it is important to review literature on power and politics in environmental disputes to better understand the social phenomenon in Alberta's land use disputes. Environmental justice, bureaucratic slippage, framing strategies and community empowerment are explored to present different dimensions of power stakeholders possess in environmental disputes. Such concepts illustrate how stakeholders might legitimize their perception of the environmental controversy, and impede or facilitate public participation by altering the objectives of the process.

COMMUNITY

> *Strong communities, with people banded and [pulling] together, are our last lines of defence against the breakdown of families and society.* Mathews, 1996, p.23

Public participation, community empowerment, and community sustainability all rest on the assumption that there is some sense of community that can be further strengthened in order to

promote positive social change. There are many definitions of community, but the one used for the purposes of this research is taken from Israel, Checkoway, Schulz and Zimmerman (1994) which draws on a variety of interpretations of the meaning of a community. A community is a locale or domain that is characterized by the following elements: (1) membership – a sense of identity and belonging; (2) common symbol systems – similar language, rituals, and ceremonies; (3) shared values and norms; (4) mutual influence – community members have influence and are influenced by each other; (5) shared needs and commitment to meeting them; and (6) shared emotional connections – members share common history, experiences, and mutual support. This idea of community may or may not be geographically bounded; for example neighbourhood or ethnic groups are both considered communities but vary in territorial space.

RURAL COMMUNITY

Few have agreed upon what constitutes a rural community. Rural is generally a place with a relatively sparse population that lies beyond the city and its suburbs; it should be a place where natural resources are the basis for at least some of the residents' livelihoods (Stokes, Watson, Keller, Keller, 1989). A core belief in being an ideal rural neighbour includes behaviours and attitudes of honesty, reciprocity, respect, and sharing an identity (Thu et al., 1995). Rural communities have been exposed to a variety of activities and policies that have placed them at a substantial risk to their health and quality of life (Albrecht, 1995). Many North American rural communities are experiencing rapid changes that may significantly erode their capacity to ensure community well being and sustainability (Lacy, 2000).

COMMUNITY SUSTAINABILITY

Gertler and Baker (1990) combined characteristics from four community sustainability models in order to develop a comprehensive statement that provides a description and prescription for a sustainable community. According to these authors, a sustainable community aggressively

manages and controls its destiny based on a vision that is well thought out and realistic. This community-based management approach requires a process instituted within a community that effectively uses knowledge and knowledge systems to direct change and determine appropriate courses of action. The process must be comprehensive and address social, economic, physical and environmental concerns in an integrated fashion while maintaining a central concern for the present and future welfare of individuals and the community. The type of community that results from this description is one that is economically viable, socially vital and environmentally sound. This integrated notion of community management to direct change will be the working definition of a sustainable community for the purposes of this research project.

PUBLIC PARTICIPATION

> *To participate means to live and to relate differently... the recovery of one's inner freedom... to learn to listen and to share, free from any fear of predefined conclusion, belief or judgement.* Rahnema, 1993, p. 123

The idea of public participation is analogous to the conceptual feature of a democracy where citizens actively take part in decisions that affect their lives. *Demos*, a Greek word meaning 'the rule of the citizens', is rooted in Greek history where citizens formed a social body to represent all voices. To understand how democracy can work, we must first understand the institutional mechanisms that foster democratic decision-making.

According to Beierle (1999), public participation is extremely important in environmental decision making processes for three main reasons. First, environmental problems are no longer from large point sources, but from more diffuse and widely distributed pollution sources such as agricultural run-off. This requires more knowledge and involvement from a variety of stakeholders. The central hierarchical decision-making process employed in the past can no longer address

environmental problems under one department or one jurisdiction. Second, there is a greater realization that lay persons bring valid and different perspectives to the decision-making table that expose more comprehensive consideration about the costs and benefits of a new development. Finally, public opposition is a symptom of the "public's legitimate mistrust of the willingness or ability of government and industry to manage risks appropriately" (Beierle 1999, p.77) and they have successfully demonstrated their ability to postpone or stop projects if they have been excluded in the decision-making process.

One of the most difficult tasks encountered in public participation is generating citizen mobilization and political will. Mathews (1996) suggests that community members will join in civic action if they understand clearly how a problem affects what they care about, see that there is something they may be able to do about it, and discover there are others who will work with them. This identifies the importance to review mobilization theories that lend greater clarity to who is participating and what factors are likely to influence the ability for individuals to participate.

GRASSROOTS MOBILIZATION IN RURAL COMMUNITIES

The sociological debate has suggested that conflict over resource use and management reflects differences in the environmentalism of new rural residents from urban backgrounds and long-term rural residents (Cockerham and Blevins 1977; Schnaiberg 1986). Some researchers have found that higher levels of education are associated with environmentalism, and thus urbanites tend to show stronger environmental concerns, including those who move to rural areas (Mohai, 1985; Van Liere and Dunlap, 1980). More recent findings from an analysis of environmentalism among new and long-standing rural residents reveals that residential status (rural vs. urban origin) does not affect the prevalence of environmental attitudes or actions (Fortmann and Kusel, 1990).

Other empirical evidence has suggested that gender, education and occupation have effects on environmental concern. Women and persons with higher levels of education in nonfarm occupations

are more likely to report stronger environmental concern about the health and safety impacts from technological risks (Davidson and Freudenburg, 1996; Mohai, 1992; Van Liere and Dunlap 1980). According to Freudenburg and Pastor (1992), technological risk conflicts often mobilize homeowners due to the concerns over declining property values and family health. Often, it is the women who bear the weight of participating as the traditional homemaker roles allow for greater flexibility in schedules to attend meetings and hearings as they can volunteer more time (Cable and Cable, 1995).

The motivating factor for persons with environmental concerns is to mobilize against environmental risks that pose a threat to the health and safety of families (Cable and Cable, 1995). Such mobilization from the bottom-up is known as grassroots organization, and the emphasis for these groups is environmental justice. Grassroots organizations typically mobilize to combat an immediate or potential threat posed by environmental pollution to their family and community members. In rural Alberta, farmers, housewives and schoolteachers have mobilized to oppose intensive hog operations in cases where they perceived both environmental and social threats to the well being of their health and rural community. Therefore it is important to review social movement theory in regards to grassroots environmental conflict.

Cable and Cable (1995) suggest there are four typical stages in grassroots environmental conflicts. These four stages are: the emergence and early mobilization of citizens, appeal to authorities, litigation, and transformation and evolution/dissolution. These stages are reviewed and supplemented by complimentary sociological theories and concepts to provide a framework for understanding the grassroots environmental movement occurring in Alberta's rural communities.

Stage 1: Early mobilization of citizens

Mobilization of citizens can occur over anticipated environmental threats, such as an announcement to locate an intensive hog barn in a community. This energizing event focuses individual attention and discontent, which then sparks the development of a grassroots

organization. This mobilization is usually developed through existing social networks where concerned community members identify shared concerns. Public meetings and everyday interactions can serve as mechanisms that develop these social networks. Social values and norms that are embodied in, and reinforced by social structures and practices is a sociological concept known as social capital (Putnam, 1993). Social capital refers to the broad economic and social effects of a participatory society (Wilson, 1999). As an applied concept, social capital places an emphasis on the will and capacity of community members to band together in an effort to solve problems and improve their lives.

According to Flora (1998), community networks are the mechanisms where trust is developed and legitimacy established. These same networks can be used to exclude or include people in the debate, and have the potential to consolidate power within a few elites or to share it among the greater community. The outcome of these initiatives should "improve the quality of people's lives and the sustainability of their communities" (Flora 1998, p.504). Social capital enables citizens to mobilize with greater ease and also to develop trust with other local groups in order to develop satisfactory development plans (Salamon, Farnsworth and Rendziak, 1998).

Small, highly cohesive communities that have many overlapping networks to ease the flow of information enables local leaders to develop plans that reflect community concerns. Salamon, Farnsworth and Rendziak (1998) examined a locally led conservation effort in a farming community to determine some factors that contributed to local cooperation in dealing with an environmental risk. Trust, farmer attachment and perceived economic interdependence of the community were factors leading to a locally-led committee that dealt with the environmental risk in a responsible manner. According to their research, by including local leaders in the decisions, a variety of public participation processes can be valuable tools that include those without voice. Grassroots organizations are generally mobilized from a bottom-up approach when there is an issue that is threatening the well being of their families or community. Once organized, they begin a search for

more empirical evidence to support their cause by conducting research and developing networks outside the community with scientists, public health officials and lawyers.

Stage 2: Appeal to authorities

According to Cable and Cable (1995), the second stage of grassroots environmental organizations is the appeal to authorities. This is where the organization attempts to persuade, or lobby government or industry officials to improve the environmental standards of the facility. The goal of the organization at this stage is to solve a specific problem. If this goal cannot be achieved through appeals to authorities, lawsuits may follow, leading to the third stage of the grassroots movement.

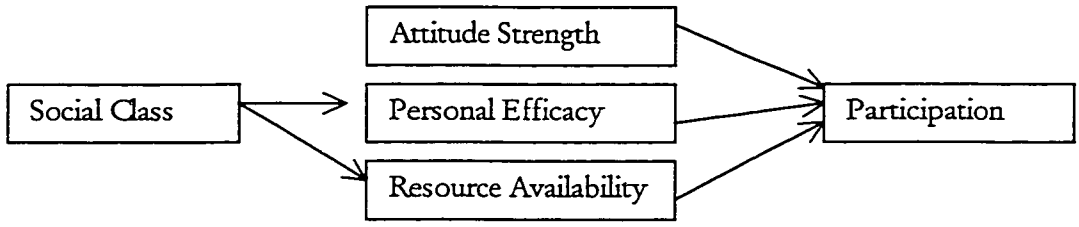
Stage 3: Litigation

Litigation occurs when citizens perceive that the state, or regulation, has failed to protect them. This stage is one of the most difficult stages as resources are scarcer for the grassroots organization than for the industry. At this stage, costs for lawyers, expert witnesses and volunteer time are incurred by grassroots organizations. Resource mobilization theory emphasizes the importance of structural factors, such as the availability of resources (time, money, knowledge), the position of individuals in social networks, and stresses the rationality of participation in social movements (Klandermans, 1984; Snow et al., 1980).

Participation in social movements is seen as the result of weighing the benefits and costs and as a result of rational choice of the actors. Mohai (1984) proposes the following model of participation in environmental issues in Figure 2 linking social class with determining variables of participation. This model suggests that the likelihood of participation is derived from the presence of attitude strength, personal efficacy and resource availability. Mohai (1984) combines resource mobilization theory with the social psychological perspectives to illustrate that environmental activism is linked to

socioeconomic status, but environmental concern is not. This model explains that upper-middle class environmental activism is primarily the result of that class's greater access to resources and a greater sense of personal efficacy.

FIGURE 1: PARTICIPATION MODEL(Mohai, 1984)



Stage 4: Transformation and evolution/dissolution

The final stage for grassroots organizations involved in environmental conflicts proposed by Cable and Cable (1995) is the transformation and evolution/dissolution. This is where members' activities elicit a change in political consciousness. They lose faith in government and industry and are more aware of the power and politics driving the social inequities. Regardless of the outcome of the conflict, this transformation in consciousness may result in efforts to change the political structure to reduce social injustices.

EXPLORING PUBLIC PARTICIPATION INITIATIVES

Public participation literature has largely focused on practical applications and solutions for policy- and decision-makers. There is an increasing interest in public participation by natural resource managers, therefore this section will focus on lessons learned from participatory initiatives employed in rural communities.

When it became clear that several key community values and principles had been violated by the linear, approval-oriented approach driven by economic benefits, it was evident that a new strategy must be adopted for successful negotiation. From observations of siting waste facilities

throughout rural Alberta, Zeiss and Paddon (1992) developed several key principles for community decision-making. Communities ranging in type, size, income, education levels, and ownership of homes formed the study groups with community resident representatives from business, environmental interest groups and others (Zeiss and Paddon, 1992). The specific objectives of these study groups were as follows: 1) to discuss and determine the relevance of a hazardous waste transfer station to the community, 2) to identify specific concerns about the risks and impacts of a transfer station, 3) to then develop impact management measures and conditions that would allow the transfer station development to proceed, and 4) to reach a consensus to direct council to pursue or reject efforts to site a transfer station in the community.

Waste transfer facilities are commonly rejected by communities due to opposition, however, 70% of the fourteen participating communities in Zeiss and Paddon's study reached consensus to pursue the siting of the facility by following these objectives and environmental management principles. The three principles identified by participants as key factors contributing to their success in reaching consensus were the recognition of need, choice of options and of management measures to minimize impacts, and the growth of community pride as a result of taking part in the decision process. The decision-making process must be properly scheduled and structured to provide for adequate familiarity, adaptation, communication and participation in decision-making.

Steelman and Ascher (1997) provide a nice summary of the potential positives and negatives of public participation that have emerged over decades of experience with public involvement initiatives.

> *Public involvement can contribute to the creation of more informed policy, provide a normative justification for governance and foster social, psychological and political empowerment. However, there are also downsides to public involvement. The process can be inefficient, since it is a labour and time intensive exercise with no guarantee of successful outcome. Critics also point to the fact that the general public may not be a particularly competent, interested or knowledgeable participant. Finally, the preferences expressed by the public can be inconsistent and may lead to conflict, leaving decision makers with confusing data on which to base their policies.* Steelman and Ascher 1997, p.74

Beierle (1999) has developed evaluative criteria for public participation outcomes based on social goals that transcend the immediate interests of parties involved in a decision. Beierle's social goals are: 1) educating and informing the public, 2) incorporating public values into decision-making, 3) improving the substantive quality of decisions, 4) increasing trust in institutions, 5) reducing conflict, and the cost effectiveness of the public participation process. These evaluative criteria for public participation mechanisms can assist decision-makers in designing public participation processes to elicit such goals. Beierle links these social goals to the characteristics of a number of participatory mechanisms and suggests what goals different mechanisms may be expected to achieve (see Table 1). This summary seen in Table 1 is useful for the practitioner to decide which mechanism would be most likely to achieve different policy objectives.

TABLE 1: GOALS AND MECHANISMS FOR PUBLIC PARTICIPATION INITIATIVES (BEIERLE, 1999)

Public Participation Mechanism	Goal 1 Education and Info		Goal 2 Values	Goal 3 Substantive Quality	Goal 4 Trust	Goal 5 Conflict	Goal 6 Cost Effectiveness
	Educate active public	Inform wider public					
Information Provision	○	●	×	×	●	×	●
Public Notice	×	●	×	×	○	×	●
Public Education	●	○	×	×	○	○	●
Public Hearing	○	●	●	●	○	○	●
Citizen Advisory Committee	●	○	●	●	●	●	●
Mediation	●	×	●	●	○	●	●

●= ought to achieve goal ×= not likely to achieve goal ○=may achieve goal

There are problems and successes with current public participation practices identified throughout public participation literature. For this research, it is viewed as a key to democratic decisions. The rest of this section reviews public participation mechanisms in order to develop an

awareness of mechanisms available to stakeholders involved in environmental disputes.

Open Houses

Open houses are described throughout livestock development guidelines as valuable opportunities for public input in the development process (Saskatchewan Agriculture and Food, 1997; Manitoba Agriculture, 1995; AAFRD, 1998d). Since open houses are hailed throughout the agricultural sector as an effective method of public participation they will be reviewed in detail. This method of public participation is described as a traditional means of informing communities in a warm, friendly and accessible format that satisfies requirements for involving the public (AAFRD, 1998d; Tanz and Howard, 1991).

Open houses are also characterized as a free-flowing conversational forum where the public leads the discussion, facilitating two-way information flow in an informal, non-intimidating non-confrontational environment (Beckley, 1999). This method is commonly used by operators as a way for the public to learn about the project and express their concerns (Connor, 1992). Questionnaires are sometimes available in order for the operators to receive feedback. The informal nature of the open house allows for people to come at their own leisure and to ask questions freely in an inviting and accessible format. This open and frank discussion of diverse views that can occur at an open house is a superior public participation strategy (Beckley, 1999).

Opponents to the open house method characterize open-houses as a participation solution for government officials, industry representatives and paid consultants who are meant to deflect and discourage citizen complaints (Edelstein, 1988; Walsh et al., 1993). This tokenist view of public participation is described as merely an illusion of participation, where the final decisions are already (Arnstein, 1969). The opportunity for public involvement through the open house method may occur very late in the decision-making process, thereby not allowing public input into the planning process. For example, once the draft has been written, the goal-setting stage of the planning process

has already been completed (Tanz and Howard, 1991).

Another criticism of the open house method observed in the forestry industry is that it is actually a one-way flow of information.

> *The usefulness of the open house mode of participation in policy-implementation is questionable. No one, forester or otherwise, can comment intelligently on a forest management plan without the time, skills, and resources to examine it in detail... The opportunity occurs so late in the planning process, and with so little real information... that it hardly constitutes real consultation.* Tanz and Howard, 1991, p.127

The information presented at open houses has the potential to allow one or two-way flows of information. What are also important is the transparency of this information and the accountability of the developers to the community. With the increase in transparency and accountability, there is an increase in trust, which is one of the social goals for public participation noted by Beierle (1999).

Public Hearings

According to Heberlein (1976) public hearings have four possible distinct dominant functions. The *informational function* is the one-way flow of information where the decision-makers are informing the public about their project. A second function is the *co-optation function* where the public hearing serves as an avenue for the public to let off steam and complain about the project. The *ritualistic function* is where law or administrative code requires the public hearing and only those with direct interest in the project attend, and no one expects or anticipates much public involvement. The final function, the *interactive function*, is where the hearing is used to discover the needs and concerns of the public, which will have major effects on decision-making. According to Heberlein (1976) the public hearing rarely fulfils this interactive function, thereby not serving the needs of the public in the decision making process. Other research suggests that public hearings are mostly used to defend agency decisions, are held late in the process and present technical information beyond the understanding of average citizens (Fiorino, 1990).

People who are most likely to attend public hearings are individuals who believe the issue affects them, have knowledge of the time and location of the hearing, are free from competing demands, view themselves in a responsible role, and who are knowledgeable about the project and believe their presence will have an impact (Heberlein, 1976). Even if a public hearing is designed so that it will serve an interactive function, there may be a bias in who attends the function. For example, groups that have higher stakes and are well organized are more likely to attend, thus biasing the needs and concerns.

Representatives from interest groups are also more likely to be more knowledgeable about the project, whereas the private citizen is more knowledgeable about their feelings toward the project. This difference raises interesting dilemmas for the weighting of comments in the final direction of land management plans (Steelman and Ascher, 1997). In a society where much emphasis and trust is given to technical and scientific information, public officials more readily discount the emotional responses of concerned citizens due to their lack of technical understanding of the project.

Advisory Bodies/ Collaboration

Advisory bodies have been described as one of the highest levels of public participation (Sveen, 1998; Audain, 1972; Smith, 1982; Rich et al., 1995). The general goal of advisory bodies is to achieve collaboration. This requires face-to-face sorting out of differences, people working together as equals, participants treating each other with respect, and decisions made using a form of consensus. Smith (1982, p.567) argues that the "continued existence of advisory bodies... depends greatly upon the ability of the body to maintain its public integrity and its independence from the government". Advisory bodies are also seen as an instrument designed to institutionalize and formalize non-governmental participation in public policy.

Rich (1995) suggests forming a committee of public officials and citizens selected by the affected community to direct the inquiry of the problem. This allows citizens access to information and may

reduce industry's need to defend their actions to a resistant public.

Advisory body partnerships may arise voluntarily or as a result of administrative or judicial ruling (Williams and Ellefson, 1997). The level of financial or technical assistance for the members of partnerships varies greatly across different initiatives across Canada. According to Williams and Ellefson (1997), 67 percent of the spokespersons of forest partnerships studied found financial and technical incentives as an important or very important consideration leading to a member's decision to join. Some barriers to partnership participation include limited time for active participation, indifference to the issues, inadequate resources to support involvement, and misgivings about the intent of some of the participants (Williams and Ellefson, 1997). Of the 10 conditions identified as important to partnership success, six involved the conduct of individual members (Williams and Ellefson, 1997).

In a society that is steeped in competitive relationships, collaboration provides the beginnings of a model of decision-making that is not only pro-active but also co-operative (Kofinas and Griggs, 1996). Optimists of the partnership approach to public involvement argue that the synergy of collective decision-making and social learning provides a powerful basis for a more engaging and valuable decision-making process. It must be cautioned, however, that this type of public involvement does have the potential to be lethargic, labour intensive, highly dependent on interpersonal interactions and limited in efficacy to reach final decisions.

Protest

Interest groups have used social protest in order to change development decisions and legislation across Canada. Some of the crucial factors determining the success of protest mobilization are group homogeneity, group size, the density of social ties, and the actions of others (Marwell et al. 1988; Oliver and Marwell, 1988; Oliver et al. 1985). A possible barrier to the protest technique is the protester's loss of legitimacy if personal safety is threatened through violence or threats, or members

of a community risk being ostracized from certain groups long thereafter.

Lobbying

Lobbying occurs when the activity of interest groups attempt to influence the decision process through persuasion (Berry, 1977). To be successful, groups must gain early access to key decision-makers (Smith, 1982). According to Smith (1982), the preferred means of communication is through informal discussion, and this method goes unparalleled with respect to the ability to attain influence on the direction of public policy. Lobbying is a technique used by both sides of a position and the levels of intensity and success can vary greatly.

The greatest barrier to public interest groups lobbying effectively in Canada is their failure to gain adequate access to the planning process, and as a result, lobby groups often focus their efforts on the wrong targets. Lobbying accentuates the influence of well-established elites on the policy process and mitigates against the input of 'less legitimate' interests such as women's groups, labour groups and minority groups (Smith, 1982: 564). Lobbying faces other barriers such as restrictions because of charitable status, lack of financial resources, and a tendency to espouse criticism and negative comments rather than alternative policy options.

Alternative Dispute Resolution

Alternative dispute resolution (ADR) mechanisms have arisen in the environmental dispute arena largely as an alternative to long expensive legal battles (Dryzek, 1997). Stakeholder mediations are the most common form of ADR used throughout environmental risk negotiations. This method seeks out relevant stakeholders and brings them together to settle contentious issues. Mediation is an opportunity for a two-way flow of information among disputing stakeholders. The main purpose of mediation is to reduce conflict and reach consensus among the differing interests (Beierle, 1999). A necessary component of mediation is the accountability of stakeholders to adhere to the commitments negotiated during the mediation. The success remains in the follow-through of the

consensus.

Another important aspect of mediation is that the agency involved in spearheading the process must be a neutral body with some mediation training. With limited budgets of rural municipalities, it may not be possible to hire a specialist. With proper training of the local planning officers, mediation may become a more viable solution.

Community workshops

The workshop is a public involvement method where planners and the public are brought together in serious working sessions (Heberlein, 1976). Workshops are usually held on weekends or evenings when individuals will have time to get together. The workshop achieves the interactive function missing from some of the other public participation methods. According to a survey on public participation activities, it was determined that small group activities were perceived as the most important public participation technique (Gericke et al., 1992).

South-East Halifax, North Carolina, experienced rapid hog development from 1985 to 1992 and the community included workshops as a proactive public participation program (Wing, Grant, Green, and Stewart, 1996). The learning goals of these workshops were to help community members understand what kind of research is available to help answer some of their questions (Wing et al, 1996). This type of workshop facilitates a two-way learning process. By bringing university scientists out to communities, community members gain valuable information, and researchers may discover new areas for research.

Other Methods

There are several other methods of public participation that have not been explicitly examined in academic literature, but are worth noting. Festivals and outreach programs represent some more innovative approaches to public participation. Festivals provide an educational opportunity

about issues such as environmental health, groundwater pollution, and the connections between public health, civil rights and economic development issues (Wing et al, 1996). For example, a Groundwater Festival was developed in a community where environmental groups focused their attention on surface water pollution from intensive livestock operations. This provided the community with an opportunity to celebrate groundwater through festive activities such as games, films and educational programmes and materials. This public education festival was designed for high school students to serve as a vehicle for improved knowledge on environmental issues. A festival has the potential to increase both human and social capital in a very positive atmosphere. The entertainment atmosphere encourages younger community members to become involved and informed. This type of event would require financial resources and require strong leaders.

Another public participation program requiring mobilized leaders is an outreach program. An outreach program is where leaders from one community reach out to other communities facing similar issues. This type of public participation aims to provide educational and organizational assistance to other communities in need. The success of an outreach program is largely dependent on the social networking that has already been established. Like many of these other programs described, the outreach program will rely on the strong organizational and leadership qualities of an already established grassroots organization, with a history of being active throughout many communities. Potential barriers to this type of program would be time, money, previous social networking and social psychology factors such as leadership, mobility, and group dynamics.

THEORETICAL FRAMEWORK

ENVIRONMENTAL JUSTICE

Environmental justice refers to the belief that environmental benefits and costs should be equally distributed in society and that corporations should be bound to existing laws, just as individuals are (Cable and Cable, 1995). The environmental justice movement has emerged in response to

circumstances that place certain communities such as those that are rural, poor and minority, at greater environmental risk. Research from United States (Molnar, Hoban, Parrish, and Futreal, 1997) reveals the siting of intensive livestock facilities has occurred more rapidly in poorer, minority communities. Not only have they found high levels of hostility within these communities, but the research has also identified some counties where large livestock farms coincided with rapidly growing rural, poor and minority populations.

Environmental injustice occurs when citizens come to believe that the state is failing to protect their lives and property from environmental pollution and that pollution costs are being unfairly imposed upon them (Cable and Cable 1995). The environmental justice paradigm is grounded in an ecological perspective, which recognizes the importance of intergenerational equity (Taylor, 2000). Agriculture has been vastly overlooked by or excused from meeting many environmental standards despite its contribution to the depletion of natural resources and the degradation of the environment (Reichelderfer, 1991). Environmental injustice in agricultural regions suggests a need for rural ecological policies that protect individuals' rights to public goods such as clean air, water, land and food. An assumption of this research is that public participation is one mechanism to develop agricultural and rural development policies that promote greater environmental justice.

SOCIAL CONSTRUCTION OF ENVIRONMENTAL DISPUTES

This research adopts a social constructionist perspective that views environmental problems as socially constructed claims that are defined through collective processes. Groups in a society (or stakeholders) perceive, identify and define environmental problems by developing shared meanings and interpretations of the issues (Taylor, 2000; Spector and Kitsuse, 1973). Environmental conflict is defined or 'framed' in ways that parallel the values and political interests of different actors in the conflict (Clarke, 1988; McAvoy, 1998; Freudenburg, 1996; Krogman, 1996; Freudenburg and Pastor, 1992; Dietz, Stern and Rycroft, 1989; Hiskes, 1998; Molotch, 1970). How the various stakeholders frame the conflict will determine the perceived legitimacy of a certain actor's grievances, thus

altering the distribution of power (Krogman, 1996; Dietz et al., 1989; Snow and Benford, 1988). To better understand social and political relationships, it is necessary to examine how the constructive practices of different stakeholders serve to lend legitimacy and power to their positions. Thu et al (1995) suggest that there is an imbalance of power in the decision-making process for siting intensive hog operations in the United States.

Dietz et al. (1989) examined conflicts over environmental threats to human health and identified four common perceptions or 'frames' of the causes of environmental conflict: differential knowledge, vested interest, value conflict, and mistrust of expert knowledge. Differential knowledge is when the conflict is depicted as a consequence of an ignorant or irrational public. The public is characterized as being misinformed or not as knowledgeable, and this subsequently increases the value of technical expertise. Therefore, stakeholders with greater access to technical information resources consequently gain more power. The vested interest frame emphasizes the unequal distribution of risks and benefits of science and technology. This view legitimates any stakeholder that can gain or lose regardless of scientific expertise by raising issues of social equity. Value differences depicts the environmental conflict as a clash of underlying value judgements in policy decisions. This frame questions the legitimacy of technical and economic analyses used by government and industry, that are supposedly based in value-free risk analyses. The final frame for environmental conflicts is the mistrust of expert knowledge. This argument emphasizes the values and interests that are underlying the expert knowledge, raising questions of its trustworthiness. The potential for scientific findings to be distorted by economic or political influence is the source of mistrust in this explanation of environmental conflict.

Each of these definitions of the conflict implies where the truth is to be found and legitimizes stakeholders with access to these sources of the truth. These authors conclude that acceptance of a particular explanation of conflict can determine who legitimately participates in debating solutions to the problems, and who gains or loses power.

> *There is a growing conviction among community residents that government selectively serves the interests of power and money and that no amount of citizen protest will affect meaningful change.*
> Thu et al., 1995, p.21

PUBLIC PARTICIPATION AS A LEGITIMATION MECHANISM

One way of understanding the Alberta government's policy of promoting intensive livestock expansion is to understand it as an attempt to bolster declining economic returns from agriculture, thus supporting the "accumulation" of capital function of the state. The accumulation function is supposed to reflect public interests, but if decisions are made without adequate public consultation, the result is high levels of conflict throughout communities when they question the legitimacy of such decisions. In this case, the provincial policy to de-regulate and expand the industry has been questioned by organized rural groups.

> *The legitimacy of government institutions in a capitalistic system depends on simultaneously dealing with two needs that are not entirely compatible with one another –maintaining economic vitality (a consideration that often discourages the imposition of regulations in economic actors), and preventing social dislocations (which often requires the imposition of precisely such regulations).*
> Freudenburg and Gramling, 1994, p. 216

Public participation can be understood as a legitimation mechanism for new rural developments. However, others argue that when properly designed and implemented, public participation can lead to more legitimate decisions, thus preventing social disruptions.

This research assumes that the government institutions should serve and protect the public interest. Buttel (1976) suggests that capitalism has produced a continuity of interest between capitalists and state managers that promotes the economic growth and a faith in technological solutions to social problems, regardless of the hazards posed to the powerless or the environment, i.e. environmental injustices. By keeping the debate focused on the technological feasibility of a

project, the power remains within the hands of those actors who have greater access to these technical resources. Industry and government have greater access to these resources, resulting in a power imbalance.

Civil society, where citizens participate in formal organizations, contributes to the success of democracy (Putnam, 1995). Civil society is similar to the concept of social capital. Putnam (1995) argues that social capital is the embededness of individuals in social networks that develop norms of reciprocity and trust among actors, which then spills into economic success and good government. Social capital theory assumes that this increase in social networks will later be used for positive civic engagement. Public participation is seen as one institutional mechanism that has the capacity to legitimize decision-making by providing a bridge between social capital and environmental justice. Public participation is seen as a mechanism that promotes equality of opportunity and fairness, and that fosters capacities to work together.

BUREAUCRATIC SLIPPAGE

Freudenburg and Gramling (1994) suggest the term 'bureaucratic slippage' which refers to the slow reinterpretation of agency ideals that cumulatively alters public policy. This concept allows social scientists to avoid the either-or approaches of rationale choice or agency capture models in explaining state decisions. The emphasis is instead on a continuum to which agencies are supportive towards different stakeholders (Krogman, 1999). Freudenburg and Gramling (1994) propose that bureaucratic slippage can be identified by subtle actions and conditions that indicate some degree of 'capture' is taking place.

For example, one indication of bureaucratic slippage discussed by Freudenburg and Gramling (1994) is the 'ideological influence over what is accepted as fact'. This includes the subtleties of how power can influence the social construction of what actors come to understand as 'fact'. When government officials spend a greater amount of their time with industry representatives, there is a

tendency to share industry views, and view critics as being misguided or irrational. For example, local citizen groups are unlikely able to use legitimized research for their side like large corporations that have their own research programs. Thus, the research 'facts' are limited to those that the owners of the technology deem important, thereby often eliminating information about various social, economic, and environmental impacts that are of interest to community residents. The power to set a research agenda heavily influences what others will come to understand as being fact, which ultimately has implications for decision outcomes.

This potential for government agencies to be 'captured' to some degree by the industry suggests a potential for unequal distribution of power in environmental decisions and a possible distortion of technological risk information. Research suggests that definitions of risks are a product of the exercise of power (Hiskes, 1998; Dietz et al., 1989).

> *Risk perceptions are socially constructed in the sense that individuals make inferences and reach conclusions by giving meaning to uncertain and ambiguous information on the basis of communication with others.* Cvetkovich and Earle, 1992, p.6.

The resulting definitions of risk and potential for bureaucratic slippage in defining risks due to availability (or lack of) scientific evidence has consequences in the democratic decision making processes for communities facing technological developments.

Definitions of risk can be conceptually linked with the idea of framing conflict. Different actors in an environmental debate frame issues as a result of their construction of the problem (risk) and as a result either increase or decrease the power or legitimacy of other stakeholders' concerns. Dietz et al (1989) conclude that the strategies of actors involved in an environmental dispute co-evolve. "Each side works to define the issues and conflicts in ways that both advance its ideological position and lend it tactical advantage by increasing the value of its most abundant resource" (Dietz et al 1989, p. 67). Freudenburg and Gramling (1994) suggest the use of 'diversionary reframing', where

certain actors shift the attention or ignore complaints of critics by redirecting the controversy to another issue. By explaining an issue in a certain light, attention is diverted and the legitimacy and power of the critics may be called into question. The social-construction perspective of defining risk and conflict will illustrate the dynamics of power over the intensive hog operation debate.

NOT-IN-MY-BACKYARD (NIMBY)

One frame of conflict over technologically risky developments that has attracted attention in academic literature and popular media is the "Not-In-My-Backyard" (Nimby) reaction from local landowners. Since the majority of respondents throughout this research project referred to the Nimby reaction of the public with respect to the siting of intensive hog operations, it is important to review the existing literature surrounding the Nimby debate.

Participants in Nimby groups are often characterized as "motivated largely by discontent... the kinds of people who complain about things, or who get a kick out of stirring things up" (Freudenburg and Pastor 1992, p. 394). This view, often held by scientists and policy makers, has been refuted by other researchers who have revealed that individuals are not only fighting issues that protect their 'backyard' interests, but are also organizing and participating in local environmental struggles that are at a community level. Individuals have contributed scarce volunteer time and great efforts to obtain financial contributions (Snow et al., 1986; Oliver, 1984). Rather than being selfish, irrational actors, there is evidence that active participants in these neighbourhood groups are concerned about the collective good (Oliver, 1984).

Public agencies are not expected to respond to illegitimate concerns that are based on ignorance or narrow self-interest (Freudenburg and Pastor, 1992). When concerns are labeled 'Nimby', a genuine concern can be re-framed as illegitimate, due to the 'narrow irrational' perspective attached to the Nimby definition. According to Freudenburg and Pastor (1992, p. 405) "citizen activism on technological risk represents a challenge to the increasing power of government bureaucracies, not

simply a response to the particular technological decisions". By framing neighbourhood organization against particular land uses as Nimby groups, residents are characterized as irrational and selfish, thus deligitimizing their power. McAvoy (1998, p.275) argues that the "citizens who oppose developments because of health issues or because they do not trust the government have legitimate reservations and are not afflicted by the Nimby syndrome". The public reaction of Nimby to developments has also been identified in public participation literature as the failure of decision systems to involve the public earlier in fundamental discussions about needs and alternatives (Wolsink, 1994; Lober, 1993; Petts, 1992).

COMMUNITY EMPOWERMENT

> *The role of public action can be very powerful not only for equity, but also for securing human freedoms and dignity.* Carley and Christie 1993, p. 76

Effective public involvement is about empowerment, helping people achieve their own purpose by increasing their confidence and capacity. Empowerment requires active community involvement, exposure of the decision-making process, and challenging decision makers to resolve problems by incorporating public concerns (Petts, 1995; Rich et al., 1995). There are two main forms of empowerment. Reactive empowerment is the capacity acquired in response to a threat, whereas proactive empowerment is one that facilitates the pursuit of chosen and desired activities (Lindell and Oerry, 1992; Wise and Kenworthy, 1993).

There are four forms of empowerment that are all necessary for the process of community empowerment to be successful (Rich et al., 1995). The first empowerment is *formal empowerment* and is created when institutions provide mechanisms for the public to influence decisions through opportunities of authentic involvement in the decision-making process. Even when these mechanisms are not in place, highly mobilized citizens can pursue alternative strategies in order to

achieve the desired outcome to reduce or remove the environmental threat. *Intrapersonal empowerment* is when an individual feels competent, which can be a catalyst for or a result of participation. Formal empowerment can lead to intrapersonal empowerment when the mechanisms in place build self-confidence. *Instrumental empowerment* is the individual's capacity for participating in and influencing a decision-making process and is determined by the amount of available resources and persuasive abilities with formal opportunities. *Substantive empowerment* refers to the ability to reach decisions that solve problems or produce desired outcomes. This final type of empowerment requires that citizens and formal institutions work together throughout the decision-making process to reach desired decisions. For example, if institutions seek citizen input but disregard it in the final decision, citizens have not been empowered. Substantive empowerment requires creative long-term strategies that do not simply block the approval of a decision by shifting it to another community, but seek strategies that focus on incorporating community values into the long-term planning process.

This process of empowerment can be discontinued at any stage. According to Rich et al. (1995), even the most empowering response to the discovery of a hazard or potential hazard may be viewed as a defeat for the citizens who had to spend time, money and resources acquiring knowledge and capacities they never wanted before in order to fend off the potential threat. Even if there are formal mechanisms in place for citizens to participate, a lack of citizen mobilization will lead to disempowerment. Another example would be that if all of the formal, intrapersonal and instrumental forms of empowerment are present, but the final outcome lacks the input from this process, the problem remains unresolved and the community is disempowered.

Community empowerment theory has created enthusiasm and hope for an increase in power for the previously oppressed. Empowerment theory has some weaknesses such as it assumes that all social constructions are equal and that all community members want to be involved. Taking into account the potential pitfalls of empowerment, an empowered community still remains one that initiates efforts to improve the community, responds to threats to quality of life, and provides

opportunities for citizen participation (Rich et al., 1995). There is however no secret formula for these types of empowering efforts. There is a need for effective methods of public participation for citizens and institutions to work together to devise and implement satisfactory processes that incorporate knowledge and values from a variety of stakeholders, thus promoting the idea of a civic society.

SUMMARY

This chapter reviewed various concepts related to public participation in environmental disputes. This literature review examines framing processes of environmental conflict, mobilizing structures and political opportunities. The convergence of these various observations and arguments can provide greater clarity and insights into the social phenomenon occurring in Alberta's rural communities. This research focuses on the structural failures of a decision-making system as well as the social construction of the environmental dispute. The implications of this research have very practical applications for Alberta's rural land use decision-making policies. Therefore, a solid understanding of the participation processes available is imperative if practitioners are going to employ methods that promote community empowerment, environmental justice and community well being.

CHAPTER 3

METHODS

RESEARCH APPROACH

> *Qualitative researchers need to be storytellers. Woolcott, 1994 , p.17*

Qualitative social research differs from the hypothesis-testing approach in quantitative research that investigates social issues through the analysis of specific variables. The qualitative approach refers to data collection where the researcher uses a transcendent approach, an analysis that seeks to develop greater understanding and meaning of social contexts. This brief review of social research describes why the qualitative research approach was appropriate for this study.

A quantitative approach measures specific variables to test hypotheses of a particular theory. Qualitative research does not have such predetermined hypotheses; the theory emerges from the data based on one or several guiding research questions. The nature of this social inquiry is to compare stakeholders' perceptions and descriptions of public participation. Whereas predetermined variables explaining the social construction of an experience does have merit, it is not the best method to gather the descriptive data sought for this research.

This study seeks to reveal stakeholders' perceptions of the problems and successes with public participation in the siting of intensive hog operations in Alberta. This analysis will report the problems and successes cited, the proposed solutions, and how they vary according to the position of the stakeholder, the outcome of the siting decision and the features of the decision-making process. Qualitative inquiry will allow each stakeholder an opportunity to describe his or her unique

perspective of the conflict and public process. This specific focus on different stakeholders' definitions of the social phenomenon warrants an inductive approach for social inquiry. This study therefore uses a qualitative methodological approach identifying the perceived problems and suggested solutions of different stakeholders involved in the decision making process of siting intensive hog operations.

The overall research approach is interviews with the key stakeholders who can reflect on their experiences. Therefore, I employ concepts and theory from a social-constructionist approach. Another important aspect to this research is the comparative analysis of public participation processes between the four case studies. By comparing the various structures of public participation, this research seeks to reveal patterns in these structures that may be attributed to outcomes and perceptions of the process.

Stakeholders' perceptions of the public participation processes are coded under key themes that emerge during the data analysis. Validity of social research findings improves when diverse indicators are used, a method known as triangulation (Neuman, 1997). The primary interview data is triangulated by review and analysis of written materials, including municipal and provincial government documents, current and proposed livestock siting policy, and media reports. These findings are linked to relevant academic literature, determined by themes emerging from the data. The remainder of this section will specifically outline methodological considerations such as instrumentation, research sample, data collection and analysis, overall strengths and limitations and ethical considerations of the research project.

INSTRUMENT

Face-to-face interviews have high response rates, are flexible and allow interviewers to ask extensive probing questions and observe non-verbal communication (Neuman, 1997). Open-ended

face-to-face interviews allow each stakeholder to describe in their own words, through a series of open-ended questions, their perceptions of the problems, successes and solutions of public participation for siting intensive hog operations. An interview format is therefore the most appropriate data collection method.

Background research in public participation theory and legislation, and the Alberta hog industry was gathered to familiarize myself with current issues and theoretical perspectives of public involvement in the expansion of the intensive hog industry in Alberta. This background research included reviews of government and media documents, academic literature and personal communication with a number of persons directly involved in the expansion of the intensive hog industry. This information was used to develop an interview guide for all interviews and to identify possible probing questions. The interview guide (Appendix A) was pre-tested and discussed with well-informed non-participants to further refine and clarify questions before the interviews began. I conducted, took field notes and tape recorded all interviews. Each interview was fully transcribed to systematically maintain representativeness of the participants' responses and maintain accuracy in the transcript data.

For qualitative inquiry, the researcher is an important instrument that determines the quality of information gathered and recorded. Given I conducted all of the interviews, there was consistency among field notes, observations and presentation of questions. At all times, I maintained a friendly, professional atmosphere to develop trust and rapport with each of the study participants. My background work provided a good understanding of issues surrounding the intensive hog operation debate, public participation theory and general social theory. According to Neuman (1997), a good interviewer maintains a certain level of naiveté and is there to learn from each participant. I adopted this technique for each interview to draw out each participant's personal expert knowledge and social construction of the issues.

SAMPLE

The cases for this research included four agricultural communities in Alberta that are similar in terms of type and size of operations (minimum 1200 sow operation), but vary in the decision-making process, and the outcome of the process. The communities chosen are similar in socio-economic demographics: they are agriculturally based economies, have not experienced major in- or out-migration and are similar in terms of population size and distribution of income. Two of the communities were chosen because they experienced conflict and appeals with proposed intensive hog operations but they varied on the decision outcome at the local appeal process. The third community was chosen because it experienced no conflict over the siting of several intensive hog barns. The final community was chosen for its extensive experience in siting intensive livestock operations both with and without conflict. By comparing four land-use planning processes that are used to site intensive hog operations in Alberta, patterns are identified across the various settings.

Selection of respondents was not random, therefore it is very important to ensure representation of all stakeholders involved. This will help to ensure that data collection is not biased towards respondents who are easily available. Since there is no available list of all stakeholders, purposive snowball sampling is the most appropriate sampling technique. Contacts with consultants and AAFRD personnel began the snowball sampling of key stakeholders. At the end of the interview, each participant was asked to identify other potential participants that do not share the same views as themselves but were highly informed and/or involved in the public participation for siting intensive hog operations in Alberta. The objective of this sampling technique is to include perspectives from all of the key stakeholders for each case study community. The response rate was 88%; only six out of 49 contacted were unavailable due to time constraints or unwillingness.

The final sampling frame includes provincial government staff (Alberta Agriculture and Capital Region Health Authority, Alberta Environmental Protection), municipal government (county reeves, county councilors, development officers and members of the subdivision and development appeal

board), the involved community residents (appellants to proposed developments and neighbours to existing and proposed facilities who did not appeal the development), pork producers, and liaisons (lawyers and consultants employed by provincial government, municipal government, pork producers and the involved community residents).

DATA COLLECTION

Prior to the interviews, I conducted twelve reconnaissance interviews to familiarize myself with some of the important issues surrounding the intensive hog barn debate. These interviews, with persons involved in the promotion and opposition to intensive livestock expansion, also allowed me to test some of the questions I planned to use during my interviews. From June 1999 until October 1999, interviews were conducted with 43 key informants. Due to the harvesting demands of the rural population in late summer and fall, most interviews with on-farm rural residents were held in June and July, whereas the final interviews consisted mostly of government bureaucrats that did not have harvest demands. Initial contact with each respondent was over the telephone, using a standardized phone statement (Appendix B) to determine availability. The telephone statement included an identification of the research institution and the funding agencies involved in the study. Interview times were arranged over the telephone at the convenience of the participant.

Interviews were held in offices, public places and participants' residences and ranged in length from one to four hours. At the beginning of each interview, each participant was given an information sheet and consent form (Appendix C) to explain the main purposes of the research, to identify the sources of funding, and to provide a contact number. Written consent was obtained from all participants before the interview, and respondents were informed that they could refuse to answer any question or end the interview at any time. The introductory discussion during the interview provided an opportunity for the researcher to develop some rapport with the participant and

establish a friendly, professional atmosphere of official research. After consent was obtained, the tape recorder was turned on and the interview began. All 43 interviews were tape-recorded and I took field notes to supplement the recordings and record any other observations such as body language, nervousness and other contextual events that may be lost in final transcriptions. To gain a first hand experience and a better understanding of the issues surrounding the public participation process, I attended one intensive hog operation appeal hearing, a public consultation meeting discussing the proposed changes to intensive livestock operation regulations, and a pork producer's conference. Field observation notes were recorded at each of these events to supplement and triangulate data collected from the interviews.

As the interviews and field observations progressed, a further understanding of key issues was developed and more specific probing questions were used to focus the interviews. Gaps in my knowledge were discovered during the interviewing processes that were then further investigated to keep familiar with vocabulary and issues specific to the research topic. Interviews continued until there was much repetition in the data and new information was no longer being presented.

DATA ANALYSIS

All interviews were recorded and fully transcribed. Transcribing was done by myself and one research assistant using a transcribing machine and a tape-recorder. In total, there were just over 500 single spaced pages of transcribed data. The length of transcriptions varied from one to 64 pages and the average was 10 pages. The overall data analysis approach is one of analytic comparison as first developed by Stuart Mill (1806-1873). Ideas about regularities and patterned relationships were formed from existing literature and theories of effective public participation and variance among stakeholder perceptions. The intent is to find regularities within a specified social context using the method of agreement and method of difference (Neuman, 1997). The interview responses for

stakeholders' problems and solutions were coded, using NUD*IST 4.0 software, under the key themes that emerged during the interviews. Three main types of data occurred through this research process. The first type of data is raw sense data, and the experiences of the researcher. The second type of data is the recorded data and physical record of experiences. Initial codes were developed via open coding procedures (Neuman, 1997). A second pass through the data further organized ideas and themes and identified the axis of key concepts through axial coding procedures (Neuman, 1997). The final data has been selected and processed and appeared in a final report to the funding agencies of this study, and was further interpreted for this thesis.

For example, when respondents were asked to describe how the conflict began, a first pass through the responses revealed government respondents identified jealousy, a fear of change, or Nimby reactions of the public as triggers for the conflict. Each of these categories were initially assigned a code. A second pass through the codes revealed that each of these concepts revolved around the attitudes and behaviours of the conflict and were therefore re-organized into one central concept of 'Attitudes of Public'.

The last form of coding utilized in this research is selective coding. This is where the data is examined to identify cases that illustrate themes and make comparisons and contrasts. Differences between perceived problems and solutions were identified through selective coding according to the outcome of siting decisions and stakeholder position. Theoretical relationships were then linked to public participation theory and other relevant academic literature.

As suggested by Miles and Huberman (1994), this step of data analysis requires the researcher to reduce the amount of data by focusing on the social contexts and research questions from which the data emerged. As the data was reduced, overarching themes and concepts were discovered and social patterns were revealed. This coding and re-focusing continued throughout the data analysis to describe focal patterns emerging from the data. Therefore, as the data analysis continued, re-coding of concepts continued as overarching patterns became more obvious.

Miles and Huberman (1994) also suggest that well-organized displays of data facilitate comparisons and improve the credibility of conclusions. Thus, as seen in Chapter 4, comparative matrix displays were used to further organize and understand the information. The matrix format was driven by the comparative nature of the research questions. The final step for the matrices was to separate the significant from the non-significant themes and issues. For the purposes of contrasting stakeholders' perceptions of problems, successes and solutions of public participation, only issues mentioned by at least 50% of the stakeholder group were considered significant and therefore reported in the final analysis.

By using comparative matrixes, I was able to identify differences and similarities among the various stakeholders' perceptions. For example, it was revealed through the comparative matrix that both government and pork producer respondents perceived "Attitudes of Public" as being one of the triggers for conflict. This revealed the common worldview or paradigm employed by both of these stakeholders. This certain worldview was then linked with other sociological evidence that identifies this pattern of government and industry prescribing to the same worldview in an environmental dispute.

STRENGTHS AND LIMITATIONS

Comparative research goes beyond descriptive qualitative data and attempts to account for the facts. An overall strength to this study is the comparative data analysis approach as it aspires to shed light on solutions and problems in a systematic order. By identifying similarities and differences among stakeholders and their perceptions from communities with varying siting outcomes, we will better understand the specific arrangements found within each, and thus will be better able to make sound recommendations for similar communities facing land-use issues in the future. This research has the capability of informing municipal districts about the most appropriate methods of public participation to address and reduce conflict. This research is applied and is for the benefit of rural

agricultural communities that are experiencing the development of intensive hog operations.

Another strength of this research methodology is the face-to-face interview instrument. These interviews provide rich in-depth data that provided a strong context for each of the communities. Such rich context is generally lost in more quantitative approaches. According to Miles and Huberman (1994), the single most important diagnostic feature of good qualitative inquiry is its ability to fully gather insights from key informants. One of the disadvantages of face-to-face interviews is the high temporal and financial cost, but in this case, a $25,000 grant was adequate for covering the time and travel costs. Having only one interviewer, which also provided for greater consistency among the interviews, also reduced the cost.

I grew up in Alberta and am very familiar with rural and urban sites across Alberta. I also have been doing background work in this research area for nearly one year including continued contact with AAFRD, Manitoba Agriculture, and Saskatchewan Agriculture and Food. My early investment into learning about the hog industry, swine facility regulations and the Alberta context allowed me to probe deeper into issues during the interviews. I was also able to blend in with my respondents making them more comfortable during the interviews. For example, I spoke their language, knew the colloquialisms, and dressed similarly.

According to Fowler (1993), one of the most cost-effective ways to improve the design and evaluation of survey questions is to improve the survey questionnaire design. Since budget constraints are an issue, this is an appropriate place to reduce cost. For example, to increase the reliability of transferring the data from taped interviews to a database, the same person transcribed and coded all the data. This helped reduce the transferring errors. A pre-test of the interview questions aided the sequencing and wording of questions to make the interviewing process smoother for both the respondent and interviewer. By ensuring questions are simple and straightforward, not double-barreled, non gender-biased, and not using leading or biased verbs, adjectives or nouns (Krahn, 1998) the interview questions are a more valid and reliable tool of measurement.

Reliability of the research was improved by several methods. First, I conducted all interviews, transcriptions and analyzed all the data to maintain consistency. Secondly, multiple indicators were used in identifying contentious issues surrounding the debate. For example, government documents and newspaper articles were reviewed to ensure the proper construct was being captured by the interviews. Interviews continued until members of the same stakeholder groups were repeating the same issues, which is an indication that the information gathered was complete. Throughout the course of the interviews and data analysis stages, member checks were performed in order to increase validity of the findings (Neuman, 1997). Several people were contacted and I discussed common themes that were emerging to validate them against their own observations of the issues surrounding the debate over intensive hog operations.

ETHICS

This research project followed the University of Alberta, Faculty of Agriculture, Forestry and Home Economics Ethics Committee guidelines. All notes, transcriptions and tape cassettes are assigned unique identification numbers and respondents were promised anonymity in all research reports. Only the primary researchers have access to a master list that matches the identification numbers to the individuals who participated in this study. Participants in the documents are only identified according to their stakeholder position. The names of communities and key informants, and tapes were kept in a secure location only known by the researcher. All computer files containing any identifying information are password protected.

A commonly overlooked ethical issue of social research is using respondents and then not voicing the results, nor making the findings publicly available, or helping the community once the papers are published. A final report has been given to Alberta Agricultural Research Institute, Alberta Agriculture, Food and Rural Development, Canada-Alberta Hog Industry Development Fund.

Communities involved in the study will also be given a copy of this final report. Upon completion of the thesis, I intend to make the findings available through a publication, and to publish an article in the Western Hog Producer journal to more easily reach hog producers.

CHAPTER 4

CASE STUDY DESCRIPTION

The purpose of this chapter is to tell the unique stories of four land use decision-making processes for siting intensive hog operations, providing context for the sociological inquiry. The first section of this chapter expands on the description of Alberta's decision-making process for siting intensive hog operations found in Chapter 1. Each case study's decision-making process is described, followed by a reconstruction of the chronological order of events for a particular siting decision. The reconstructions of the decision-making processes were compiled from the municipal land use bylaws, municipal records of appeals and public hearings, newspaper articles, provincial government documents and interview data. This chapter will conclude with a summary of the key differences among the public participation processes within the local decision-making processes. This descriptive account of each study paints a picture of the participants' experiences with a public participation process for siting intensive hog operations in Alberta. Also, the settings are an important piece of the sociological puzzle for this research.

ALBERTA: A SETTING FOR HOGS

The government of Alberta has adopted policies to ensure the growth of agricultural business, also known as the 'Alberta Advantage'. The Alberta Advantage states that government policy is not to interfere with private business, and the provincial government is reviewing its agricultural legislation and will retain acts and regulations that foster the development of the

agricultural sector by removing as many regulations as possible (AAFRD, 1998c). Since 1975, the Alberta pork industry has more than doubled with over 2.5 million market hogs in 1997, which accounts for 16.5 % of Canadian pork production (Serecon, 1998). The trends in hog production are showing a sharp decline in the number of pig farms from over 26,000 in 1971 to approximately 3,400 farms in 1998 (AAFRD, 1998b). Over 85% of hogs are grown on farms producing 500 or more hogs and half of the total hog production occurs on farms producing 2,500 or more hogs per year (Serecon, 1998). All of these changes illustrate the growing trend towards the intensification of hog production. The government of Alberta does not expect this trend to slow down, in fact, they expect an increase in the province's hog population to potentially eight million market hogs a year by 2005 (Serecon, 1998).

In Alberta, the responsibility for approving intensive hog operations rests with the local municipality. These municipalities often lack the expertise and guidelines to adequately review the proposed developments. Each application for a development permit that comes to the municipalities is sent to AAFRD, Alberta Environmental Protection, and Capital Health to ensure the development meets all recommended standards. Therefore, the municipalities are largely dependent on the information and recommendations forwarded by experts within the provincial government departments.

The only document that is available to guide the municipal government with the development is the *Code of Practice for the Safe and Economic Handling of Animal Manures* (AAFRD, 1995). This is a voluntary code that recommends some minimum standards for livestock operations. For example, it outlines recommended setback distances for hog operations and adjacent land uses to minimize odour nuisance, based on the size of the operation (known as the Minimum Distance Separation). But currently, there are no regulations specifically concerning agricultural practices. There are some provincial Acts that can be applied to intensive hog operations, but nothing has been designed specifically for the agricultural industry.

The *Public Health Act* is the strongest piece of legislation concerning intensive hog operations. It is paramount over all other provincial statutes (except the Alberta Bill of Rights), and it can be used to shut down operations or deny permits for the purpose of eliminating public health risks. Other Acts which can be applied to intensive hog operations are the *Environmental Protection and Enhancement Act, Livestock Diseases Act, Agricultural Operation Practices Act, Water Act, Municipal Government Act,* and the *Federal Fisheries Act.* However, to remain competitive in the Asian pork markets, both the industry and government have sought to eliminate unnecessary inefficiencies associated with regulatory demands. For example, the government downsizing of environmental ministries has produced significant deregulatory initiatives (Gibson, 1999). There has been a 31% staff reduction in Alberta's Ministries of the Environment, resulting in 1550 lost jobs, making it less feasible for allocating staff for enforcement (McKay, 1997). The combination of downsizing departments and elimination of economically 'inhibitive' regulations have significantly weakened environmental laws, reduced or eliminated public participation opportunities in the government decision-making process and set a tone for self-regulation that may have long-term detrimental effects on Alberta's natural environment (Gibson, 1999).

> *One of the great achievements of environmental law in recent years has been the introduction of greater public participation in the government decision-making processes – a change which has made decision-makers more accountable and ... quite clearly improved environmental decisions.* Gibson, 1999 p. 57

> *Absence of a well-defined development permit process may create problems. Neighbours that have concerns about a new operation may have no assurances that they can ask questions or that their concerns will be addressed* (AAFRD, 1998b).

Understanding Alberta's development permitting process is not an easy endeavour. The decision-making processes in rural Alberta are not as complex and defined as urban development permit processes. This lack of a well-defined process has created some problems throughout the rural areas as they are facing increasingly complex development applications. This section provides a comprehensive overview of Alberta's development permit decision-making process. A general understanding of the decision-making process is important to understand the context within which public participation processes are employed.

THE STRUCTURES OF RURAL MUNICIPALITIES IN ALBERTA

The majority of the province is comprised of Alberta's 65 rural municipalities, which are also called municipal districts or counties. The organizational structure of a municipality consists of two areas: the Council and the Administration. The Council is an elected body in charge of governing the municipality. Once elected, the councilors appoint a Chief Elected Official (CEO), called the Reeve, and a Deputy CEO. The Administration includes all of the municipal district employees who are responsible for implementing the policies and decisions of the council. Some examples of administrative departments include taxation and assessment, planning and agricultural services. The development officer, who is an important actor in the assessment of development permits, is in an administrative position, and employed by the planning department.

Rural municipalities are the most grassroots level of government, and since the 1950's, they have been responsible for development control of intensive livestock facilities. Municipalities with a population over 3,500 are required to write a Municipal Development Plan that describes future land uses and the manner in which these land uses will be reviewed (AAFRD, 1998a). All municipalities also have Land Use Bylaws that divide the municipalities into districts that describe permitted and discretionary uses as well as establish decision-making and public notification procedures.

ALBERTA MUNICIPAL PROCESS FOR ISSUING INTENSIVE HOG DEVELOPMENT PERMITS

Alberta's rural municipalities have final approval authority for the development of intensive hog operations. The *Municipal Government Act* (1994) is Alberta's main legislation that guides rural municipalities' decision-making processes. Each rural municipality can develop municipal development plans and associated zoning bylaws to direct future land uses. The zoning bylaws outline permitted and discretionary land uses that require different approval processes. Permitted uses meeting bylaw requirements are approved and are not subject to an appeal, unless a bylaw was relaxed, varied or misinterpreted. Intensive hog operations are discretionary in the general agriculture districts of 91 percent of Alberta's rural municipalities (AAFRD, 1998). Therefore, the discretionary land use permitting process is reviewed in detail and summarized in Figure 2.

DISCRETIONARY LAND USE AND THE DEVELOPMENT PERMIT PROCESS

Developers requiring a development permit for a new or expanding intensive livestock operation must complete a development permit application for the local authority. The application form includes a land description, development description, manure management plan and identification of distances to neighbouring residents. The local development authority, who takes into account the development's effect on the community, reviews discretionary land use development permit applications. Discretionary uses may or may not involve pre-decision public participation, depending on the process outlined by the rural municipality. If a discretionary use development permit is

issued, the *Municipal Government Act* requires neighbour notification and the permit is subject to an appeal.

Public participation for discretionary approval varies throughout the different rural municipalities in Alberta; however, the *Municipal Government Act* outlines minimum standards for public participation in the decision-making process. Under the *Municipal Government Act*, a development authority has 40 days to process a development application for a discretionary use. The municipality designates either the development officer or a municipal planning commission as the development authority, depending on the nature of the application. For example, in many rural municipalities, the development officer is the development authority for all permitted uses, but for discretionary uses, the municipal planning commission processes the application. During this 40-day period, the development authority refers the application to AAFRD, Capital Health Authorities and other appropriate agencies to make recommendations on the application. Most of these agencies have not opposed hog facilities, but rather may have offered suggestions to modify the development plans so as to meet the minimum requirements of their regulations.

After the decision is made, the development authority is required to notify the public. Direct mailings, newspaper advertisements or posted notices on the land under question are the three acceptable types of neighbour notification. The method of notification remains under the discretion of the development authority. The public has 14 days to respond if they wish to file an appeal. The subdivision and development appeal board (DAB) must hold an appeal hearing within 30 days of receipt of a notice of appeal and must give at least 5 days notice in writing of the hearing to the appellant, applicant, and other owners the board considers to be affected by the appeal. Within 15 days of the hearing, a decision with reasons must be available to the public in writing.

If there is a question of law or jurisdiction with respect to the decision of the subdivision and development appeal board, an appeal lies to the Court of Appeal, which must be submitted within 30

days after the issue of the decision. Section 688 (3) states that "the judge may grant leave to appeal if the judge is of the opinion that the appeal involves a question of law of sufficient importance to merit a further appeal and has a reasonable chance of success".

For Alberta's discretionary use development permitting process, public participation is initiated at the appeal stage. This is frequently the public's first exposure to the development if the developers have not voluntarily initiated some form of public participation. Development authorities across Alberta encourage developers to inform neighbours early in the process; however, it is not mandatory. The most common forms of public participation employed by pork producers are open houses and informal one-on-one discussions.

FIGURE 2: SUMMARY OF MOST COMMON MUNICIPAL APPROVAL PROCESS USED IN SITING INTENSIVE HOG OPERATIONS IN ALBERTA

Alberta's Most Common Municipal Approval Process

1. Municipal Land Use Bylaws Requires Livestock Operations to Obtain a Development Permit
2. Producer Applies for Development Permit
3. Municipal Decision: Development Permit Issued (With or Without Conditions)
4. Municipality Notifies Neighbours of Decision (through newspaper advertisements and/or direct notification and/or posting an advertisement on the property in question)
5. Opponents may Appeal to Subdivision and Development Appeal Board (DAB)
6. Appeal Hearing
7. Municipality Notifies Opponents of DAB Decision
8. Opponents Apply for Leave to Appeal to the Court of Appeal on an issue of law or jurisdiction
9. Court of Appeal Reviews Municipality Conduct and Process

PERMITTED USE DEVELOPMENT PERMIT VIA LAND USE RE-ZONING

Another process that a few municipalities have recently adopted is the re-zoning of land to intensive agriculture, making intensive hog operations a permitted use. The main difference with this type of process is that the *public participation occurs very early on in the process*. A public hearing is held by council to decide if the land should be re-zoned as intensive agriculture. Public hearing procedures in Alberta's rural municipalities do vary, but the *Municipal Government Act* 230 (3) specifies that "council must hear any person, group of persons, or person representing them, who claims to be affected by the proposed resolution". The decision made by council at a public hearing is not subject to an appeal unless a bylaw was misread or misinterpreted.

CASE STUDY PUBLIC PARTICIPATION PROCESS DESCRIPTIONS

The cases for this research included four agricultural communities in Alberta that are similar in terms of type and size of operations (minimum 1200 sow operation), but vary in the decision-making process, and the outcome of the process. The communities chosen are similar in socio-economic demographics: they are agriculturally based economies, have not experienced major in- or out-migration and are similar in terms of population size and distribution of income. Table 2 presents a summary of the main differences in decision outcomes between all four cases involved in this research project. Two of the communities were chosen because they experienced conflict and appeals with proposed intensive hog operations, but they varied on the decision outcome at the local appeal process (Cases A and B). The third community was chosen because it experienced no conflict over the siting of several intensive hog barns (Case C). The final community was chosen for its extensive experience in siting intensive livestock operations both with and without conflict (Case D).

TABLE 2: CASE STUDY OVERVIEW

Case	Development Approved		Decision Appealed		Appeal Board Development Approval	
	Yes	No	Yes	No	Yes	No
A	◆		◆		◆	
B	◆		◆			◆
C	◆			◆		
D	◆	◆	◆	◆	◆	◆

MUNICIPAL DECISION-MAKING PROCESS DESCRIPTIONS

As described in Chapter 1, the *Municipal Government Act* (MGA) of Alberta allows for some flexibility among Alberta's municipal governments' land use decision-making processes. Each rural municipality in Alberta specifies their particular decision-making process in their county bylaws, which can only be altered through a public process. Since the decision-making process and outcomes of the cases employed in this research were determining variables for inclusion in the study, it is important to understand each unique process. Therefore, the county bylaws for siting intensive hog operations are outlined below for each case study. A more detailed account of specific procedures followed by the rural municipalities will follow the description of the municipal process.

CASE A: CONFLICT, DEVELOPMENT PERMIT APPROVED

This case study is a community that experienced conflict over the development permit for an intensive hog operation. After multiple appeals, the decision outcome was the approval of the

development permit. Under this county's Land Use Bylaw, intensive livestock operations are discretionary uses. The development authority for discretionary uses in this municipality is the county development officer. Once the development application is approved, adjoining landowners within a one-mile radius of the development are notified through direct mailings of the issued development permit, and an advertisement is placed in the local newspaper for one week. The public then has 14 days to file an appeal. There is no fee for those who file an appeal. All forms of public involvement are carried out at the discretion of the developer applying for the permit.

Each division within the county has one representative (called a member at large) on the Subdivision and Development Appeal Board, who is appointed at each election. For an appeal, two members at large and one county councilor serve as appeal board members. In some cases, the appeal board will increase to five council members and three members at large. Members at large are members of the community who are selected by the county council. The members at large who are chosen for an appeal board must not reside in the same county district as the development that is in question. The county office reported this as a method to reduce biases among friends and neighbours who may have a vested interest in supporting or opposing the development permit.

CASE B: CONFLICT, DEVELOPMENT PERMIT REVOKED

This case study is similar to case A, as it experienced conflict over the development permit of an intensive hog operation. The outcome of the decision differs from case A, as the development permit was revoked by the municipal appeal board. Intensive hog operations are discretionary uses for this rural municipality. In accordance with their bylaws, the development authority for approving discretionary uses is the Municipal Planning Commission (MPC). The cost for an application for a discretionary use development permit for intensive livestock operations is either $500 or $1000, depending on the size of the operation. Upon receipt of a completed application for a development permit, the county advises and encourages the developer to hold an open house or some other form

of public participation with surrounding landowners. This public participation is voluntary and remains under the discretion of the developer.

The MPC consists of seven county councillor members, one from each of the county divisions. If the MPC approves a development permit application, the public is notified of the decision through a two-week long advertisement in one issue of the county newspaper. The public, in accordance with the *Municipal Government Act*, then has 14 days to respond if they wish to file an appeal. The cost for an individual to file an appeal is $300. If the appellant is successful, the fee is refundable, but if the appeal is not successful, the county keeps the fee. The DAB consists of six members who are all members at large. For each appeal, four of the six members form the appeal board. These members are re-appointed on a yearly basis.

CASE C: NO CONFLICT

This case study was included in the sample because the county has experience with intensive hog operation development permits where there has been no opposition or appeals to the development. Two separate districts within one county are examined because they did not experience controversy over a development permit application for an intensive hog operation.

Upon receipt of a completed intensive livestock development permit application, this rural municipality notifies adjacent landowners through a direct mail-out. The mail-out to residents fell within a one-mile radius of the proposed facility, but depending on the size of the operation, the radius may increase if the development authority deems the possible range of impacts greater than one mile. The developer is encouraged by the rural municipality to hold an information meeting, but this remains under the discretion of the individual developer. Discretionary use development permits for intensive hog operations are approved or denied by the county council. This rural municipality has no municipal planning commission; county council is the development authority for such land

use decisions. The county council is made up of seven elected members from the various districts of the county and members are re-elected every three years.

The letter sent to the adjacent landowners states the date and time that council will be meeting to make a decision on the development permit. The public can attend this meeting and state concerns, or mail a letter of concern to their county council representative who is responsible for bringing the concern to the council's attention at the meeting. If the county council approves the development permit, the decision is advertised in the local paper for one week and the public has 14 days to file an appeal, as regulated in the *Municipal Government Act*. All persons potentially affected (within a one-mile radius) by the appeal are sent an information package that includes a copy of the application, council's decision and all of the letters of appeal relevant to the permit being appealed. In this rural municipality, there is an appeal board member from each of the seven divisions. At every election, the council appoints each member of the DAB[2]. Members of the public can nominate themselves or be nominated by council members. There is one person chosen by council for every district.

CASE D: LONGEST EXPERIENCE DEALING WITH CONFLICT OVER INTENSIVE LIVESTOCK DEVELOPMENT PERMITS

This rural municipality has experienced the expansion of the intensive livestock industry for longer than any of the other cases examined in this research project. In this case, an advertisement is placed in the local newspaper for one week, as soon as an application is submitted to the development authority. The advertisement notifies surrounding neighbours about the proposed siting of the hog facility. If the development officer (who is the development authority for all development permits in this rural municipality) approves the application, then a written notice is mailed to all landowners that are adjacent to the property of the approved development. Effected persons then have 14 days to file an appeal. If the development permit goes to an appeal, the subdivision and

[2] The *Municipal Government Act* states that an election must be held at least every three years, electing the county council. Once the council is elected, they re-appoint and/or designate new members for the development appeal board.

development appeal board consists of members at large who were nominated or applied for the position and were interviewed by council for the position.

The development officer in this community has recently attempted mediation as an alternative dispute resolution mechanism for a proposed expansion of a livestock operation. At the time of the interview, the development officer had only attempted the mediation process once and was open to trying it again. There was no specific hog operation case study examined in this particular community. This community was specifically chosen for its extensive experience and variance in outcomes of intensive livestock applications, therefore there is no chronological listing of events.

SUMMARY OF PROCESSES

Even though the *Municipal Government Act* does specify certain time lines and protocols for public participation, the act also allows for flexibility across rural municipalities. There are notable differences in the public participation processes employed by the four case studies in this study. These main structural differences are highlighted in Table 3. Examples of variances include the application fees for development permits and appeals, public notification protocols, who approves intensive livestock permits, and the appointment of DAB members.

TABLE 3: COMPARISON OF PUBLIC PARTICIPATION SPECIFICS USED IN CASE STUDIES

	Case A: Permit Approved at Appeal	Case B: Permit Denied at Appeal	Case C: No Appeal	Case D: Extensive Experience of Permits with/without Appeal
Development Permit Application Fee	$250	$500-$1000	$500	$600-$1000
Appeal Fee	No fee	$300 Refunded if appellants are successful	$200	$200
When are Neighbours Notified of Development Permit Application? How?	After approved Newspaper advertisement for one week	After approved (In the case examined, the county informed the public via advertising in the newspaper for 14 days before the decision due to the size of the proposed operation)	After approved Adjacent landowners within a mile	When completed application is handed to the development authority Newspaper ad for 14 days and adjacent landowners.
How is the public notified of development application decision?		Newspaper advertisement for 14 days		Newspaper advertisement for 14 days and adjacent landowners.
Decision-Maker for Discretionary Use Development Permit	Development Officer	Municipal Planning Commission (7 County Council Members)	County Council (7 members in total)	Development Officer
How municipality appoints members of the DAB	Nominated by County Council After Every Election	Appointed on a Yearly basis by Council	Nominated By County Council After Every Election	Interviewed by County Council for the Position. Rotate one new member every year.
Who is on the DAB?	One councillor and two members at large	All members at large (6 in total, 4 per appeal hearing)	All members at large (7 in total)	Members at large

CHRONOLOGICAL ORDER OF EVENTS

The chronological sequencing of events is also important to develop a greater understanding for each stakeholder's perspective of the public participation processes. The sequencing of events was developed from information collected during interviews and then supplemented by municipal government documents (records of hearings, letters of appeal, development applications, and DAB decision-making reports).

CASE A: CONFLICT, DEVELOPMENT PERMIT APPROVED

Pork producers applied to the rural municipality for a development permit under discretionary use, paying a $250 application fee. The development permit was approved and a letter of notification was sent to all adjacent landowners within one mile of the proposed development. The development was proposed to be built on the land of a local farmer. The developers would rent the land where the facility existed and the landowner would use the manure to fertilize his crops. Once the adjacent landowners received notice of the approved development, one of the neighbours contacted the planning officer to request information on how to appeal the development permit. Two and a half hours after the neighbour contacted the county officer, one of the developers arrived at this respondent's home for a one-on-one meeting about the development.

The neighbours got together and arranged a meeting where they invited the local landowner to discuss their concerns with them. The neighbours who arranged the meeting were strongly opposed to the development, and the local landowner decided not to continue with the proposed development and withdrew his application. The developers then approached another landowner in an adjacent community for the same project. The development officer approved the development permit with conditions, who then sent written notification to neighbours within a one-mile radius stating that the development had been approved. Additionally, an advertisement was placed in one issue of the local weekly newspaper.

Of the 21 quarters touching the developer's land, owners of ten adjacent quarters signed an appeal and a total of seventy-eight people appealed this decision. This equates to 30 households within a one and a half-mile radius of the proposed development. The neighbours also organized a meeting and invited the landowners of the proposed development. According to the community residents, the landowners would not attend these meetings. At the municipal appeal, the subdivision and development appeal board upheld the Development Officer's decision and granted the development permit. For this rural municipality, the members of the DAB are appointed by council

and consist of one county councillor and two members at large. The appellants then appealed this decision to Court of Appeals. The preliminary hearing for the Court of Appeals granted leave for an appeal, stating that there was sufficient evidence that there had been an error in the process on either a point of law or jurisdiction. According to the appellants and their lawyer, the county had changed some bylaws without going through the proper legal public process. Therefore, the cost for this court case included lawyer fees for not only the pork producers and appellants, but the county as well. The pork producers withdrew their application for a development permit.

Six months later, after the pork producers did an environmental risk assessment[3] of the development and held an open house, they re-applied for a development permit under a new company name. The development officer approved the permit and the cycle was repeated, except that at the preliminary hearing at the Court of Appeals, the appellants were not given leave to appeal and thus the development was approved and is now operating where proposed.

Changes to the Process After the Controversy

The county experienced a large legal fee associated with this aforementioned process and has since changed the development permit approval process. Developers are encouraged to apply for re-zoning of the land to site an intensive livestock agricultural zone. However, it is the developer's decision whether or not to apply for re-zoning or for discretionary use development permits. According to the county's development officer, the majority of developers are now choosing to apply for re-zoning (Personal Communication, March 23, 2000). Under this process, as stated in the *Municipal Government Act*, any changes in zoning requires a public hearing.

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[3] This environmental risk assessment is a 26-page report prepared by a professional environmental engineering company. The risk assessment evaluated the development site and the land proposed for manure spreading for potential environmental risks. Areas reviewed in this assessment include surface water protection, groundwater usage, groundwater protection, manure nutrient management, odour control and abatement, traffic flow impact, dead animal disposal and environmentally sensitive areas. The conclusion of the assessment was that the risk of negative impact due to the proposed operation is low. The report suggested design and management practices to mitigate much of the potential for negative impacts on the surrounding areas. The immediate neighbours did a less professional impact assessment. For example, one of the claims of the risk assessment for the earthen manure lagoon was that it would be impermeable for 454 years. After the completion of the earthen manure lagoon there were heavy rains. The neighbours took pictures of the earthen manure lagoon after the rain and noticed there was no water in the lagoon and the compacted clay had already begun to crack. Though this is not scientifically approved methodology, it does raise an interesting question as to where the water went and the supposedly impermeable clay liner of the earthen lagoon.

The public is notified of the public hearing through a newspaper advertisement that runs for two weeks, and through a direct mailing to landowners within a one-mile radius. The public is invited to attend to voice any of their concerns to council. A public hearing is held, and all five county councilors make the decision. This public hearing decision is unappeallable at the municipal level. If there has been a misreading of the bylaw or an error of law or jurisdiction, the public can take this decision to the Court of Appeals. If the application for re-zoning is approved as an intensive livestock agricultural district, then the development permit is issued by the development officer under a permitted use, providing it is in accordance with the land-use bylaws, and there is no appeal on this permit.

Another amendment made to the by-laws was that all proposed intensive animal operations are advertised publicly, and that owners of all land within a one-mile radius of the parcel on which the intensive animal operation is to be situated receive mail notices. The Subdivision and Development Appeal Board may also refuse to admit as evidence newspaper clippings, audio and video tape recordings and other forms of communication where the Board and parties to the appeal are unable to question the person who originated the proposed submission.

CASE B: CONFLICT, PERMIT REVOKED

The pork producers applied to the rural municipality for a discretionary use permit in order to gain a score for the acceptability of their intensive hog operation. Due to the controversial nature of large intensive hog operations and the size of the proposed operation, the county changed their normal approval process and circulated information letters to adjacent landowners before the MPC made any decision. The rural municipality's planning commission strongly encouraged the developers to hold some form of public meetings. The developers held an open house and spoke with some of the adjacent landowners face-to-face in order to understand concerns of the surrounding residents and to communicate about their proposed development. The Municipal Planning Council, which is the county council, approved the development permit with some conditions. Once the permit was

approved, the neighbours were notified by an advertisement in the local newspaper for one week. Letters of concern were submitted by 17 residences within two miles of the proposed development site. In total, there were 35 letters of appeal. An appeal hearing was triggered, and approximately 80 local residents appeared at the hearing, of which 74 opposed the development. The subdivision and development appeal board overturned the decision, thus they revoked the development permit. The pork producers appealed this decision to the Court of Appeals and were granted leave to appeal. However, the pork producers did not pursue the court case and withdrew their application, sold some of the land and moved their operation to another location in Alberta.

CASE C: NO CONFLICT

For the first community examined in this case, the pork producers applied with the rural municipality for a discretionary use development permit for an intensive livestock operation. The applicants met one-on-one with local residents and negotiated some conditions that would alleviate some impacts on their quality of life, such as paving the road in front of their residences to assist in dust control due to the increase in traffic for the hog operation. Council approved the application and there were no appeals from any of the surrounding landowners.

During the course of interviews, it was brought to my attention that a district within this county was soliciting for a pork producer to site an intensive hog operation in their area. Members of this community who were welcoming the operation were interviewed to identify differences in public participation processes employed by pork producers that could solicit such a response by community members. Since there was no formal application for siting at the time of this research, the chronological listing of events for this sub-case is compiled strictly from in-depth interviews with the community members.

The pork producers employed a local real estate agent to identify possible sites in Alberta for a large intensive hog operation. This company had previously attempted to site in Alberta and was

rejected due to strong public resistance. Therefore, one of the criteria for siting this new proposed operation was a community that would not object to the development. The real estate agent approached this community and through a series of informal coffee meetings, introduced the idea of a large hog facility development to members of the community. After a few of these meetings, which included the real estate agent, community members and staff members from AAFRD, it was established that this community was supportive of an intensive hog operation in their community. The pork producers then held a formal open house in a large city where the developers showed videos of their other operations and described their proposed operation. With assistance from the real estate agent, the community then developed a petition stating their approval of such a development in their community. This petition was presented to the pork producers as well as the county office in order to illustrate their acceptance of the development.

CHAPTER 5

FINDINGS

This chapter presents the stakeholders' perceptions of conflict and the perceived successes and problems with public participation. This research is a comparative analysis of the social constructions across stakeholder groups and across the various structures and outcomes of public participation in four case studies. These findings are drawn from 43 transcribed interviews, which were supplemented by field notes taken during interviews and public meetings.

SOCIAL PROFILES OF THE STAKEHOLDER PARTICIPANTS

For the purposes of this research, participants represent stakeholder groups according to their involvement in the permitting process for intensive hog operations. There are five main stakeholder groups: municipal government, provincial government, pork producers, involved community members and liaisons. Each stakeholder group is described below in terms of the socio-economic demographic information obtained from the respondents.

MUNICIPAL GOVERNMENT PARTICIPANTS

Municipal government participants include development officers, county reeves, and members of the development appeal board. Out of all municipal government participants, one is female and the majority of the male respondents are in their 40s to 50s. There is a mixture of on and off-farm residents with the majority of off-farm residents being the development officers, who live in urban settings. Municipal government participants are in relatively high income categories ($60,000 - $100,000+) and most respondents have some post-secondary training. All participants have at least

some college or university. Local decision makers are generally fairly well-educated .males in their 40s and 50s in a high income category.

PROVINCIAL GOVERNMENT PARTICIPANTS

The majority of provincial government participants are male. One participant lives in a rural setting, which is off-farm and is considered an acreage owner. All provincial government participants reported graduating from college or university with reported income levels ranging from $40,000 to $99,999. The number of years these participants have lived in their communities greatly varied from 1 to 45 years.

PORK PRODUCER PARTICIPANTS

All pork producer participants are males in their 40s and 50s and reported high income levels. One of the producers is on-farm, and the other two are off-farm residents. Levels of education for pork producers are generally high, with all of them receiving at least some university or college training. One on-farm pork producer was a long-term resident, but does not live in the community in which his hog barn was proposed.

INVOLVED COMMUNITY RESIDENT PARTICIPANTS

This stakeholder group includes people who were and were not opposed to an intensive hog barn development. The community residents that appealed the development permit include those who did and did not win at the municipal appeal hearing.

Community members who filed appeals had varied socio-economic characteristics. There

were both male and female appellants ranging in age from their 40s to 60s. The majority of appellants are on-farm residents who live on grain, cattle, hog, hay and horse farms. The appellants that were successful in the municipal appeal process were mainly male, and those who were not successful were female. The majority of appellants are farmers who have lived in the community for long periods of time. The minimum length of residence for these farmers is 27 years, and some reported multiple generations owning the same land. Reported incomes and education levels for the appellants are lower than most other interview participants.

LIAISONS PARTICIPANTS

Liaison respondents are professionals living in the city who were used as consultants by pork producers, provincial government and community residents. The liaison participants have all graduated from university, are urban residents, and the majority reported high-income levels. Ages ranged from 20s to 50s, and included a mixture of male and female respondents.

PERCEPTIONS OF CONFLICT

A conflict trigger, for the purposes of this study, is defined as an issue that represents the focus of conflict for persons involved in the controversy. An important distinction is that these are perceived triggers. Each stakeholder holds a unique perspective based on experiences and observations, and thus "frames" the conflict from a certain position. These findings are categorized into the different stakeholder groups interviewed across Alberta. The most prominent issues that were mentioned by a majority of at least one stakeholder group are summarized below in Table 4.

TABLE 4: STAKEHOLDERS' PERCEPTIONS OF CONFLICT

Conflict Triggers	Government	Pork Producers	Involved Community Members
Industrialization of Agriculture (Clash of Values)	✔	✔	✔
Odour	✔	✔	
Attitude of Public (Envy, Fear of Change, Personality Conflicts)	✔	✔	
Environmental Impacts	✔		✔
Quality of Life Impacts			✔
Mistrust in Government and Industry Representatives			✔
Lack of Government Leadership		✔	✔

1. *Industrialization of Agriculture*: According to these findings, all stakeholders perceive that industrialization of agriculture is central to the conflict. The majority of all stakeholders from all cases mentioned that industrialization of agriculture as a trigger for conflict over intensive hog developments. Many of the concerns related to Alberta's changing agricultural landscape from small and medium-sized family farms to multi-million dollar pork corporations. The following comment is from a government respondent. This comment is illustrative of the commonly held perception that the hog barn conflict is about the intensification of farming.

> *Farming is getting so big so quick and people are just not accepting it.*

One government respondent reported that the tension in communities was due to the fact that community members perceive the hog corporations as a profit-driven industry that does not incorporate the ethical treatment of the pigs, or the community surrounding the hog operation.

> *These industrial models [treat] farm animals [as] disposable production units. If you don't care about your animals do you care for the people that work there or the land that you own or the neighbours? I think that is a lot of the tension going on in the communities.*

Tension over the industrialization of agriculture was evident throughout the involved

community member interviews. Reported reasons for the concerns of an industrial model were the ethical implications of how animals are treated in large sow operations, unknown environmental impacts from chemicals, hormones, antibiotics, and diseases, unfair low taxation for large corporations, and the social and economic impacts in rural communities from the loss of small and medium-sized family farms.

One involved community resident who was involved in an appeal against a development permit for an intensive hog operation stated that the industrialization of agriculture was indiscriminately supported by the provincial government. Negative implications of industrial agriculture perceived by opponents include the diminishing rural population, captured in this quote by a community respondent.

> *Why aren't you [the provincial government] encouraging the small independent farmer?... Because it would [mean] more families [stay] in the community creat[ing] a better community base. People are moving out of rural Alberta and moving into town. The rural base is disappearing.*

Pork producers frame the issue of industrialization of agriculture as ultimately benefiting Alberta's economy with value-added food production and cheaper food for consumers. Both pork producers and government respondents mentioned the inevitability of agriculture shifting towards a more industrial model, as depicted in the following two quotes:

> *The question really is, is there going to be value-added food production in Alberta or not... Because that is fundamental... Is that what we want for Alberta?... Is society going to say this is a social role that farmers are supposed to play, not a contributor to the economy?... Because people are sitting there saying oh God, we are losing all of the family farms, it is going to be factory type farming and we can't have that. That has been the chunk of the opposition.*
>
> *Everybody was saying [the developer] was a big farm corporation and we want small family farms. I said, these are small family farms. In the future they will be, because that is the way we are going to have to go whether we like it or not.*

Another perception from many government respondents was that the intensive hog operations were more technologically advanced, therefore safer than smaller family farms.

> *These new operations have so much money invested, they are not the ones to worry about. It's the old established farms where guys have always just done whatever they want.*

2. *Odour*: Odour was perceived by government and pork producers as being a central issue for involved community residents; however, when involved community residents were questioned about reasons for involvement, environmental protection and preservation of small and medium-sized family farms were their main concerns. With the increase in intensity of hog facilities, the intensity of the odour has also increased, yet some municipal and provincial government respondents reported that odour from intensive hog operations should be tolerated by those wishing to live in rural Alberta. The municipal government respondents who experienced conflict in their community consistently reported odour as being the main issue for the opposition. The following comments illustrate government and industry stakeholders' perceptions that odour is the central issue of contention for community members opposing the development.

> *If manure didn't smell, I think we would have a lot fewer problems. If you could deal with the odour issue, then the opposition would go away.*
>
> *I think once people got involved in it and found out more about the operation and business plan, it basically boiled down to one issue and that was smell.*
>
> *No matter what people will say, smell is at least 80 percent of the reason [for opposition]. If you took smell away, the complaints would disappear.*

Some government respondents also stated that odour is a part of rural life and not a legitimate concern. The respondents who mentioned odour is a rural norm and is therefore not a legitimate concern include municipal government respondents from all cases with conflict. The following quote

is from a county Reeve.

> *I don't even think smell is a really legitimate complaint in the country.*

3. *Public Attitudes*: Government and pork producer respondents from all cases mentioned the attitudes of the public as being an important variable for whether or not the development was controversial. For example, respondents mentioned jealousy, the fear of change and fearmongering and the dispositions to complain as attributes of various persons opposing the development permit. Envy and jealousy were reported mainly from the government respondents who were involved in the case where the permit was approved by the appeal board. The following quote is an example of how the government respondents in this case typically characterized the opponents.

> *There is a lot of jealousy too. As a councillor you have got to sit and weed out if they are jealous... The appellants lived on quarter sections of land, farming was not their mainstay, they had tried it but could not make it as farmers... they weren't successful farmers... They lived in little shacks... their houses were not painted, their buildings were ramshackled. ... It is a fear of change.*

Another common characterization of the opponents from this case was that they were housewives with too much time on their hands.

> *In my opinion doesn't affect her one iota, but she has a cause and a lot of time on her hands. So, this has become a crusade for her. And in my opinion, it's ridiculous.*

Government and industry respondents from all cases that experienced conflict over permits also characterized appellants as having pre-dispositions to complaining and made several references to the public as being a "Not-In-My-Backyard" (Nimby) group.

> *It is sort of like the landfill, the old Nimby syndrome. Most people like to eat pork, but they don't want a hog barn next to them.*
>
> *They just [said] no thank you, not in my backyard.*
>
> *The public's perception is, sure, let it grow; it'll generate money, creates jobs, but not in my backyard.*

Respondents mentioned competition for volunteer time and financial resources, organizational strategies, and the necessity of drawing resources from the surrounding community as limiting variables to participation in the appeals, which refutes the statements of complaining for the sake of complaining or having too much time. Involved community member respondents were aware of the "Nimby" label and stated that pork producers were also exhibiting Nimby characteristics for not developing the intensive hog operations in their own backyards. The following quotes are all from involved community members that discussed (without being asked) how they were not Nimby groups.

> *What we said was, look, modify this, and we came up with usable, practical solutions. We didn't get stupid and say, you know, absolutely no way, not in my backyard. You know, the old Nimby thing. We never said that ever and we never, ever once said – even though they said we did- never once did any of us say we were against agriculture, not once.*
>
> *I can tell you, I have a lot better things, there's a lot better ways I prefer to spend my time, and I do this for free. I mean, I'm just doing it out of strict concern.*
>
> *I have said, for those that are producers in the province who have put together new operations, corporate large operations, I want to know if that operation was built on one of your investor's land? Nobody. They had gone out and bought a piece of land somewhere, and I ask why?... I am waiting for that answer. I was in front of 500 hog producers and I said that question and not one hand went up.*

5. *Environmental Impacts*: Municipal government respondents from all cases and involved community resident respondents from cases experiencing conflict reported environmental impacts of intensive

hog operations as a focal point for the conflict. For community residents, protection of water quality was the main environmental concern.

Odour was mentioned by community respondents as an undesirable aspect of the intensive hog operations; however, as illustrated below, water was the main concern for community residents.

> *Everyone always assumes that it's because of the smell, and certainly smell does enter into it... I don't care for the smell, but if you screw up my drinking water I've got no reason to live here.*

6. Quality of Life Impacts: Community residents from both cases involved in appeals, regardless of the outcome, mentioned increases in traffic and dust, reduction of real estate values, health concerns and the diminished rights to enjoy their property as being negative impacts from the growth of intensive hog operations. The fact that these issues were dismissed and community members in some cases were told to tolerate negative aspects of the hog operations angered them. Community polarization over an issue can transform neighbours into enemies, straining friendship and family relationships.

Government and industry respondents perceived that the opponents were appealing the projects based upon impacts to their quality of life.

> *The essence of the controversy was the community arguing lifestyle changes. Traffic, just too big, annoying smell, dust.*
>
> *People rally against projects out of fear of impacts on lifestyle and community: the reduction in quality of life from odour and traffic. They genuinely think this impact will have a decrease in their quality of life.*

Quite often, quality of life complaints were perceived by pork producers and government personnel as being illegitimate concerns. The following quotes illustrate how some government respondents characterized the appellants as urbanites or acreage owners who complain about normal agricultural practices.

There's a lot of, 'I moved to the country for peace and quiet', but they're not willing to adopt the lifestyle that goes with that. The odours, the nuisance factor, the spraying, the dust from the roads.

If you're going to live and move into an agricultural community there are certain things that you are going to have to put up with.

You have a lot of small acreage type farms that want a country lifestyle with urban amenities... They are the people who generally would be more vociferous with respect to intensive livestock operations.

When questioned about who is appealing the development permits, the majority of development officers responded that it was farmers opposed to the development permits. This is congruent with this study's findings of involved community member respondents being mainly long-term resident farmers.

I would have to say that our experience has been more farmers opposed to other farmers as opposed to acreage owners opposed to farmers.

Involved community resident respondents reported impacts to their quality of life due to social and environmental impacts from the intensive hog operations. Community member respondents also reported frustration with the de-legitimization of their concerns by government and industry representatives.

My lifestyle is going to be adversely affected and it's going to be a long term adversity.

We live here 24 hours a day, we don't go anywhere else, this is our home. Wherever your home is should be a safe place.

> *I take issue with this statement, "it is just acreage people". They can just sluff off what are legitimate concerns.*

According to some municipal government respondents, quality of life issues are increasingly debated during appeal hearings.

> *Quality of life is a big issue, and it's going to be [even bigger] in the future.*

7. *Mistrust*: Involved community residents from all cases involved in an appeal mentioned mistrust of information from government sources. Community residents held that government personnel who promote an intensive hog industry have a conflict of interest with also protecting the public interest. Some appellants reported that government selectively serves the interests of large businesses and that no amount of protest will affect meaningful change. Government and liaison respondents from all cases also observed this conflict of interest.

> *They send a fellow around from Alberta Agriculture to do what is called a preliminary site assessment. I have never seen one that wasn't favourable at these site assessments... The province is actively promoting these... come to Alberta, we have the Alberta Advantage.*
>
> *The objection that many of us have is the fact that the department of agriculture is also the one that is loudly blowing the horn promoting intensive livestock operations within the province, working very hard to enhance markets.*
>
> *You just cannot count on government to protect the environment, to protect the interests of all citizens. The Klein government and our county government acts as though they were paid lobbyists for industry.*

One government respondent describes the development of regulations (minimum separation

distances in the *Code of Practice*) as carrying out the wishes of industry. Minimum separation distances are the setback distances from adjacent land uses prescribed for intensive livestock operations.

> *You are just there as a public servant, so you have to carry out [the developers] wishes. I ended up putting numbers into [the Code of Practice] that really don't make any sense. Then you have to stand up at an appeal and say there is no rationale. Those numbers were basically pulled out of the air. So they [ask] how much else in that Code is pulled out of the air?*

One community respondent reported not receiving information from a government employee and became disillusioned by the fact that government employees are not forthcoming with information. This government employee is a pork specialist who spends a considerable amount of time with the developers on their operation applications. The community members contacted this person in order to get a better understanding of the technology involved with the hog operation.

> *I got told point blank by a man that works for Alberta Agriculture he didn't think it was his job to provide me with any information... I was under the illusion, silly me, that I have as much right to information as you do, or the people down the road, or the guys building the pig barn, I was under that illusion. Funny, I thought that's the way it worked.*

In the interview, the government employee referred to in the above quote indicated a reluctance to share information with members of the public.

> *All of a sudden you turn around and have some people coming in asking for information and for help to stop the project. So, how much do I really want to help these people? We are public service; we are supposed to help the people too.*

8. *Lack of Leadership by Government*: Involved community residents involved in an appeal

stated the need for stronger regulations to protect water quality and soil. These respondents mentioned the provincial government's promotion of industry expansion was done before adequate research was conducted and proper regulations were in place. Pork producers who were involved in an appeal reported wanting consistent regulations across the province with specific guidelines to follow that are unappeallable.

REPORTED OUTCOMES OF CONFLICT ACROSS THE PROVINCES

The controversy surrounding the expansion of the hog industry is not unique to Alberta. Manitoba and Saskatchewan have also experienced conflict in communities over proposed intensive hog developments. Therefore, the interview data from Alberta was triangulated with newspaper articles from Manitoba and Saskatchewan to identify controversial issues consistent across all three provinces. The content of 40 newspaper and government articles from Saskatchewan (from January 1997-December 1997) and 60 newspaper and government articles from Manitoba (from February 1997-May 1998) were analyzed to determine triggers and outcomes of conflict over the expansion of the hog industry. These issues were compared to the triggers to conflict and outcomes in Alberta's study participants. The categorization of conflict by stakeholders is based upon the interview data collected in Alberta. There is variance among provincial decision-making processes, however, the contentious focal issues remain consistent across the provinces. The following outcomes of conflict were common themes throughout all of the provinces:

1. *Community polarization.* All provinces reported community polarization as an outcome of conflict. Saskatchewan Agriculture and Food, Alberta Agriculture Food and Rural Development, and Manitoba Agriculture have reported that developers need to take an active role in informing neighbours of developments as early as possible to reduce community conflict. In Alberta,

community polarization was mentioned as an outcome of conflict across all stakeholder groups, depicted in the following interview statements.

> *Grade one and sixes are beating each other up because of parent's positions. Because it is a local process, it forces people to take sides.*
>
> *This ripped up a community.*
>
> *With people in the community in favour of it and people in the community against it, you kind of get a little more of this community split... You hear about these things happening and it really does rip the community and they never talk to each other again.*

2. *Need for stronger environmental regulations*: This involves the need for stronger regulations, enforcement and public participation in the approval process. As a result, Saskatchewan Agriculture and Food changed their intensive livestock approval process to a provincial environmental impact review. Alberta Agriculture Food and Rural Development and Manitoba Agriculture are currently proposing new legislation that addresses the environmental regulations and participatory process for approving intensive livestock operations.

PERCEPTIONS OF PUBLIC PARTICIPATION

Each stakeholder perceives the successes and problems with public participation based on their experiences with a public process. This section identifies each stakeholder's perceived successes and problems of the public participation process for siting intensive hog operations in Alberta. To be reported, a majority (>50%) of the stakeholder group had to mention the same issue.

GOALS AND DEFINITIONS OF PUBLIC PARTICIPATION

The following findings are drawn from stakeholders' responses to the question: "What is your

definition of public participation?" Table 5 provides a summary of these findings.

TABLE 5: GOALS AND DEFINITIONS OF PUBLIC PARTICIPATION

Goal / Definition	Government	Pork Producers	Involved Community Residents	Liaisons
PP is the Appeal Process	✔ (Involved in appeal)	✔ (Involved in appeal)	✔ (Involved in appeal)	✔ (Involved in appeal)
Identify & Voice Concerns	✔	✔		
Propaganda			✔	

1. *Public Participation is the Appeal Process*: Public participation was described in terms of the appeal process across all cases where respondents were actively involved in an appeal.

2. *Opportunity to Voice Concerns*: Government and pork producer participants from all cases defined public participation as an opportunity for the public to identify and voice concerns. Some respondents stated the need to define the public to clarify who should have an opportunity to be involved. There was variance among the different stakeholders as to who should be considered "public". The government respondents reported that the public should be limited to immediate neighbours or directly affected persons, as captured in the following three quotes.

> *They [the appellants] should be made to make clear what affect it will have on them.*
>
> *You have to weed out the real public interest, which I think is the immediate neighbourhood.*
>
> *Let legitimate people participate in the process. We don't need people who just want to air their views. [Alberta] Environment had to learn how to start screening who is directly affected. They had a screening process where they are trying to correct some of the liberalism they had in the earlier days.*

Liaison respondents reported that the 'public' should have a more encompassing definition. In rural areas, the neighbourhoods are much larger than in the city and therefore the definitions of an

affected neighbourhood should be adjusted accordingly. The following two quotes illustrate how liaison respondents perceived the affected public.

> *If you believe it affects you, then it's an issue.*
>
> *In rural areas... you cannot see your neighbour just across the fence... A livestock operation affects so much that you still have an impact on a number of people even though the densities are so low.. The neighbourhood happens to be 10 or 12 square miles, yet it is a neighbourhood and that community then should have some say.*

Opportunities to voice concerns were defined as venting frustrations, to being meaningfully incorporated into the decision-making process. Municipal government respondents from all cases reported the public participation process is open to all members of the public and thus provides a fair opportunity to voice concerns. Provincial government respondents described public participation as an educational process. Pork producers reported public participation as an educational process, an opportunity to inform the public on site plans for the proposed facility, and as a forum for learning about concerns of nearby residents. The following quotes were in response to the question, "What is your definition of public participation?" The first two quotes are from government respondents and the last one is a typical answer from the pork producers.

> *You have to give them the opportunity to vent their concerns and frustrations.*
>
> *The public [should] have awareness of the project early in the process and meaningful way[s] for concerns to be expressed.*
>
> *A chance for all people within the community to find out what the project's about... and then obviously to have them express their concerns and so that hopefully we can answer those concerns.*

Even though the opportunity to voice concerns is mandatory in an appeal process, appellants from the case where the permit was approved reported they were not heard.

> *We have the right to be heard, and we weren't heard. We weren't even listened to, we were tolerated.*

3. Public Participation is Symbolic in Nature: Involved community residents from all cases reported public participation as a propaganda exercise used by politicians and industry to 'sell' a project. Some of these respondents reported that the process was symbolic in nature and the public has no meaningful input into the decision-making process.

> *Affected individuals tend to be kept in the dark and then their views discounted because they don't have a perceived economic interest. So I don't think it really is true participatory democracy. I think the proponent gets really fairly treated, but I think the system is weighted in favour of the proponent.*
>
> *The decision was made long before we even got there.*
>
> *They do it so that they are able to say that they consulted, but that's all. They have absolutely no interest in having their mind changed by these various public hearings. They think of it as an opportunity to advertise and campaign for their own prepared proposals.*
>
> *Government thinks because they represent the will of the majority, they get elected after all; they then have the right to tyrannize and abuse minority interest. They call this democracy... The truth of the matter is that any theorist of good government... has known that unless you have systems of checks and balances within government, then you're just going to have more tyranny, and that is exactly what we have right now.. Our public awareness and ideology has degenerated to the point where people think the majority will is morally right, and that's a travesty... The form of government that we have really shouldn't be called democracy at all, because democracy means government by the people, and we don't have anything like that.*

SUCCESSES OF PUBLIC PARTICIPATION

Table 6 summarizes the perceived successes of public participation gathered from the face-to-face interviews. Interview participants from three of the four cases in this study were involved in an appeal. Since all participants who were involved in an appeal spent a considerable amount of time talking about specific successes with the appeal process, it was deemed important to illustrate

these findings separately. Therefore, main successes perceived by involved stakeholders are summarized in Table 6.

TABLE 6: PERCEIVED SUCCESSES OF PUBLIC PARTICIPATION

Successes With Public Participation	Government	Pork Producers	Involved Community Residents	Liaisons
Increases Awareness	✔		✔	
Stronger Networks			✔	
Upfront Communication			✔	

1. *Increases Awareness*: One success reported by government and involved community respondents involved in appeals is that public participation increases awareness of each stakeholders' concerns and expands perceptions of the facility's benefits and drawbacks.

> *Certainly a number of people became better informed about intensive livestock operations.*

2. *Stronger Community Networks*: A key indicator of success in public participation for involved community residents from all cases, regardless of the process or outcome, is the development of stronger ties with local community members and networking with other communities experiencing similar developments. Some examples of these stronger community ties include developing lasting friendships with people from the community, sharing research information with other communities, and inviting all concerned stakeholder groups to attend information seminars that they organized.

> *I think that the success is that we have probably helped quite a few different areas in Alberta with packages of information with what we did.*

3. Upfront Communication: Involved community resident participants that did not object to the hog development reported that the greatest success of public participation is upfront communication

about the proposed development. These residents expressed appreciation for the detailed information they were able to obtain about other facilities in their area. They reported a high level of trust and confidence with this early consultation. Early consultation included contacting the residents before choosing the final site and informally discussing measures that could be included to address community concerns about quality of life impacts. Informal discussions included coffee meetings and developers visiting neighbours for one-on-one discussions. For example, one developer paved sections of the road in front of nearby residents to mitigate negative quality of life impacts such as dust from the increase in truck traffic.

> *The main successes I would say are communication and openness of people. The information provided at meetings was fairly complete. Most of our questions were answered as to how an operation like this would affect our community.*

TABLE 7: PERCEIVED SUCCESSES WITH APPEAL PROCESS

Successes with Appeal Process	Government	Pork Producers	Involved Community Residents	Liaisons
Voice Concerns	✔			
Defined by Outcome	✔		✔	✔
Developments Modified Appropriately	✔			

1. *Opportunity to Voice Concerns*: The opportunity for members of the public to voice concerns at an appeal was reported as a success by government respondents from all cases, which is congruent with their definition of public participation.

2. *Success by Outcome*: Involved community residents who were involved in an appeal reported that the public participation process was "successful" if the decision-making process resulted in favour of their position. Government and liaison respondents from all cases also observed this pattern. Below are some of the responses to the question: "What were the successes of the appeal process?"

> *One success was we actually won our first right to appeal.*
>
> *Success is determined by which side of the issue you're on, and of course, the people that didn't win their appeal didn't feel it was successful.*
>
> *We stopped the development. Absolutely. We stopped the pig development.*

The pork producer respondent whose development permit was revoked at a municipal appeal also perceived successes based upon the outcome of the appeal.

> *Well, because it was what we would say is a failure in the end, I am not sure there was any successes.*

3. *Developments Modified Appropriately*: Government respondents from all cases reported that as a result of the appeal process, developments were modified appropriately to meet the concerns of residents who participated in the appeal process.

> *I think the biggest success is that good development can happen and bad development is going to be extremely restricted... it does protect the local people from bad development.*

PROBLEMS WITH PUBLIC PARTICIPATION

In contrast with the perceived successes with public participation, there were many more problems identified by the interview participants. This section identifies separate perceptions of the problems with the appeal process, since discussions about the appeal generated specific problems with the local appeal process. Table 8 summarizes what stakeholders perceived as the main problems with public participation, and Table 9 summarizes the perceived problems with the appeal process.

TABLE 8: PERCEIVED PROBLEMS WITH PUBLIC PARTICIPATION

Problems With Public Participation	Government	Pork Producers	Involved Community Residents	Liaisons
Process Not Understood	✔			
Early Consultation		✔		

1. *Process Not Understood*: Provincial government respondents reported that the public participation process is not understood by the public, pork producers, or municipal government. For example, they reported that the intensive hog industry has not embraced public participation in their development plans like the forest industry. Also stated was the lack of consistency among rural municipalities and lack of well-defined processes that have led to confusion and frustration among stakeholders involved in the public process.

2. *Early Consultation*: The pork producers report that early consultations, such as open houses, are not beneficial for pork producers as they give information to community residents who then take this information and use it against them at an appeal.

> *Our experience was that some of the opponents came to the open house to gain bits and pieces of information that they could then twist and use later against the project.*

TABLE 9: PERCEIVED PROBLEMS WITH THE APPEAL PROCESS

Problems with the appeal Process	Government	Pork Producers	Involved Community Residents	Liaisons
Emotional Content	✔	✔	✔	
Cost is Too High	✔	✔	✔	✔
Community Polarization	✔	✔	✔	✔
Too Accessible	✔	✔		
Decision-Maker Incompetence		✔		
Mistrust			✔	

1. *Emotional Content*: Government, pork producers, and involved community resident respondents from all cases that were involved in an appeal reported that the emotional content and frustration

experienced at an appeal was not constructive for conflict resolution, as it was not scientific and technical information.

> *You have to go through what I call garbage, the emotional stuff, and then you get down to the real issues.*
>
> *It ends up being emotional instead of factual and that is a dangerous place to be.*
>
> *Emotion gets away from the issue at hand. It is probably the biggest setback.*

2. *Cost*: The majority of stakeholder groups from all cases reported that the cost of an appeal is exorbitant. Costs include lawyer fees, consultant fees, per diems, travelling, and long distance phone calls. The amount of time that developers had to delay the development and the time community members spent doing research related to the development was reported as a large portion of the cost. Sympathy for the developers' delays in development and the amount of money developers had to spend are present in the following government respondents' response.

> *People can abuse it [the appeal process] in some respects. It [the appeal] allows them to stop a project from going on really trivial things... An appeal just keeps delaying a project. That has been the strategy of some of the opponents... People can appeal for the sake of appealing without putting any money down, just because whatever it might be. The delays, you can cost the developer piles of money.*

The following comment illustrates community members' comments regarding the inaccessibility of the appeal process, and their frustration with prohibitive costs for an appeal.

> *Lawyers cost more than a couple of hundred dollars in an hour... it is prohibitively expensive to do this... If you are the developer, and the bank has lent you five million dollars, they are just going to add into the cost of doing business an extra $10,000 for lawyers and engineers, or whatever else you need to get through the regulation process. But if you are the opponents, you can get your neighbours all excited, and they will contribute to a fund, but their contribution will often be $20... The developers are always whining about how much it costs them. I am just saying it is a lot easier for them to get the money than the opponents. If they were evenly matched in terms of resources, the results would often be different in my opinion.*

3. *Community Polarization:* All stakeholders who were involved in an appeal mentioned the adversarial nature of the approval process as a problem. The government respondents and liaisons also reported that the confrontational nature of an appeal can lead to community polarization as stakeholder groups are forced to take sides. All stakeholder groups mentioned the disruptive effects a controversial appeal has on a community. These effects included loss of friendships, children's negative relationships at school as a result of their parents' positions, and increases in tensions between neighbours.

4. Process is Too Accessible: Government respondents from cases where there was an appeal, and all pork producer respondents reported that the appeal process is too accessible. They mentioned the low cost to appellants, and unlimited access to appeals as being causes of what they called "frivolous appeals". Government and pork producers agreed that the public uses technical issues to try and stop the siting, but other reasons are what drive their interest in stopping the development. The following statements are examples of government and industry respondents' perceptions of the appeal process being too accessible for the public.

> *It's just too easy for people to say, 'Well, I'm going to take this thing to the provincial Court of Appeal'.*

> *The developers addressed all of the concerns that were raised by the public, and spent a lot of money doing so. The grounds for the appeal were frivolous.*

5. *Decision-Maker Incompetence*: The pork producer respondents from both cases involved in an appeal reported that having technical debates at a municipal appeal process is a problem due to the bias or incompetence of the decision-makers, misinformation at appeals, and the selective use of science by local government officials who are more concerned about the need to get re-elected than about the individual development. Liaison respondents also reported this as a problem, focusing on the local decision-maker's lack of competence in understanding the technical aspects of the development. For example, the pork producers reported that information gathered from the internet on the environmental problems from hog operations in North Carolina and Iowa are irrelevant and should not be presented at an appeal hearing. At the appeal hearing that I attended, I observed the presentation of hearsay from the developers and the appellants. I was also surprised at the lack of knowledge of the appeal board members, which was illustrated through some of the questions they asked. For example, members of the appeal board were asking the developer about manure management practices of the proposed development that were included in the application.

One member of the development appeal board mentions in the following statement their lack of qualifications for understanding all of the issues debated at the appeals.

> *As board members, we're not qualified to do a lot of that stuff. Like I don't understand hydrology and I don't understand manure disposal... So you rely on the information that is provided.*

6. *Mistrust*: Involved community residents from three cases experiencing appeals reported mistrust as a significant problem in the appeal process. Community members reported a lack of trust in information from experts, government officials and pork producers. The involved community

resident respondents from these three cases reported that the appeal is intimidating because government personnel and pork producers appear to work together to present biased information to community residents, thereby shutting out alternative views.

Involved community members perceive the government as being biased in favour of development, as depicted by the following interview statement.

> *The department of agriculture is the one that is loudly blowing the horn promoting intensive livestock operations within the province.*

Provincial government respondents observed that the public does not trust them due to their promotion of intensive hog industry expansions, as illustrated in the following quote.

> *Right now there's the low level of trust in everybody. You don't trust the developers. They don't trust us because our department has been promoting development.*

The following quote illustrates the taken-for-granted, unapologetic stance that promoting the hog industry is simply part of government personnel's job.

> *My role has been to help, on the behalf of government, help facilitate some of the growth and expansion of the livestock industry... [several minutes later] I think there is a common perception that we are biased in favour of development.*

Community resident respondents reported the intimidating nature of appealing a multi-million dollar operation, including the receipt of threatening phone calls and bullying tactics to influence their decision to drop the appeal. Some respondents even reported direct threats to their safety.

> *They tried their thing with me... like something might happen to your dogs or your house.*
>
> *On our answering machine, they had, in a distorted voice, said they are coming for me. It was actually a very threatening phone call... you wouldn't feel safe.*

Involved community residents from the three cases involved with an appeal, and liaison respondents also reported strong affiliations between government and industry, which added to their mistrust of the public process. Some community residents reported that the government was "in bed" with industry. These respondents stated this government-industry relationship was the main reason they lost their appeal. Residents referred to a "Good Old Boys Club" where AAFRD staff, municipal government and pork producers 'scratch each others' backs' and ignore other concerns.

> *We all happened to land in the same restaurant..[The county reeve and development officer] sat with [the developers] and they were all laughing and giggling when we came in. They just laughed and looked over at us. They already knew the decision. It told us right then and there the decision was made before we walked in.*

One involved community member respondent, who won the municipal appeal, observed strong associations between provincial government and industry.

> *At the end of the appeal [a man from Alberta Agriculture] gave a real speech for [the developer], in favour of having this operation. And we thought, holy smoke. Here's this guy that we all paid that should be neutral, but he's worked with them and he's helped them... I thought it was quite interesting that he should favour one side.*

Sources from the pork producers, government personnel, and community all mentioned that the pork producer later hired this provincial government employee being referred to in this comment.

One member of a development appeal board discusses a letter that each appeal board member received from the Minister of Agriculture. This letter congratulated the appeal board on their decision to approve the development permit. However, the letter arrived before the appeal board had made their final decision. The following quote was taken from an interview with one of the members of the local appeal board.

We were a little hurt you might say, that they would do that. I mean, that confirmed our suspicions that there was pressure brought on the department, because they were encouraging them... We did get letters and we were mad.

CHAPTER 6

DISCUSSION

This chapter discusses the findings and relates them to theoretical concepts from sociological and public participation literature reviewed in the second chapter. The intent of this chapter is to contrast four case studies, to better understand the social construction of environmental conflict, and how the structure of the public participation process can affect decision outcomes and stakeholder perceptions. This chapter is divided into two main areas that emerged from the findings. First, the framing of the conflict is discussed in order to understand each stakeholder's social construction of the environmental dispute. Concepts such as diversionary reframing and bureaucratic slippage are used to illustrate how the subtleties of power can influence the social construction of what actors come to understand as 'fact'. Second, main themes that emerged from the findings on successes and problems of participation are discussed for a greater theoretical and practical understanding of public participation.

FRAMING THE CONFLICT

Each side of the environmental debate works to construct or define the conflict in ways that advance their ideological position and lend power by assigning greater value to their most accessible resources (Dietz et al, 1989). Three main construction themes of the environmental debate have emerged from this study. The industrialization of agriculture, environmental impacts and public attitudes are discussed in this section to better understand the environmental debate surrounding intensive hog operations in Alberta.

INDUSTRIALIZATION OF AGRICULTURE

All stakeholder groups from all case studies reported that the industrialization of agriculture is central to the conflict. This is the only agreement among all of the cases and stakeholders that describes the central contentious issue. Most government and producer respondents reported that the industrial model will be followed in future livestock production in Alberta. These stakeholders were advocates for the industrialization of agriculture and focused on the inevitability of market forces, benefits of value-added food production, and the consumer benefits of cheaper food. This response is in the spirit of Adam Smith that argues the inevitability of economic policies changing due to unseen market forces. Thu and Durrenberger (1998) point out that agricultural efficiency, which has been the driving force behind industrialization policies, is based on a set of assumptions about costs and benefits.

> *Certain measures are utilized to calculate efficiencies while others are excluded... Why are [some] beneficial factors not included in calculations of efficiency? To respond that they are intangible, immeasurable, and therefore less relevant is a manifestation of a pervasive and powerful assumption of what economic efficiency and productivity are.* Thu and Durrenberger, 1998, p. 12

The government and pork producer respondents characterized the conflict in similar terms. This finding suggests that the government and pork producers subscribe to similar worldviews with respect to environmental disputes. Framing the conflict as opposition to the industrialization of agriculture (opposition to science and technology) and to public attitudes (Nimby, fear of change) is consistent to what Dietz et. al (1989) refer to as the differential knowledge view of environmental conflict. This view increases the value of technical expertise, which is not surprising, because both of these stakeholder groups have access to such technical expertise and have authority over setting research agendas for hog farming in motion. Consequently, these actors will gain more power in the debate as they have more access to technical expertise.

Involved community respondents opposed to the siting of intensive hog facilities argued that the

large swine operations were not consistent with surrounding community values. This is consistent with what Dietz et. al (1989) reported as the vested interest view of environmental conflict. This view questions the legitimacy of policy decisions that are supposedly made on value-free technical and economic analyses. Involved community members hold the view that the government has not done an adequate amount of research into alternative economic models for livestock expansions that promote small and medium-sized farms. These community members cited the work of Walter Goldschmidt who conducted research on the industrialized agriculture in California and its relationship to the quality of life. According to Goldschmidt's research (1940), which has been replicated and substantiated over the past fifty years, the emergence of industrialized agriculture resulted in declines in social and economic conditions in rural agricultural communities (MacCannell 1988; Durrenberger and Thu, 1996).

ENVIRONMENTAL IMPACTS

An environmental hazard is a physical condition that can negatively affect human health or ecological viability and has an identifiable and relatively small geographic range that can pose both chronic and acute threats (Rich et al., 1995; Goldman, 1991; Schweitzer, 1991). There have been a number of major environmental impacts due to the industrialization of livestock production. For example, manure leaks and spills across various states in the United States have polluted waterways. Human deaths have occurred in Canada from e. coli bacteria outbreaks in water due to the lack of stringent animal production regulations. The spills into waters pose risks to the public and demonstrate that the economic rhetoric and assumptions of low probability for negative environmental impacts have been occasionally wrong. Current research has also revealed that intensive hog operations reduce the value of adjacent land (Seipel, Hamed, Rikoon, and Kleiner, 1998).

Odour from intensive hog operations has been identified as posing threats to human well being

and health (Schiffman, Slattely-Miller, Suggs, and Grahan, 1998). All stakeholders mentioned odour negatively, whether they were reporting it was the reason for the controversy or something they did not want to have to live with. Pork producers and government respondents in this study perceive odour as the basis of opposition to intensive swine operations. This research reveals that opponents are not opposing intensive hog operations because of odour. The opponents reported that issues of quality of life and environmental protection were their strongest reasons for opposing the swine facilities. Recent research on perceptions of the hog industry reveals that water quality is the most important factor to neighbours of hog operations, and that odour is not the most important issue (Bennewies, 2000; Serecon, 1998; Thu et al, 1995). This research concurs that odour is not necessarily the main issue behind the opposition to intensive hog facilities.

Government respondents in this study argue that odour is part of 'normally accepted' farming practices and rural life. With the emergence of more intensive swine facilities, this definition of 'normally accepted' farming practices has been contested. Some of the municipal and provincial government respondents framed the opposition to odour because there are more 'urbanites' living in the country that "just don't like the smell". According to this research, the majority of opponents to the facilities were farmers who have lived in the community for long periods, invalidating such claims made by the government respondents. Interestingly, the majority of decision-makers who report the residents should have to tolerate the odours are urbanites.

This re-framing of the environmental conflict as being a dislike of odour is a method known as diversionary re-framing (Freudenburg and Gramling, 1994). The municipal government respondents who experienced appeals over intensive hog operation development permits are re-directing the issue to odour. This redirection of attention takes the focus off other legitimate concerns such as water protection and the lack of environmental regulations and instead, places the focus on an issue that many report is illegitimate because it is part of rural living. Rather than focusing on the risks associated with storing millions of gallons of manure in a lagoon, the focus is placed on the smell.

This raises an important question as to why odour has received so much attention. Odour is an easily identifiable externality from intensive hog operations. This immediacy of affect from an industry may be a catalyst for the opposition and instigate surrounding neighbours to further investigate other potential risks. As the members of the community opposing the development further investigate the issue, there is an increase in awareness and the framing of the opposition evolves into other issues which may have greater power in the debate. This is consistent with Cable and Cable's (1995) stages of grassroots organization. As the community organization learns more about the facility, other issues are revealed. What may have started out as an opposition to odour becomes an objective to improve environmental regulations.

Traditionally, persons who have knowledge, access to resources and mobility have led resistance organizations. Jones and Dunlap (1992) noted that as environmental problems become more and more obvious, and threatening to human health, awareness and concern about them will be less limited to any given sector or social group in society. Wilson (1999) states that people will mobilize over issues they can visualize, that affect them in an immediate way. The citizens appealing permit approvals of intensive hog operations in this research are not radical environmentalists. They are mainly farmers and housewives who are participating in order to protect their health and quality of life in their own community. The opponents are long-term residents of their communities with lower levels of income and education than all other stakeholder groups in the controversy, which is contrary to research that showed levels of education linked with environmental concern (Mohai, 1985; Van Liere and Dunlap, 1980). These findings are also contrary to Mohai (1984), which reports that social class affects participation due to its effect on resource availability or personal efficacy. This suggests that either the attitude strength, saliency of the threat, or position of the individuals in social networks had an impact on individuals' abilities to overcome mobilization barriers. These findings are consistent with Freudenburg and Pastor (1992) and Cable and Cable (1995) findings, which reveal that homeowners and women often mobilize over issues that affect health and/or

declining property values.

PUBLIC ATTITUDES AND NIMBY

Not-In-My-Backyard (Nimby) groups were discussed in the interviews by all stakeholder groups. Many respondents referred to Nimby groups as "the old Nimby thing" indicating it is a well-understood and common term. Government and pork producer respondents characterized opponents of the operation as being groups that were suffering from the Nimby syndrome. The two groups opposed to the hog operations, regardless of the outcome of the decision process, refuted these claims reporting that they were not Nimby groups.

Policymakers and scientists often characterize Nimby groups as being motivated by discontent: i.e. a small groups of people who like to complain (Wilson, 1999; Freudenburg and Pastor, 1992). Dietz, Stern and Rycroft (1989) identified this view of environmental conflict as differential knowledge. Differential knowledge frames the public as ignorant, and prone to unreasonable fears and expectations. Government and pork producer respondents blamed the uninformed public as the root cause of conflict, suggesting that technical expertise can answer irrational concerns. Emphasis on the technical expertise increases the power of these individuals and institutions because they have greater access to and control over technical information.

Research has revealed that neighbourhood-style groups are not participating out of irrational individualistic motivations, but out of a concern for the collective good (Freudenburg and Pastor, 1992; Snow et al., 1986; Oliver, 1985; Walsh, 1981). The argument of an irrational public assumes that as the public becomes better informed, attitudes will become more favourable (Otway and Thomas, 1982). This research refutes this assumption. Involved community residents from all three cases became more opposed to the hog facilities as they became better informed. Community residents involved in appeals spent substantial time gathering current research findings on intensive hog operation impacts and were very knowledgeable about the technology being disputed. Despite

their socio-economic status and lower levels of education, citizens involved in these appeals were well versed on the hog facility specifications, regulations and possible environmental impacts. For example, in one case, the community member respondents proposed alternative manure storage technologies and different placement of the facility as they learned more about the proposed facility.

Some interview respondents who ascribed to the view that the public is irrational characterized the public opponents as 'fearmongerers' and 'housewives with a crusade'. These characterizations of the public attitudes and dispositions occurred mainly from the municipal and provincial government respondents (including county reeves, county councilors, members of the DAB, and AAFRD site engineers and pork specialists). These same critics were the government respondents who approved the development permit in that particular case. Criticisms against opponents included claims that the opponents' had too much time on their hands, were unable to 'make it as farmers', and had unkept houses and land, jealous demeanours, and slovenly physical appearances. An interesting comparison is that the municipal government respondents from the case where the development permit was revoked by the local development appeal board did not negatively characterize the opponents' attitudes and behaviours.

The leaders of the opposition in the case where the permit was revoked were men. The cases where the opponents were negatively characterized, and where the appeal was unsuccessful, the leaders of the opposition were women. Due to the small sample size, no generalization can be made. However, this does raise important questions about gender and power in rural political decision-making processes. A possible explanation for the government respondents criticizing the opponents is that agency officials (who were all men) spend a disproportionate amount of their time with the industry officials, thus resulting in vested interests in seeing the project to completion.

Freudenburg and Pastor (1992, p.403) note that hostility directed at women in local citizen groups "could be related to their status as women and to women's lack of power and authority in public life". The cases observed in this research do reveal that the majority of decision-makers

and key state agency experts are men and that the opponents who were criticized by public officials were the women who unsuccessfully appealed a development permit. This could be seen as an attempt to delegitimize valid concerns about environmental and social impacts, by diverting attention away from these issues and instead attack the credibility of the sources.

SUCCESSES & CHALLENGES OF PUBLIC PARTICIPATION

It is necessary to compare across case studies to understand how the structure of the process, specifically, the role of public participation, affected the outcome of the proposed hog development and the perceptions of stakeholders involved in the process. The public participation process that varied in decision-making outcomes were compared across four case studies to identify possible patterns that contribute to the conflict and/or stakeholders' perceptions. This section will discuss the differences in structure and how this relates to the outcome of the decisions and stakeholders' perceptions. The discussion is divided into six main concepts that capture the most important findings that emerged from the comparative analysis of four case studies. Community networks, the decision-maker, public notification, accessibility of the process, open houses and mistrust are concepts discussed in practical and theoretical terms, in order to reveal important lessons for Alberta's public participation processes for siting intensive hog operations.

COMMUNITY NETWORKS

Community respondents from all case studies reported the development of community networking and lasting friendships as successes of public participation. Involved community resident respondents involved in the case where the county upheld the development permit through the municipal appeal process displayed indicators of disempowerment. They reported a loss of faith in the democratic system, as well as a lack of substantive empowerment (Rich et al., 1995). Substantive empowerment is where citizens and institutions work together throughout the decision-making

process and focus on incorporating community values into long-term planning processes (Rich et al., 1995). In the case where the permit was appealed and ultimately granted, opponents reported that their input was disregarded. In both cases where there was an appeal, community organizations spent considerable time and money attempting to expose impacts from the intensive hog operation and force improvements on the development plan. In the community where the permit was appealed and withdrawn, the development was sited in another community, possibly transferring the issue to a less politically active location. The community from the permit withdrawal case was successful in overturning the development permit, yet members did not report it as an entirely successful process. Members from both community organizations in which there were appeals expressed their disillusionment with the provincial political process for land use decisions. This is consistent with the fourth stage of grassroots mobilization described by Cable and Cable (1995), where members' activities alter their political consciousness and they lose faith in government and industry.

Despite the evidence of disempowerment, these respondents indicated increases in community networks and stronger support systems. In the community where the development permit was granted after two appeals, after the hog controversy, farmers were politically active in supporting the upgrading of sour gas plants to meet modern environmental standards. Essentially, residents from this community are becoming more politicized. This could be an indication of the development of stronger social capital within this community.

In the community that successfully appealed the permit, their opposition to the hog barn was not the first time this community had successfully challenged local government decisions. This community has overturned local decisions to close rural schools in their area. According to these findings, there are high levels of social networks and trust between local decision-makers and the residents of this community. This community has worked hard, over many generations, to keep local schools operating despite major cutbacks and re-structuring of rural education in Alberta. The leading indicator of social capital and civicness is membership of voluntary groups (Wilson, 1999).

These networks are where the norms and values of a community are reinforced by social structures and practices.

This community has banded together to build parks and community halls, showing evidence of social capital. This research suggests that the local public participation process does have the capacity to incorporate public values into the decision-making process. When this hog barn challenged the values and well-being of their community, they successfully challenged the development. These findings are consistent with social capital theory that places emphasis on the will and capacity of community members to band together to solve problems that affect their quality of life (Wilson, 1999; Flora, 1998; Putnam, 1993). Both cases involved in conflicts mentioned strong community networks as a success, regardless of the outcome or structure of the public participation process.

By banding together, these rural residents mobilized to take their opposition through expensive, time-consuming litigation processes. The financial burdens of participating were high, which according to resource mobilization theory limits participation (Klandermans, 1984; Snow et al, 1980). The social networks were strong enough to overcome those barriers, which is consistent with other social capital research from rural communities (Salamon et al., 1998). This finding is consistent with Salamon et al's research where local leaders have established relationships with public agencies, resulting in greater trust between parties. In the community where concerned citizens were able to appeal the permit, there was a history of working with public officials on other issues, such as keeping schools open and building community facilities. Public officials from this community did not criticize the appellant leaders. When contrasted to the other case involved in an appeal, appellant leaders were criticized and reported their input was disregarded in the decision-making process. This difference in public officials' attitudes towards community leaders of the opposition suggests that social networks between groups do increase trust among actors.

THE DECISION-MAKER

The decision-making body in many Albertan rural municipalities is the municipal planning

commission or county council. These bodies decide on discretionary land uses, and choose the development officer who makes the decisions on permitted uses. In two of the four cases, the development officer makes all decisions concerning applications for subdivisions, developments and re-zoning. When the development officer is the development authority, a timely and cost-efficient decision-making process is usually present. Development officers are usually university graduates that are not elected members, but are paid municipal government staff and have not necessarily lived in the community very long. It can be argued that the development officer is generally a more neutral decision-making person because he/she is not an elected member, and according to this study, is usually not an on-farm resident. However, it can also be argued that the development officer is not accountable to the people whose lives are affected by the decisions.

The biases, trustworthiness and accountability of decision-makers are often questioned by the stakeholder who does not agree with the decision outcome. Therefore, no matter who makes the final decision, there needs to be a public participation process that is transparent to the public and identifies the reasoning behind the decision to maintain public trust (Beierle, 1999). The decision to allow to site or not to site a large hog facility is of too much public importance to leave it entirely in the hands of one development officer.

According to Freudenburg and Pastor (1992), even scientific data and technical regulations are influenced by a set of values and are political in nature. The local decision makers being influenced by 'friends and neighbours' is an example of local decision-makers making decisions that are representing the interests of their constituents. This is a political decision, also known as representative democracy. If we remove this power of local decision-makers, are we not removing democratic rights?

It should be noted that decisions based on technical standards are not necessarily unbiased and based solely upon scientific findings. In fact, one of the provincial government respondents reported that numbers such as the minimum distance separation for intensive livestock operations

were designed to satisfy the interests of the livestock lobbyists, rather than based upon scientific methods for determining the safest distance. Bureaucratic slippage proposes that decisions are not based solely upon rationale choice or agency capture (Freudenburg and Gramling, 1994). Instead, there is a continuum to which decision-makers are supportive towards different stakeholders. This study indicates provincial government officials spend a disproportionately large amount of time with industry clients. For example, there is an entire department in AAFRD that is devoted to the expansion and development of intensive livestock in Alberta. Site engineers, pork specialists and other agency officials work with pork producers to develop applications for intensive hog operations. Freudenburg and Gramling (1994) suggest that when government officials spend a greater amount of time with industry representatives, there is a tendency for these two groups to share worldviews. This study concurs, indicating a convergence of worldviews between industry and government stakeholders. For example, the social construction of the conflict was very similar between these two groups. All of these findings suggest some bureaucratic slippage is occurring, thus there is an unequal distribution of power in the decision-making process and a possible distortion of technological risk information (Hiskes, 1998; Dietz et al., 1989).

The structure of the decision-making process compounds this tendency towards provincial government bureaucratic slippage. Local development authorities who process development permits lack adequate resources to independently assess these technologically complex applications. They rely heavily upon information and recommendations supplied by provincial agencies, thereby facilitating bureaucratic slippage biases into the local decision-making process. This raises the question as to the degree of autonomy local decision-makers actually have in these industrial scale developments.

PUBLIC NOTIFICATION

The *Municipal Government Act* states that once a permit is approved, the affected public must be notified of the decision. Community members have 14 days in which to file an appeal. This length of

time is consistent across all cases. The 14 day time line is too short for individuals to gather information about a multi-million dollar project they may have never heard about before the letter or newspaper advertisement. Accessibility of resources is a limiting factor of participation, whether it is a result of an individual's capacity, will, or the structure of a participation process. Fourteen days is a disproportionately short amount of time when compared to the amount of time developers have to put an application together. An advertisement in the local paper or a letter of notification does not constitute education. These findings are contrary to research that indicates capacity to educate and inform the public should be a social goal for public participation processes (Beierle, 1999).

The rural municipality with the longest experience with conflicts over intensive livestock developments has implemented public notification before a final siting decision. This is the only rural municipality in this study that notifies the public before an application approval. In three of the four rural municipalities examined, the public's first notification of the development is after the permit is approved, and their only recourse for influencing the permit decision is through an appeal. The DAD (Decide, Announce, Defend) method of public participation is regarded as archaic throughout the public participation literature (Beierle, 1999; Dale, 1999; Eastlick, 1999). This suggests that rural municipalities need to adjust their decision making process to include public notification before any decision has been made on development permits for intensive hog operations. This early notification would also help extend the 14 day time period so that communities could learn more about the proposed development, and become organized and mobilize if they choose to become involved.

The community that experienced no conflict over the large hog facility did not have significantly different public participation processes from the other two cases that experienced conflict. The developers discussed the proposed project with surrounding landowners and negotiated mitigation that would make the project more acceptable for their community, before submitting the completed application for a permit. Informal meetings at the community resident's home were arranged and the developers invited community members to contact them anytime if they had any questions or if they

wished to tour their existing facilities. These mitigations were included in the developer's application for a development permit and there were no appeals from any of the surrounding landowners. The major difference with the public participation employed by this developer is that they contacted the surrounding neighbours before applying to the county for a development permit. In both cases where there were appeals, any face-to-face meetings or open houses were arranged after the developers had applied for a permit or contacted the county to discuss the acceptability of the proposed project. Early notification of community members is described throughout literature as a key to effective public participation (Beierle, 1999; Steelman and Acher, 1997; Zeiss and Paddon, 1992; Tanz and Howard, 1991; Fiorino, 1990).

The other district in the case without conflict over a proposed intensive hog operation was actually actively soliciting for the development to site in their community. The public participation employed in this case is quite unique from the other cases. The developers hired a local rural real estate agent to locate possible sites for their intensive hog operation where the community would not oppose their development. The real estate agent, through informal coffee meetings, narrowed the list of possible sites to three communities who supported the development. A series of informal meetings were arranged to discuss the possibility of a development, which eliminates pressure on the community and allows them to feel as though they have a real choice in the decision to site the hog operation. Community members were informed through a series of local meetings and then a more formal open house was arranged where they could meet the developers. The major difference with this public participation process is that the developers were actively seeking a community that would accept the development as one of their major siting criteria. This finding is consistent with research where the process is perceived as fair and effective in communities where they are involved in the assessment of need and have a real choice in the decision outcome (Zeiss and Paddon, 1992). This early communication is an example of how the earliest communication with the affected public can instill trust and confidence that they do have a choice in the decision. The main lesson learned from

this case study is that early and open communication is a contributing factor to the reduction in conflict and increase in trust.

ACCESSIBILITY OF THE PROCESS

Government and pork producer respondents from cases where there was an appeal reported that the process is too accessible. This finding suggests that these stakeholders would like to see more stringent standards, or barriers, to the participatory process. For example, these stakeholders suggested charging higher fees for appeal applications and making citizens prove they are directly affected in order to be considered legitimate participants. This decrease in formal opportunity to participate is contrary to the idea of instrumental empowerment, where an individual's capacity for participating is determined by available resources and access to formal opportunities (Rich et al., 1995). Since effective public participation is about an opening-up of the decision-making process, to report there is too much accessibility is contrary to the ideals of public participation. This finding differs from the perspective of the involved community residents who described the inaccessibility of the process due to it being prohibitively expensive. One of the involved community respondents reported that if they won the lottery, they would still be fighting this decision in the courts, but are unable to due to financial constraints.

The amount of money charged to submit an appeal varies across cases in this study. The fees range from no fee to $300, and two municipalities charge $200. The county that does not charge for an appeal application reports that taxpayers have the right to an appeal without incurring additional costs. Other counties that charge a fee based their arguments mainly on the administrative costs of holding an appeal.

The perception of the appeal being too accessible is contrary to stakeholders' reports that the cost of an appeal is one of the major problems with the current public participation process. Appeals are expensive and time consuming for all parties involved. Community residents have less access to

financial resources and are limited by the amount of money they can raise from the community. It is easier for the developers to obtain the money than it is for the opponents, who have to canvass their friends and neighbours for donations. Inequities in availability of resources decreases instrumental empowerment (Rich et al, 1995). If these two groups were even in terms of resources, it is very likely the results would be different. This finding suggests that the public participation process needs to be adjusted so that it is not based on who can impress, intimidate or overwhelm local appeal boards with technical information and lawyers.

According to research on mobilization of neighbourhood groups, there is no such thing as a "frivolous" appeal and these groups persist despite constraints in financial resources (Freudenburg and Pastor, 1992). The mere suggestion of charging more money for citizens to become engaged in an appeal, that is sometimes the only venue for input into the decision-making process, suggests a lack of commitment to encourage citizens to be involved in decisions that affect their lives. Public agencies that view external input into a decision as not being valid and a waste of time suggests they may be out of touch with public interests and too closely wedded to the clients who benefit from the agency's lack of vigilance. Public involvement can contribute to better decisions so that they reflect the values of the community, through processes that are designed to meaningfully incorporate varying perspectives into the decision-making process.

Developers and government respondents often reported the costs to the developers due to delays in development. Government personnel expressed sympathy for the inconveniences and costs imposed on producers. This is an indication that government respondents are too involved in the application development and have developed a vested interest in seeing the project approved. The government respondents also mentioned the public can access the appeal process too easily to file 'frivolous' appeals. Government employees' perceptions of 'too much public involvement' is indicative of government personnel not wanting to lose decision-making power. By framing appeals as 'frivolous', it delegitimizes what are real concerns for community residents, and increases the

power of the developers. This is consistent with research revealing the social resource of framing to justify unequal distribution in power (Krogman, 1999; Freudenburg and Gramling, 1994; Dietz et al, 1989).

The case study that experienced conflict and approved the permit made changes to their development permitting process. They now suggest all intensive livestock operations go through a land re-zoning process where there is a mandatory public hearing. This hearing however, is held by the county council and is unappeallable, thereby reducing accessibility. According to literature on public hearings, they do not provide meaningful public involvement and serve mostly to defend agency decisions and fulfill administrative requirements (Fiorino, 1990). Public hearings need to provide the interactive function to discover and implement public needs into decision-making (Heberlein, 1976). Unless this function is fulfilled, public participation has not occurred on a fundamental level. This county has made an attempt to reduce conflict (and costs incurred to the county) by reducing the amount of options for public involvement. This may serve as a function to reduce conflict and may be more cost effective (which are two social goals that can be used to evaluate good public participation). Yet, this is far from fulfilling Beierle's social goals of increasing trust, educating the public, improving the quality of decisions or incorporating values into decision-making. In this county, the county officials openly criticized hog facility opponents in personal attacks. Are these the people that should have ultimate decision-making power at these "public" hearings?

OPEN HOUSES

Open houses were employed by three case studies and are described throughout livestock development guidelines as valuable opportunities for public input in the development process (Saskatchewan Agriculture and Food, 1997; Manitoba Agriculture, 1995; AAFRD, Food and Rural Development, 1998). The main difference between the open houses across cases is the timing of the open house. In the case where there was no conflict, the open house occurred during the

winter season, after the community had already been informed of the proposed development through a series of informal meetings. In the case where there was major conflict and the permit was approved, the open house occurred after the developers lost the first appeal, began to pour cement for the building foundation and before they re-applied under a new company name. The case study that experienced conflict but the development permit was denied, the open house was held during the harvest season, before the county decided on the application for a permit. Had it not been raining, some of the leaders of the opposition would not have attended, and would not have learned about the proposed operation.

The community with no conflict took part in an open house before a final siting decision was made. These community member respondents reported this open house was as a very positive and informative experience. The timing of open houses in rural communities is important for a couple of reasons. First, these findings suggest that for open houses to be perceived as fair and effective, they need to occur prior to any final siting decision. Second, in agricultural communities, during the harvest season, people will not be able to attend open houses unless it is raining and they are unable to work in the fields. Attendance to an open house or other forms of involvement during harvest season is dependent on the weather. According to Wilson (1999), public apathy is one of the hardest obstacles to overcome in public participation, therefore an understanding of rural timing plays a significant role in facilitating attendance for public participation initiatives. This finding suggests open houses should be done prior to final site selection and should also take into account the timing of rural community activities to maximize the public's availability for attendance. This research suggests there needs to be a shift from reactive to proactive forms of public involvement initiatives, where communities have real choices in the decision outcomes. This is consistent with empowerment theory and is one of Beierle's six social goals for public participation (Beierle, 1999; Rich et al., 1995; Wise and Kenworthy, 1993; Lindell and Derry, 1992).

MISTRUST

Involved community residents from the three case studies with appeals reported mistrusting the relationships between the provincial government, pork producers and local decision-makers. Involved community respondents from all three case studies reported mistrust toward the provincial government, and defined public participation as a propaganda exercise.

Trust is consistently reported to be a key factor in citizen support (McAvoy, 1998; Zeiss and Paddon, 1992; Beierle, 1999). These findings show the presence of mistrust of expert knowledge and government officials. This is consistent with other research that reveals the public's mistrust in government agencies due to the perceptions that they are captured by economic interests of "big" business (Dietz, Stern and Rycroft, 1989; Freudenburg and Pastor, 1992). Dietz et al (1989) explain this perception of environmental conflict as mistrust of expert knowledge. This argument places more emphasis on the values and interests that underly information and knowledge generated by government and industry scientists. The distortion of scientific findings due to political and economic influence is at the heart of the public's construction of this dispute. By questioning the credibility of the scientific findings, concerned citizens frame the dispute as a political debate, thereby shifting attention to the importance of public support for rigorous policy, rather than simply on the scientific acceptability of new proposed developments.

Effective public participation is about empowerment, helping people achieve their own purpose by increasing their confidence and capacity. This is not contrary to representative democracy; it should be viewed as a means of enhancing effective decision-making through the opening-up of the decision process. An open process allows members of the public to challenge decision makers to involve public views and concerns that have been exposed through an empowering process (Petts 1995). In this study, community residents generally perceive public participation as a propaganda exercise, indicating a sense of helplessness over decisions that affect their lives. Restoring people to their rightful place in decision-making structures that affect their lives is an essential component of

empowerment (Taylor, 1988). Therefore, it is essential to make changes to public participation mechanisms to increase the public's trust in government decisions. According to Taylor (1988), professionals and bureaucrats have increasingly monopolized the decision-making processes, and it is time to restore the public's place in political affairs.

This study strongly suggests the need for increasing the trust in institutions, which is consistent with other literature on public participation and perceptions of decision-making processes (Beierle, 1999; Salamon et al, 1998; Petts, 1995). Community respondents from two of the four cases have lost faith in democracy. They have a cynical outlook on Alberta's provincial government policies assuming the policies serve the interests of industry before the needs of the public.

Community member respondents from all case studies reported that public participation is a form of public relations, where a developer attempts to sell a project to a community. In this definition, the perception of public participation is a tool that is used for social engineering to approve permits, rather than a meaningful process. This finding suggests community residents sense a lack of control, resulting from a lack of authentic citizen involvement. The two cases where community residents appealed a development permit reported they did not live in a democracy, but a tyranny, and no amount of public input would have affected the decision as it was made long before they were involved.

This research has identified there are feelings of mistrust among some community residents across three of the four communities studied here. Some community respondents reported that their lack of trust is a problem that is occurring on a more fundamental level of society. This is consistent with Putnam's (1995) argument, which suggests that the drop in civic trust is symptomatic of a decline in the norms of civil society. Civil society is where citizens contribute to successful democratic decision-making by participating in formal organizations. As citizens are less engaged in participatory democracy, there is less chance for trust relationships to be established. One of the most effective ways to regain public trust is to involve the public meaningfully in decision-making

(Schneider et al., 1997; Slovic, 1993). According to Beierle (1999), information provision and citizen advisory committees have the greatest potential to increase trust in institutions.

CHAPTER 7

CONCLUSIONS

The comparative analysis in this study examines the importance of public participation processes for controversial land issues. The objectives of this study were to 1) identify the social construction of the conflict over the siting of large hog facilities in four different cases; 2) to reveal relationships between the public participation processes and conflict outcomes. By comparing stakeholders' perceptions across a variety of public participation processes and outcomes, this study fulfilled these objectives. This qualitative research also revealed social and political processes that provide a greater context for understanding public participation for land use developments in rural Alberta.

A key component of conflict resolution is a mutual understanding of the contentious issues among all stakeholders. This research revealed different stakeholders' constructions of the conflict. By exposing these differences, this study can sensitize decision-makers and managers to the issues not currently addressed in the intensive hog development conflict. The identification of key challenges and successes of public participation will also help managers and decision-makers employ public participation initiatives that are perceived as fair and effective by all stakeholders as is possible. This study illustrates how power arrangements and social processes affect the outcomes and perceptions of the participatory processes for land use developments in rural Alberta. The summary of findings reviews the practical and theoretical lessons that have emerged as a result of this research. Policy recommendations and future avenues for research will follow these summarized findings.

SUMMARY OF FINDINGS

Local grassroots organizations have emerged in response to perceived environmental threats in their communities. Ordinary citizens may band together if they believe they are disproportionately bearing the environmental and social costs of industrial production. This study compared two local grassroots organizations that mobilized to contest intensive hog development permits. Both of these grassroots organizations questioned the development permit based on the potential environmental threats and the development's perceived inconsistency with community values and norms. As they became more engaged in legal disputes, they became disenchanted with the power structures of municipal and provincial political institutions that were working with and seemingly for the pork producers. Each of these organizations became disillusioned with the state's inability to protect their environmental and social interests; however, these organizations varied in perceptions of the outcome of the local decision-making process.

One grassroots organization had a long history of working with local decision-makers. This community reported high levels of trust and social capital, and their perceptions of the decision outcome was that it reflected their values and concerns, despite their disillusionment with the provincial government. The sharing of values and commitment to a community is one of the foundations of social order. This case study illustrated how social capital that is developed through participatory mechanisms (both formal and informal) can serve society by increasing trust and generate networks that can be used for positive future civic engagement.

According to this study, a challenge to public participation is that each stakeholder group frames the conflict according to their dominant worldviews. This research suggests that there is a disagreement regarding the shifting paradigm of agriculture towards an increasingly industrial model. While government and industry representatives support industrial scale agriculture, community

residents are less willing to accept the risks from intensive livestock operations. Issues such as manure management, soil conservation and groundwater pollution may continue to be debated at appeals. More central to the conflict is the inclusion of public debate into policy issues guiding the directions of future agricultural expansion, and the inclusion of community values into local decision-making processes.

This research has revealed that much of the decision-making power rests with the provincial government as local decision-makers rely heavily upon them for input. This study also reveals parallels between industry and governments' values, suggesting bureaucratic slippage. Government agencies are spending less time interacting with the public and more time with industry representatives. As a consequence, industry representatives and government personnel tended to delegitimize other stakeholders' concerns with dissimilar frames of the conflict. Given the government sees the expansion of the hog industry as a public good, i.e., a way to improve economic conditions in rural Alberta, government personnel are predisposed to overlook risks and complaints about the siting of hog facilities. Thus framing the conflict and bureaucratic slippage are conceptual barriers for authentic public involvement in the participatory process. Political disillusionment from grassroots organization members may be due to their experiences with these barriers to the public participation processes.

One of the strongest re-occurring themes throughout this research is mistrust. There were reports of community members not trusting public officials or industry representatives, and not having faith in the democratic process. Evidence of bureaucratic slippage compounded community members' feelings of mistrust. Opposition will not be eliminated unless the rural residents have greater trust that government decisions and policies are there to protect public goods such as clean water and healthy soils.

The current public participation process in Alberta has the potential for formal, instrumental, and intrapersonal empowerment. By providing an opportunity for authentic public involvement in

the decision-making process, self-confidence, trust and capacity may increase. This research has revealed how limited availability of resources, such as access to technological information, time and money have limited the persuasive power of the public. Information is power.

This research revealed how the timing of public notification and participation processes affected the perceptions of fairness and the distribution of power among stakeholders. Those with greater power to choose the public participation process and to access technical information possess greater power in the debate over environmental standards and regulations. By remaining a reactive rather than a proactive participation process, Alberta's decision-making system is falling short of sustainable decision outcomes.

The comparative nature of this research has shed light on public participation for Alberta's land use planning by revealing similarities and differences among stakeholders across four case studies. First, the case where there was no conflict over intensive hog development permits had public participation initiatives early on in the decision-making process where community members had real choice in the needs assessment and negotiation of compensation. This revealed that including community members meaningfully in the siting and management decisions reduces conflict.

Secondly, community members from the two cases involved in appeals who were very knowledgeable about intensive hog operations were very opposed to the developments. This finding dispels the differential knowledge frame by the government and industry representatives who claimed the more the community knows, the less they will be opposed to intensive livestock.

Finally, the two cases that were involved in appeals both had some level of disillusionment with the municipal and/or provincial government. The major difference between these two cases was that one case had a long history of working with local decision-makers in community planning decisions and have been actively involved in community development volunteer initiatives. This case with greater experience working with public officials has developed trust relationships between the community and local government officials. The outcome of the development appeal board decisions

was respected by the community and the government officials respected the community's concerns. This reciprocal relationship was missing in the case where there was no previous working relationship between the community and local government officials. These two cases illustrate that when government and community members work together, they develop trusting relationships.

POLICY RECOMMENDATIONS

These findings suggest that the provincial government should adopt policies that promote not only capital accumulation, but also the development of greater social capital and participatory decision-making. There is also a need to focus on re-building trust by implementing the public in policy development decisions and enforcing more stringent environmental regulations.

One way to offset the tendency for bureaucratic slippage is to increase public access to decision-making processes at both the policy and implementation level. Government bureaucrats would likely broaden their worldviews by interacting more often with members of the public, for whom they are currently making decisions. The more transparent and open the flow of information becomes, the greater the accountability of decision-makers, resulting in an increase in public trust.

Timing of public participation mechanisms is an important aspect for the perceived success and fairness of land use decisions. Rural communities have different annual cycle activity demands that affect their ability to attend public functions. This study illustrates the importance of timing rural public involvement initiatives so that they do not occur during busy harvest seasons. Early communication has been identified as an essential component of public participation for many stakeholders. The Decide-Announce-Defend process that has taken place in rural Alberta for the siting of intensive hog operations was determined as unsatisfactory by those wishing to be meaningfully involved in the decision-making process. Successful early communication techniques

identified in this study were open houses before final siting decisions, and public notification by municipal governments. The concepts of choice and needs assessment were identified as key factors to the acceptance of facilities and trust among stakeholders.

Citizen advisory committees (CAC), who are likely to achieve the social goal of increased trust in institutions, are a type of public involvement that could precede permit approvals to incorporate early communication. CACs are intended to serve as the voice of the larger public and would prove useful by including more Albertans in the development of policy initiatives, new regulations, and for municipal permit reviews. It should be noted that CACs are successful only when the decision-makers have some sort of binding agreement to implement the decisions that emerge from this collaborative effort.

Mediation is used in the natural resource policy arena as an alternative to long and expensive legal battles (Dryzek, 1997). Mediations offer an opportunity for two-way communication among opposing interests. Noah Dorius (1993) also presents the notion of alternative dispute resolution, as a mechanism to prevent conflict from disrupting the development review process and to promote locally wanted land uses. He suggests the best time for the introduction of dispute resolution techniques is at the beginning of the permit approval process. Therefore, upon receipt of a completed intensive hog operation application, rural municipalities could send out information packages to determine local residents' interest in participating. The process can be implemented by the municipal planning staff, trained in dispute resolution, or implemented by a neutral mediator. Regardless of who facilitates the process, in order for these mechanisms to be trusted, there must be some sort of binding agreement on the negotiations reached throughout these meetings.

The degree of trust citizens have in a process partly depends on the type and quality of the information to which they can access. Beierle (1999) suggests citizen advisory committees (CAC) and information provision as the most effective public participation mechanisms to increase trust in institutions. Advisory bodies are one of the highest levels of public participation (Sveen, 1998;

Audain, 1972; Smith, 1982; Rich et al., 1995). Ideal collaboration includes face-to-face sorting out of differences, people working together as equals, people being heard and treated with respect, and decisions made using a form of consensus. Rich et al. (1995) suggests forming a committee of public officials and citizens selected by the affected community to direct the inquiry of the problem. This allows citizens access to information and lessens the pressure on industry to defend their actions to a resistant public. Community workshops are another avenue, which may help to increase trust among participants in local land use decisions. Workshops allow community members to choose to consult with scientists they trust and establish networks with public officials, thus their specific concerns are addressed, their questions are answered and they are more likely to trust that public officials view them as legitimate.

Public participation can be enhanced through community development visioning exercises. Since rural municipalities are required to design a Municipal Development Plan, this is an ideal opportunity for public involvement. Through a variety of public participation initiatives, each rural municipality could develop publicly acceptable land use designations. For example, this process could identify areas suitable for future landfills, intensive agriculture, protected areas, and so on. This process would likely help to reduce future land use conflicts. Joint enterprises could be formed with adjoining municipalities to promote greater compatibility among land uses at the regional level.

According to Hoehn (1996), if limits are placed on developments in response to recognition of the need to protect natural resources, a greater provincial role may be necessary. Hoehn also reports that individual developers have greater political influence locally than at the provincial level through lobbying and campaign contributions. Results from the Angus-Reid study also indicate that Canadians support the position for stronger government regulation (Bennewies, 2000). The importance of natural resources transcends municipal boundaries, making a case for a stronger provincial role in protecting the environment. Local autonomy should not be overlooked; however, the majority of respondents have suggested the need for a greater provincial role in regulating and

enforcing the intensive livestock industry. This current trend of downsizing and de-regulation is not conducive to long-term planning. Provincial regulations coupled with a well-supported local development vision and enforcement would provide an environment of greater trust and long-term community planning.

In summary, I recommend the following for Alberta's land use planning decision-making processes for intensive livestock operations:

- More stringent environmental regulations and enforcement from provincial and municipal governments.
- Increase the public's access to provincial policy decision-making.
- Time public participation during non-harvest seasons for rural communities.
- Schedule public participation BEFORE land use development permits for intensive hog operations are approved.
- Community advisory committees or mediation may be useful public participation mechanisms to increase trust among participants and avoid expensive legal battles.
- Proactive long-term land planning: This could be initiated through community development visioning activities and/or public involvement in land use management plans.
- More time and interactions between government staff and the public to increase trust, transparency, and flow of information.

FUTURE AREAS FOR RESEARCH

There are a number of directions that future research could follow to develop a greater

sociological understanding of public participation. This study took a comparative analysis approach across stakeholders from four different cases, revealing some subtle differences that may prove to be interesting avenues for future research. For example, the stakeholders from one case study that were most heavily criticized were women. An important sociological question about the power of gender in political arenas has been raised, and may be an important area for further research in comparative analyses of similar environmental disputes.

In an attempt to reduce conflict, there has been an increase in manure management and odour control research, which hog producers and government agencies perceive as being the main issue for the public. If the government and industry truly wish to reduce conflict, and increase trust and accountability, the agenda for research should reflect the concerns of its public. According to this study, more research is needed on the immediate and cumulative effects that intensive hog operations have on surrounding water sources in specific biological zones. More attention is also needed on the effects intensive hog operations have on small and medium sized family farms, and alternative economic models to support smaller operations. Research has begun in some of these areas. For example, earthen manure storage lagoons in Alberta are now being monitored for potential seepage into groundwater. This current study will determine future site criteria and construction standards necessary to ensure environmentally safe construction of the lagoons (MacMillan, 2000).

The *Public Health Act* is currently one of the most powerful pieces of legislation that could inhibit future expansion and development of the intensive livestock industry. This research revealed a gap in knowledge in public health impacts from intensive hog operations. It would be interesting to identify the research agenda path that has been paved by the provincial government and investigate if the process of bureaucratic slippage has affected this research agenda. Such a study would identify the chain of command of decision-making and negotiated research agenda and whose interests the agenda supports. A broader sociological study might involve a political and organizational analysis examining why some public health issues receive much more attention than do those associated with

living in agricultural communities.

One final area for research that I believe is important is an analysis of the proposed changes to the intensive livestock regulations. Throughout this research, there were public involvement mechanisms sponsored by the provincial government to gather feedback on proposed new regulations for intensive livestock operations. For example, the Stakeholder Advisory Group (SAG), which consisted of stakeholders invited by the Minister of Agriculture, drafted provincial legislation for intensive livestock operations. The SAG then brought this proposed legislation to the public in the form of public hearings across Alberta to solicit feedback from the rural public. An analysis of the public participation methods employed and information gathered by the provincial government to develop these new regulations would be an interesting avenue of research.

CONCLUDING REMARKS

In Alberta's rural communities, the 'raising of the barn' has a new meaning. No longer do rural communities join efforts to help raise the walls for a neighbor's new pig barn. Instead, rural community members are banding together in an attempt to prevent intensive hog barns from imposing environmental and social costs upon their communities. The state and industry share worldviews that the future of agriculture is industrial agriculture. Intensive hog developments are currently operating under the privileges of low taxation and lack of environmental regulations for agricultural operations in Alberta. Thus, the aggressive promotion of intensive livestock operations will continue to be questioned by rural citizens who have vested interest in the environmental and social well being of their communities. This study revealed that highly cohesive communities that have developed shared community values and established trust relationships with local political institutions are a strong defense against the increasing power of this form of agribusiness.

The shift towards technologically advanced food production systems has shifted power to those

with greater access to technological information, investment capital, and policy regulations (i.e. the state and industry). As citizens became engaged in litigation over intensive hog operations in Alberta, they underwent a political re-awakening that the government is not necessarily there to protect their environment or their interests. Ideals of civil society rest upon citizens participating meaningfully in institutional processes, providing checks and balances to the decision-making process. Therefore, it is important that we continue to examine and scrutinize public participation to understand the structural and process barriers that have real consequences for citizens' involvement in public participation, and its outcome.

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APPENDIX A

INTERVIEW GUIDE

A Comparative Analysis of the Municipal and Provincial Decision-making Processes for Siting Intensive Hog Operations in Alberta.

FOR CASES IN WHICH A DEVELOPMENT PERMIT WAS CONTROVERSIAL

Questions for all Alberta Agriculture regulatory personnel, consultants and government personnel:

1. Tell me about the controversy over the hog operation that occurred in your community.
2. What is your definition of public participation?
3. How should public participation be carried out?
4. What methods of public participation were used in this decision-making process?
5. Who was involved in the public participation?
6. Do you consider this decision-making process to be easily understandable for all stakeholders?
7. What could be done to make the process more clear for all stakeholders?
8. How are residents informed about the decisions?
9. Were residents able to obtain more information about the hog facility if they asked for it? (If yes) What kind of information did they ask for?
10. How could access to this information be improved?
11. Overall, what do you think are the main successes of the public participation that occurred in this community?
12. What were the problems with the public participation in siting the hog facility?
13. What kind of conflict arose in this community as a direct result of the siting of the hog operation?
14. 13.What do you think could be done to reduce this conflict?
15. Was the public participation process fair? Why or why not?

If there was an appeal to the hog development permit, these questions will be asked

1. Is the appeal process a form of public participation?
1. What are the successes of the appeal process?
2. What are the problems with the appeal process?
3. Is the appeal process fair for all stakeholders?
4. What could be done to improve the appeal process?

QUESTIONS FOR PORK PRODUCERS:

1. Tell me about the controversy over the hog operation that occurred in your community.
2. Tell me about your hog operation. (Probes - Size, type of feed, manure management, where meat goes)
3. What is your definition of public participation?
4. How should public participation be carried out?
5. Who was involved in the public participation?
6. Were all people treated with respect?
7. What were the successes of the public participation process(es)? How would you make it even more successful in the future?
8. What were the biggest challenges with this public participation?
9. What methods of public participation were used in this project?
10. Can you suggest any solutions to alleviate these problems in the future?
11. Was there anything keeping you from participating?
12. How much time did you invest in public participation efforts?
13. How much money did you invest in public participation efforts?
14. Did you feel the participation process allowed you to convey all the information you wished to convey to the public?
15. What roles did the various stakeholders have in the public participation process?
16. Was there a history of controversy in this community?
17. Did you ever receive threats or intimidation from another stakeholder?
18. How did things change in the community after the controversy?
19. How can this conflict be reduced in the future?

<u>If there was an appeal to the hog development permit, these questions will be asked</u>

1. Who was involved in the appeal process?
2. Is the appeal process a form of public participation?
3. What are the successes of the appeal process?
4. What are the problems with the appeal process?
5. Is the appeal process fair for all stakeholders?
6. What could be done to improve the appeal process?

QUESTIONS FOR MEMBERS OF MUNICIPAL DISTRICT BOARDS AND MEMBERS OF DEVELOPMENT APPEAL BOARDS

1. What is your definition of public participation?
2. Were there any models upon which you based your decision making process?
3. Do you consider this decision-making process to be easily understandable for all stakeholders?
4. What could be done to make the process more clear for all stakeholders?
5. To the best of your knowledge, what methods of public participation were used in this decision-making process?
6. What guidelines were followed for this public participation process?
7. Overall, what do you think are the main successes of the public participation that occurred in this community?
8. What were the problems with public participation in siting the hog facility?
9. Who was involved in the public participation?
10. Were all people treated with respect?
11. Was there a history of controversy within the community before this proposed hog operation?
12. What kind of conflict arose in this community as a direct result of the siting of the hog operation?

13. What do you think could be done to reduce this conflict?
14. How are residents informed about the decisions?
15. Could residents obtain additional information about the hog facility? If yes, what kind of information did they ask for?
16. How could this access to information be improved?
17. Was anybody responsible for making information readily available?
18. Was the public participation process fair?
19. How could the public participation process improve?
20. Who were all of the members involved on the Development Appeal Board? Probe (Occupations? Affiliations with pork producing?)
21. How are the members of the Development Appeal Board chosen?
22. Which community organizations/outside organizations were involved in the appeal process?
23. Is the appeal process a form of public participation?
24. What are the successes of the appeal process?
25. What are the problems with the appeal process?
26. What are your suggestions to address these problems in the appeal process?
27. Is the appeal process fair for all stakeholders?
28. How could this process be improved?
29. How much money is invested in the appeal processes?
30. How much time do appeal processes generally take?
31. How many appeals have there been over the siting of hog facilities?
32. What kind of resources (expertise, information, time) would be helpful to you to "better" process development permits?

QUESTIONS FOR INVOLVED COMMUNITY RESIDENTS

1. Do you live near the proposed hog facility? # of kilometres _____
2. Would the hog facility be visible from your property?
3. Why did you become involved in the siting of the hog operation?
4. How did you become involved? *If opposed to the siting of the facility, ask* Why?
5. Have you ever been involved in any other community organizations?
6. Can you tell me about the hog operation? (Size, type of feed, manure management, where meat goes)
7. What is your definition of public participation?
8. How should public participation be carried out?
9. What methods of public participation were used in the decision-making process?
10. What were the successes of the public participation process(es)?
11. How would you make it even more successful in the future?
12. What were the biggest problems with this public participation?
13. What are your suggestions to address these problems in the future?
14. Who was involved in the public participation?
15. Were all people involved treated with respect?
16. What roles did the various stakeholders have in the public participation process?
17. Was there a history of controversy in this community?
18. Did you ever receive intimidation or threats from another stakeholder?
19. How did things change in the community after the controversy?
20. How can this conflict be reduced in the future?
21. Were the public participation methods fair for all stakeholders?
22. How could public participation be improved?

23. Who was involved in the appeal process?
24. Did you think your voice/actions were paid attention to by the authorities?
25. How much time did you spend on public participation?
26. What are the successes of the appeal process?
27. What are the problems with the appeal process?
28. What are your suggestions to address these problems in the appeal process?
29. Is the appeal process fair for all stakeholders?
30. What could be done to make this process more fair for community residents?
31. How much time did you invest in the appeal process?
32. How much money did you invest in the appeal process? (travel, lawyers)

8. Can you suggest another person who is also knowledgeable about / involved in this issue that may have different opinions than your own?

FOR CASES IN WHICH A DEVELOPMENT PERMIT WAS NOT CONTROVERSIAL

1. To date, we understand there has been little, in any conflict over the siting of hog facilities in your community. Why do you think there has been a greater acceptance here compared to communities where there has been conflict and opposition?
2. Were there any models upon which you based the decision-making process?
3. Do you consider this decision-making process to be easily understandable for all stakeholders?
4. What could be done to make the process more clear for all stakeholders?
5. What is your definition of public participation?
6. To the best of your knowledge, what methods of public participation were used in this decision-making process?
7. Were there guidelines that were followed for this public participation process?
8. Overall, what do you think are the main successes of the public participation that occurred in this community?
9. What were the problems with the public participation in siting ___ hog facility?
10. Who was involved in the public participation?
11. Were all people treated with respect?
12. How are residents informed about the decisions?
13. How could residents obtain additional information about the hog facility? Have any residents asked for any?
14. Was anybody responsible for making information readily available?
15. Do you think the public participation process should be improved? If so, How?

DEMOGRAPHIC INFORMATION FOR ALL PARTICIPANTS:

1. Sex
   1 Male
   2 Female

2. What year were you born?_____circle appropriate age category
   0 No response
   1 Under 20
   2 Between 21 and 30
   3 Between 31 and 40
   4 Between 41 and 50

5 Between 51 and 60
6 Between 61 and 70
7 Over 70

3. What is the highest level of education that you have received? (read categories)
99 No response
0 Grade 9 or less
1 Some high school
2 Graduated high school
3 Some college or university
4 Graduated technical/diploma
5 Graduated university

4. What is your current occupation?_____

5. How long have you lived in this community?_____

6. Are you an on-farm or off-farm resident?
99 Off-farm
100 On-farm
9 No response
If on-farm: What is the main income for your farm?_____

7. What was your total income (after deductions) for ALL the members in this household for last year?
1. Under $10,000
2. $10,000-19,999
3. $20,000-29,999
4. $30,000-39,999
5. $40,000-49,999
6. $50,000-59,999
7. $60,000-69,999
8. $70,000-79,999
9. $80,000-89,999
10. $90,000-99,000
11. $100,000+

12. Don't know
0 No response

8. Can you suggest another person who is also knowledgeable about / involved in this issue that may have different opinions than your own?

APPENDIX B

Phone Statement for Interview Request

Hello my name is Jody Mackenzie. I am from the University of Alberta and I am wondering if you would consider being part of an important research project that is happening in your community.

You were referred to me by _____(name)____ and he/she said you would be a valuable source of information.

This research project is being funded by the Alberta Agricultural Research Institute and is examining the public participation process involved in siting intensive hog operations and the lessons that were learned in communities across Alberta. We are mainly interested in what stakeholders perceive as the most important successes and challenges of public participation. All of your answers will be kept strictly confidential and anonymous. If you would like, a copy of the results will be made available to you by June 30, 2000.

I am requesting a face-to-face interview with you that will take approximately one hour. I will be in the County of Ponoka from Monday June 21 until Sunday June 27. I am willing to meet anytime of the day and anywhere that is most convenient for you. Are there any times from the 21st to the 27th that we could schedule an interview?

Thank you for your participation. I will see you at (time) on (date) at (place).

APPENDIX C

Information Sheet

TITLE OF RESEARCH PROJECT

A Comparative Analysis of the Municipal and Provincial Decision-Making Processes for Siting Hog Operations in Alberta.

DESCRIPTION OF PROJECT

This interview is part of a research project examining public participation in the current decision-making processes to site intensive livestock operations. We are interested in your suggestions regarding the public participation process for siting hog facilities. We will interview up to 90 people across six communities. The final results of the interviews will be analyzed to identify patterns in the interview data. The gathered interview data will be complemented by various sources of written materials such as relevant academic literature and municipal records. We hope that by summarizing the recommendations we gather from this research that decision makers and hog producers will better understand how to develop public participation methods that are perceived as fair and effective. We are asking for one to two hours of your time to ask you some questions about the possible problems and successes you experienced with public participation processes. You may decline an answer to any of these questions or stop the interview at any time.

With your consent, we would like to tape-record the interviews and take notes. We will analyze all interviews to identify common themes. All of your answers will be kept strictly confidential and anonymous by a coding system available only to Jody Mackenzie and Naomi Krogman. Your name or community will not appear on any of the interview tapes, notes or transcriptions. The tapes will be destroyed six months after the completion of the research. During this time, we may contact you to ask you for an interview follow-up.

If you would like, I will send you an executive summary of the results by June 30, 2000, and copies of the report will be available in the local library. If you have any questions about the interview or study, please feel free to contact the investigators listed on this information sheet.

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CONSENT FORM

TITLE OF PROJECT

An Analysis of the Municipal and Provincial Decision-making Processes for Siting Hog Operations in Alberta, Saskatchewan and Manitoba.

CONSENT

I acknowledge that the research procedures described on the Information Sheet (attached) of which I have a copy have been explained to me, and that any questions that I have asked been answered to my satisfaction. In addition, I know that I may contact the persons designated on this form if I have further questions either now or in the future. I have been assured that personal records relating to this study will be kept confidential and that nothing I say will be shared with other study participants. I understand that I am free to withdraw from the study at any time, or decline to answer questions. I also understand that the results of this study will be published but that my individual or community name will not be used.

_____

(Name of Participant – please print)

_____

(Signature of Participant)

_____

(Name of Witness – please print)

_____

(Signature of Witness)

_____

(Date)

_____

(Signature of Investigator)

The people who may be contacted about the research are:

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