



SCHOOL OF LAW
TEXAS A&M UNIVERSITY

Texas A&M University School of Law
Texas A&M Law Scholarship

Faculty Scholarship

3-2002

Community Conflicts over Intensive Livestock Operations: How and Why Do Such Conflicts Escalate?

Charles W. Abdalla

John C. Becker

Ralph Hanke

Celia Cook-Huffman

Barbara Gray

See next page for additional authors

Follow this and additional works at: <https://scholarship.law.tamu.edu/facscholar>



Part of the [Agriculture Law Commons](#)

Recommended Citation

Charles W. Abdalla, John C. Becker, Ralph Hanke, Celia Cook-Huffman, Barbara Gray & Nancy A. Welsh, *Community Conflicts over Intensive Livestock Operations: How and Why Do Such Conflicts Escalate?*, 7 Drake J. Agric. L. 7 (2002).

Available at: <https://scholarship.law.tamu.edu/facscholar/961>

This Article is brought to you for free and open access by Texas A&M Law Scholarship. It has been accepted for inclusion in Faculty Scholarship by an authorized administrator of Texas A&M Law Scholarship. For more information, please contact aretteen@law.tamu.edu.

Authors

Charles W. Abdalla, John C. Becker, Ralph Hanke, Celia Cook-Huffman, Barbara Gray, and Nancy A. Welsh

COMMUNITY CONFLICTS OVER INTENSIVE LIVESTOCK OPERATIONS: HOW AND WHY DO SUCH CONFLICTS ESCALATE?

*Charles W. Abdalla, John C. Becker, Ralph Hanke, Celia Cook-Huffman,
Barbara Gray, and Nancy Welsh**

I.	Introduction	8
II.	Project Overview.....	9
III.	Project Methodology	10
	A. Legal Research Methodology	10
	B. Interview Methodology	12
	i. Data Collection.....	12
	ii. Interview Protocol.....	12
	iii. Interview Data Analysis.....	13
IV.	Context.....	14
	A. The Agricultural Context.....	14
	B. The Legal Context	18
	i. Local Ordinances	19
	ii. State Statutes and Regulations	20
	iii. Federal Statutes and Regulations	22
V.	Findings.....	24
	A. Issues in Intensive Livestock Operations Conflicts.....	24

* Charles W. Abdalla, Associate Professor of Agricultural Economics, The Pennsylvania State University, Ph.D. Agricultural Economics, Michigan State; John C. Becker, Professor of Agricultural Economics and Law, The Pennsylvania State University, J.D. The Dickinson School of Law and a member of the Pennsylvania Bar; Ralph Hanke, Research Associate, The Pennsylvania State University, M.A. Philosophy, University of Waterloo; M.A. Philosophy, Bowling Green State University; Barbara Gray, Professor of Organizational Behavior and Director of the Center for Research in Conflict and Negotiation The Pennsylvania State University, Ph.D. Organizational Behavior Case Western Reserve University; Celia Cook-Huffman, Associate Professor of Peace and Conflict Studies, Juniata College, Ph.D. Peace and Conflict Studies, Ph.D. Syracuse University; Nancy Welsh, Assistant Professor and Associate Director, Center for Dispute Resolution, the Dickinson School of Law of The Pennsylvania State University, and a member of the Minnesota Bar. The authors of this article wish to thank the following students and staff who ably provided support service and made invaluable contributions to the work detailed in this article: Anthony Kanagy, Marel Raub, Jeffrey Feirick, and Pamela Knowlton.

B.	Pennsylvania Viewpoints.....	25
i.	Pennsylvania Stakeholder's Interests.....	25
ii.	Environmental Use.....	25
iii.	Health Safety.....	25
iv.	The Role of Government Officials.....	25
v.	Economic Impact.....	26
vi.	Community Conflicts About Farming and Our Food Supply.....	26
vii.	Decision-making Processes About Intensive Livestock Operations.....	26
C.	An Anatomy of Conflicts Over Intensive Livestock Operations.....	27
i.	Stimuli.....	29
VI.	Perceptions.....	30
A.	Perceptions of Uncertainty.....	30
B.	Perceptions of Risk.....	31
C.	Perceptions of Fairness.....	33
D.	Threats to Social Identity.....	34
E.	Perceptions of Trust.....	36
F.	Perceptions of Control and Choice of Venue.....	38
VII.	Conclusion.....	40
A.	Concluding Comments on the Model.....	40
B.	Conclusions and Unresolved Questions.....	40

I. INTRODUCTION

Why do community groups and individuals oppose establishment of intensive scale livestock operations in communities? Why have established forms of economic activity become the pariah of rural communities across the nation? In December 1997, the Pennsylvania Senate passed Resolution 91.¹ This article addresses the results of a research project funded by the state Department of Agriculture in response to Senate Resolution 91, directing the Secretary of Agriculture to develop a model of community dispute resolution to address community conflicts involving intensive livestock operations ("ILOs").² Specifically this article addresses project findings detailing why conflicts over ILOs arise and how they escalate.

1. See *Senate Resolution Calls for Study of Livestock Operations*, PA-DEP UPDATE (Pennsylvania Department of Environmental Protection), Dec. 12, 1997, at <http://www.dep.state.pa.us/dep/deputate/polycomm/update/12-12-97/12129715.htm> (last modified Dec. 12, 1997).

2. See *Senate Resolution Calls for Study of Livestock Operations*, PA-DEP UPDATE (Pennsylvania Department of Environmental Protection), Dec. 12, 1997, at <http://www.dep.state.pa.us/dep/deputate/polycomm/update/12-12-97/12129715.htm> (last modified Dec. 12, 1997).

II. PROJECT OVERVIEW

This project sought to understand the origins of conflicts over ILOs, stakeholder perspectives about these conflicts and to recommend a model for community participation in the resolution of these conflicts.³ To begin this work, the project team undertook three distinct activities. First, it investigated the existing legal context surrounding the siting and operation of intensive livestock operations in Pennsylvania. This included not only understanding the provisions of the Nutrient Management Act⁴ and the Protection of Agricultural Operations from Nuisance Suits and Ordinances,⁵ but also the “Right to Farm Law,” as well as local zoning, nuisance and tort actions that could apply to ILO siting or operation. During the course of this research project, the Pennsylvania Legislature amended the Municipalities Planning Code.⁶ Second, using a qualitative research design, the project team conducted interviews with a variety of stakeholder groups whose perspectives on these conflicts differed considerably. Analysis of the data was to gain an understanding of the factors that give rise to these conflicts from as many different points of view as possible. The third activity was a review of relevant dispute resolution literature on conflicts similar to those over ILOs.⁷ The project team sought to determine what factors influenced the

3. Specific project goals were set by the Pennsylvania Department of Agriculture and included:

- A. Addressing the concerns of agriculture and of all society with regard to conflicts associated with agricultural activities in Pennsylvania’s rural communities.
- B. Responding to the requirements of Senate Resolution 91 of 1997.
- C. Establishing a framework of understanding that realizes community disputes must find solutions that are both environmentally sound and economically feasible.
- D. Establishing relationships that foster harmony between disparate populations in a community.
- E. Evaluating the fundamental need to apply alternative strategies to resolve disputes involving agricultural activities interacting with surrounding neighbors and communities.
- F. Assessing the impact that alternative strategies have on the problems to which they were applied.
- G. Assessing the current situation in rural Pennsylvania regarding the knowledge and interest of rural farm and non-farm residents and organizations in alternative conflict resolution strategies, their willingness to employ them, and the costs associated with employing them.
- H. Assessing the operational needs and requirements to establish conflict resolution strategies for disputes in the agricultural realm.
- I. Developing a template, or “cookbook” as it came to be known, for use by the agricultural community, local leaders, and other organizations, which can be used as an action plan to create and operate this conflict resolution system in a specific community.

4. See Nutrient Management Act, 3 PA. CONS. STAT. ANN. §§ 1701-1718 (West 1995).

5. See Protection of Agricultural Operations From Nuisance Suit and Ordinances, 3 PA. CONS. STAT. ANN. §§ 951-957 (West 1995).

6. See Pennsylvania Municipalities Planning Code, 53 PA. CONS. STAT. ANN. §§ 10101-11202 (West 1997 & Supp. 2001).

7. See generally Laura L. Martin & Kelly D. Zering, *Overview of Environmental Issues Related to the Industrialization of Animal Agriculture*, in INDUSTRIALIZED ANIMAL AGRICULTURE, ENVIRONMENTAL QUALITY AND STRATEGIES FOR COLLABRATIVE PROBLEM SOLVING AND CONFLICT RESOLUTION 1 (William M. Park ed., 1997); Daphne A. Kenyon, *The Economics of NIMBYs* 16 (1991) (working paper, on file with author).

selection of alternative dispute resolution processes in other “NIMBY” (not in my backyard) cases and the existence of procedures for dealing specifically with community conflicts over ILOs. By conducting these three activities, the project team sought to answer the following research questions:

1. Why do these disputes arise in Pennsylvania?
2. What are the factors that influence people’s perceptions of the issues and the other parties?
3. What is the legal context within which these disputes arise?
4. How does this legal context affect prospects for resolution of disputes over ILOs?
5. What can be done to constructively address these conflicts?

III. PROJECT METHODOLOGY

A. *Legal Research Methodology*

Siting and operating an ILO is subject to a complex web of federal and state statutes and regulations, as well as local ordinances. The principal laws that were reviewed for this project include:

- Federal and State Constitutions
- The Federal Water Pollution Control Act, Title 33 United States Code, sections 1251 *et seq.*,⁸ and regulations at 40 Code of Federal Regulations, Part 122⁹
- The Pennsylvania Clean Streams Law, Title 35 Pennsylvania Consolidated Statutes Annotated section 691.1 *et seq.*,¹⁰ and regulations at Title 25 Pennsylvania Code¹¹
- The Pennsylvania Nutrient Management Act, Title 3 Purdon’s Pennsylvania Consolidated Statutes Annotated, sections 1701-1717,¹² and regulations at Title 25 Pennsylvania Code¹³
- The Protection of Agricultural Operations from Nuisance Suits, as amended, the Pennsylvania “Right to Farm Law,” Title 3 Purdon’s Pennsylvania Consolidated Statutes Annotated, sections 951-957¹⁴

8. See Federal Water Pollution Control Act, 33 U.S.C. § 1251, *et seq.* (1994).

9. See EPA Administered Permit Programs: The National Pollutant Discharge Elimination System, 40 C.F.R. pt. 122 (2001).

10. See 35 PA. CONS. STAT. ANN. § 691.1 (West 2001).

11. See 25 PA. CONS. STAT. ANN. §§ 91.1-91.52, 92.1-92.79, 93.1-93.9z, 96.1-96.7, (West 2001).

12. See Nutrient Management Act, 3 PA. CONS. STAT. ANN. §§ 1701-1717 (West 2001).

13. See 25 PA. CONS. STAT. ANN. §§ 83.201-83.491.

14. See Protection of Agricultural Operations from Nuisance Suits, as amended the Pennsylvania Right to Farm Law, 3 PA. CONS. STAT. ANN. §§ 951-957 (West 1995).

- The Pennsylvania Municipalities Planning Code, Title 53 Purdon's Pennsylvania Consolidated Statutes Annotated, sections 10101-11202¹⁵
- The Agricultural Security Area Act, Title 3 Purdon's Pennsylvania Consolidated Statutes Annotated, sections 901-915¹⁶
- The State Conservation Commission, as described in Title 3 Purdon's Pennsylvania Consolidated Statutes Annotated, section 852¹⁷
- County Conservation Districts, as described in Title 3 Purdon's Consolidated Statutes Annotated, sections 853 through 864¹⁸
- The Environmental Hearing Board Act, Title 35 Purdon's Consolidated Statutes Annotated, sections 7511-7514¹⁹

In addition to statutes and regulations, the project team reviewed federal and state case law interpreting the statutes or regulations considered, as well as those describing and defining common law tort concepts of nuisance, negligence and trespass.²⁰ In analyzing these statutes and regulations, the focus was on applying the laws and regulations in the ILO context and identifying opportunities for use of public participation processes. Two situational settings were considered for this analysis: (1) when an intensive livestock operation is proposed for an area and (2) when an intensive livestock operation is operating and in place. The following questions were involved in analyzing the respective settings:

If an ILO is proposed:

1. What federal, state and local government controls apply?
2. Under what circumstances will these controls apply?
3. What are the procedures for the application of these government controls?
4. What opportunities for public input are built into these procedures?
5. Where are opportunities for expanded use of public participation processes?
6. Under what circumstances will parties have recourse to the courts?

If an ILO is operating:

1. What federal, state or local government controls apply?
2. How are they enforced?
3. What are the procedures for enforcement?

15. See Pennsylvania Municipalities Planning Code, 53 PA. CONS. STAT. ANN. §§ 10101-11202 (West 1997 & Supp.).

16. See Agricultural Security Area Act, 3 PA. CONS. STAT. ANN. §§ 901-915 (West 2001).

17. See State Conservation Commission, 3 PA. CONS. STAT. ANN. § 852 (West 2001).

18. See County Conservation Districts, 3 PA. CONS. STAT. ANN. §§ 853-864 (West 2001).

19. See Environmental Hearing Board Act, 35 PA. CONS. STAT. ANN. §§ 7511-7514 (West 2001).

20. See PROSSER AND KEATON, THE LAW OF TORTS, §§ 13, 30, 86-01 (5th ed. 1984).

4. What opportunities for public input are and could be built into these procedures?
5. Under what circumstances will parties have recourse to the courts?
6. What opportunities for alternative dispute resolution are built into this procedure?
7. Where are opportunities for expanded use of alternative dispute resolution?

From this analysis a series of flowcharts was developed to visualize the identified procedures and the relationships between various statutes, regulations and ordinances.

B. *Interview Methodology*

i. *Data Collection*

To answer the research questions, the project team conducted in depth interviews with thirty individuals who represented stakeholder groups that were actively involved in conflicts over ILOs in Pennsylvania. The stakeholder groups included and the number of interviewees in each group are listed in Table 1.

Stakeholder Type	Number of Interviews
Government	10
Farm Interests	9
Community and Environmental Interests	8
Other Interests	3

Table 1

ii. *Interview Protocol*

Project personnel used a structured interview format that covered a wide range of topics. The broad areas covered in the interviews included: (1) the interviewees' perceptions about the issues in the dispute; (2) their perceptions of the parties involved and their relationships with them; (3) their perceptions of their own interest group; (4) their experience in resolving the dispute; (5) their preferences for future dispute resolution processes; and (6) their views about third party roles and characteristics.

iii. Interview Data Analysis

Once the interviews were transcribed, the data was analyzed in several different steps following standard open coding techniques.²¹ The first step in this approach involved searching the interview transcripts for important ideas that were raised by several interviewees. The project team identified several themes that appeared frequently in the interview transcripts. These themes represent aspects of ILO conflicts that the respondents repeatedly told us were important. To qualify as a theme, the topic had to appear in several interviews, create an organizing structure for the analysis, and subsume smaller details within it. The following themes emerged as important ones: Issues and interests of the parties, identity issues, polarization points, trust/mistrust, perceptions of risk, conflicting agency roles, power/politics, legal/legislative issues, contextual (site specific) issues, negative characterization of other parties, choice points in the siting process, characteristics of successful conflict resolution processes, and key characteristics of third parties

Second, building on these themes, the project team used grounded theory methodology to develop a model of how conflict develops and escalates in ILO disputes.²² The project team searched the data for relationships among the important themes. The themes were then organized into an overall model or theory that reflect these relationships. As the model emerged, it was continually checked against the data to ensure its validity.

This article reports on three key topics, which are reported in a separate subsection. The first topic, "Context," provides the results of an analysis of the economic and legal issues that affect the conflict. The second topic, "Issues in ILO Conflicts," identifies the key issues about which stakeholders expressed concerns. To give readers an idea of how widely issues varied between stakeholders, the article will refer to comments from the interviews to give voice to stakeholder concerns. The third topic, "An Anatomy of Conflicts Over Intensive Livestock Operations," provides an analysis of the social dynamics that occur in conflicts over ILOs. It presents a detailed model of how these conflicts arise.

21. See generally ANSELM STRAUSS & JULIET CORBIN, *BASICS OF QUALITATIVE RESEARCH: GROUND THEORY PROCEDURES AND TECHNIQUES* 61-74 (1990) (discussing open coding techniques).

22. See generally BARNEY G. GLASER & ANSELM L. STRAUSS, *THE DISCOVERY OF GROUNDED THEORY: STRATEGIES FOR QUALITATIVE RESEARCH* 1-6, 237-250 (1967) (discussing the meaning and methodology of grounded theory); see, e.g., STRAUSS & CORBIN, *supra* note 19, at 24-32 (discussing grounded theories origin and methodology).

IV. CONTEXT

A. *The Agricultural Context*

From a national perspective, consolidation in confined feeding operations increased from the 1970s to the mid-1990s for the poultry and livestock industries.²³ Along with these trends came relative production shifts among regions in beef and feedlot cattle, dairy, swine, and broiler production.²⁴ Geographical shifts were especially pronounced in the hog industry.²⁵ The Corn Belt states lost production, and non-traditional states, such as North Carolina, increased their relative share of production over this period.²⁶

Changes in animal agriculture have created third party effects for society at large. Water quality degradation is an example of such impact.²⁷ A national review completed in 1995 found non-point source pollution from agriculture to be a major source of water quality impairment.²⁸ In states that reported detailed assessments, animal waste runoff from feedlots and rangeland was found to be an important cause of impaired water quality.²⁹

The cornerstone of existing national policy for addressing water quality problems from animal agriculture is the Federal Clean Water Act of 1972.³⁰ The United States Environmental Protection Agency has been in charge of issuing National Pollution Discharge Elimination System Permits ("NPDES") through the states for concentrated animal feeding operations ("CAFOs"), which are "generally those farms with greater than 1000 animal unit equivalents."³¹ As of 1995, about 2000 of the estimated 6600 CAFOs in the United States had permits.³² Water quality impairment and concerns about the effectiveness of NPDES program implementation have led to states' development of their own approaches and for new national level strategies to be proposed and/or implemented.³³

23. See U.S. GEN. ACCOUNTING OFFICE, ANIMAL AGRICULTURE: INFORMATION ON WASTE MANAGEMENT AND WATER QUALITY ISSUES 2 (1995) [hereinafter U.S. GAO].

24. See *id.*

25. See Martin & Zering, *supra* note 7, at 6-8.

26. See *id.*

27. See David E. Ervin & Katherine R. Smith, *Agricultural Industrialization and Environmental Quality*, CHOICES, 4th Q. 1994, at 7.

28. See U.S. GAO, *supra* note 23, at 8.

29. See *id.* at 11.

30. See Clean Water Act, 33 U.S.C. §§ 1251-1387 (2001).

31. See The National Pollutant Discharge Elimination System, 40 C.F.R. pt. 122.23 (2001); see also U.S. GAO, *supra* note 23.

32. See U.S. GAO, *supra* note 23.

33. See Karen M. Wardzinski, et al., *National Pollutant Discharge Elimination System Permit Application and Issuance Procedures*, in THE CLEAN WATER ACT HANDBOOK 58, 75 (Parthenia B. Evans ed., 1994).

Among the unintended effects of the consolidation occurring in the animal sector are community controversies over ILOs.³⁴ Two issues are at the root of these controversies. First, concerns exist about the economic impact of intensive livestock operations on competition within the industry.³⁵ Small farmers, in particular, are worried that they can no longer remain competitive as industry consolidation intensifies.

Second, community disputes related to the siting and regulation of these ILO facilities have been heating up in many states because of their potentially adverse consequences on the environment.³⁶ Examples of such conflicts have occurred in North Carolina, where manure lagoon spills in 1995 caused severe environmental problems.³⁷ This led to tightening of state-level regulation, more local control, a moratorium on certain new or expanded hog operations³⁸ and steps to phase out lagoons.³⁹ Additional environmental damage in North Carolina caused by flooding from Hurricane Floyd in 1999 elevated the level of an already contentious debate.⁴⁰ Land use disputes involving ILOs and neighbors have become lengthy, contentious, and expensive for all of the parties involved.⁴¹ Such disputes have also occurred in other states with significant livestock and poultry production operations, including Pennsylvania.⁴²

Animal agriculture plays an important role in the national and Pennsylvania economies. This sector is undergoing significant and rapid change and faces many challenges. Technological and marketing innovations have generated rapid changes within the industry. In general, animals (poultry and livestock) can now be produced

34. See Charles W. Abdalla, *Consequences of Animal Agriculture: Emerging Issues Related to Federal, State and Local Control* (July 1997), reprinted in *INDUSTRIALIZED ANIMAL AGRICULTURE, ENVIRONMENTAL QUALITY, AND STRATEGIES FOR COLLABORATIVE PROBLEM SOLVING AND CONFLICT RESOLUTION*, at 19, 26 (William M. Park, ed., 1997), available at <http://www.ext.msstate.edu/srdc/publications/208.pdf> (last visited April 13, 2002).

35. See D.L. Bartlett & J.B. Steele, *The Empire of the Pigs*, *TIME*, 52 (Nov. 30, 1998); J.E. Ikerd, *Sustainable Agriculture: An Alternative Model for Future Pork Producers*, Prepared for NE-165 Research Conference on Vertical Coordination in the Food System (June 5-6, 1995) (unpublished manuscript, on file with author).

36. See M. C. Hallberg, et al., *Performance in Animal Agriculture: A Framework for Multi-Disciplinary Analysis*, College Station, TX: Texas A&M Univ. Center for Biotechnology, Policy and Ethics, Discussion Paper No. 96-8 (September 1996).

37. See Martin & Zering, *supra* note 7, at 5, 11.

38. See *id.*

39. See S. Marberry, *North Carolina Adopts Lagoon Phaseout*, *FEEDSTUFFS*, July 31, 2000, at 1-3.

40. See C. W. Schmidt, *Lessons from the Flood: Will Floyd Change Livestock Farming?* 108 *ENVTL. HEALTH PERSP.* A74, A77 (2000).

41. See D. DeKok, *Neighbors Fight Possible Hazards of Large Feedlots*, *SUNDAY PATRIOT NEWS*, Nov. 22, 1998, at D-1; Ikerd, *supra* note 35.

42. See C.W. Abdalla & J.D. Shaffer, *Politics and Markets in the Articulation of Preferences for Attributes of Rapidly Changing Food and Agricultural Sectors: Framing the Issues*, 9 *J. AGRIC. & APPLIED ECON.* 57, 61-62, 65-67 (1997).

on larger and fewer farms.⁴³ Increasingly, key production decisions are being shifted to the agribusiness level as contracting and other coordination mechanisms are being utilized.⁴⁴

Pennsylvania has the second largest agriculture sector in the Northeast and Middle-Atlantic regions (following North Carolina) and its agricultural economy relies heavily on animal production.⁴⁵ The Commonwealth has a human population second in size only to New York in this region.⁴⁶ Much recent population growth in the state has occurred in counties with significant agricultural production.⁴⁷ Pennsylvania is strengthening its position relative to several neighboring states in most species of animal production.⁴⁸ Pennsylvania also is located within a region where public support for protecting water resources, including the Chesapeake Bay and its tributaries, has been increasing.⁴⁹ Continuation of such trends suggests that the state will face challenges in balancing the goals of animal production, environmental protection, and quality of life in rural areas.

Much of the debate about animal agriculture in the latter half of the 1990s in both the United States and in Pennsylvania has centered on swine operations. Pennsylvania has a significant swine industry. Nationwide, it ranked 14th in 1987 and 11th in 1997.⁵⁰ Over time the state's swine sector has been able to solidify its position within a broader region where the industry is declining in most states.⁵¹

Commentators have observed a trend toward geographic concentration in swine production in the United States from the 1970s to the mid-1990s.⁵² In Pennsylvania, commentators noted that geographic concentration in swine production has occurred in several southeastern and south central counties, including Lancaster and Lebanon counties and concluded that these counties represented potential "hot

43. See Charles W. Abdalla, *et al.*, *What We Know About Historical Trends in Firm Location Decisions and Regional Shifts: Policy Issues for an Industrializing Animal Agriculture Sector*, 77 AM. J. AGRIC. ECON. 1229, 1229 (1995).

44. See *id.* at 1230.

45. See *id.* at 1229-1236.

46. See Charles W. Abdalla, *Proceedings of the Conference on Managing Nutrients and Pathogens from Animal Agriculture, the Natural Resource, Agriculture and Engineering Service* (2000) (on file with author).

47. See C.W. Abdalla & T.W. Kelsey, *Breaking the Impasse: Helping Communities cope with Change at the Rural-Urban Interface*, 51 J. OF SOIL AND WATER CONSERVATION 462, 463 (1996).

48. See Abdalla *et al.*, *supra* note 43, at 1229.

49. See Abdalla, *supra* note 34, at 19, 23.

50. See Shengun Wang, *A Comprehensive Analysis of Determinants of the Swine Industry's Expansion in Pennsylvania* (unpublished Master's thesis, Pennsylvania State University) (on file with author).

51. See Charles W. Abdalla, *Proceedings of the Conference on Managing Nutrients and Pathogens from Animal Agriculture, the Natural Resource, Agriculture and Engineering Service* (2000) (on file with author).

52. See generally B. J. Hubbell & R. Welsh, *An Examination of Trends in Geographic Concentration in U.S. Hog Production*, 30 J. AGRIC. & APPLIED ECON. 285 (1998) (discussing the geographic concentration of hog production in the United States).

spots” of public concern over environmental issues.⁵³ In the last ten years, growth in the state’s swine production occurred in other areas, including south central Pennsylvania and the northern tier counties of the state.⁵⁴ Residents in these areas are less accustomed to this scale and intensity of agriculture.

As livestock operations grew in size and located in areas with little previous intensive livestock operations, community residents and environmental groups began to voice objections.⁵⁵ Several local townships passed ordinances that sought various ways to prevent ILOs from locating in the township or to impose significant conditions upon their operations.⁵⁶ Producer interests faced regulatory action at the local level that could reflect widely different approaches and restrictions in each community. Responding to this situation, the Pennsylvania legislature passed the Nutrient Management Act and declared it to be a legislative measure of statewide concern that occupied the whole field of regulation regarding nutrient management.⁵⁷ The Act specifically excluded local regulations deemed to be inconsistent with or more stringent than the requirements of the Nutrient Management Act and regulations adopted to implement it.⁵⁸

The Nutrient Management Act restrictions on local authority angered some residents and added fuel to controversies that erupted when some intensive livestock operations proposed to locate within communities.⁵⁹ This interface between state

53. See *id.* at 295.

54. See Shengun Wang, *A Comprehensive Analysis of Determinants of the Swine Industry’s Expansion in Pennsylvania* (unpublished Master’s thesis, Pennsylvania State University) (on file with author).

55. See Charles W. Abdalla, *A Changing Animal Agriculture: Implications for Economies and Communities in the Middle Atlantic States*, *Proceedings of the Conference on Managing Nutrients and Pathogens from Animal Agriculture*, NATURAL RESOURCE, AGRICULTURE AND ENGINEERING SERVICE (“NRAES”) Ithaca, NY: Cornell University (2000) at 130.

56. See *e.g.*, JUNIATA COUNTY ANIMAL WASTE STORAGE AND NUTRIENT MANAGEMENT ORDINANCE, No. 1-1990 (1990).

57. See 3 PA. CONS. STAT. ANN. § 1717 (West 1995). This section provides:

This act and its provisions are of Statewide concern and occupy the whole field of regulation regarding nutrient management to the exclusion of all local regulations. Upon adoption of the regulations authorized by section 4 no ordinance or regulation of any political subdivision or home rule municipality may prohibit or in any way regulate practices related to the storage, handling or land application of animal manure or nutrients or to the construction, location or operation of facilities used for storage of animal manure or nutrients or practices otherwise regulated by this act if the municipal ordinance or regulation is in conflict with this act and the regulations promulgated thereunder. Nothing in this act shall prevent a political subdivision or home rule municipality from adopting and enforcing ordinances or regulations which are consistent with and no more stringent than the requirements of this act and the regulations promulgated under this act, provided, however, that no penalty shall be assessed under any such local ordinance or regulation for any violation for which a penalty has been assessed under this act. *Id.*

58. See *id.*

59. See generally Jacqueline P. Hand, *Right-to-Farm Laws: Breaking New Ground in the*

legislative action that impacts on local authority is also seen in recent land use and growth management measures passed in June 2000 that became effective on August 22, 2000.⁶⁰ One of the purposes of the 2000 amendments is to ensure that local municipalities enact zoning ordinances that facilitate the present and future economic viability of existing agricultural operations and not prevent or impede an owner or operator's need to change or expand an operation in order to remain economically viable.⁶¹ These new provisions will play a key role in future community land use planning.

In regard to community comprehensive plans, communities are now directed to include in their plan measures for the protection of prime agricultural land in the community which is consistent with and does not exceed the requirements of the state's Agricultural District law,⁶² its Protection of Agricultural Operations from Nuisance Suits and Ordinances law,⁶³ and its Nutrient Management Act.⁶⁴ In regard to the Nutrient Management Act, the plan must be consistent with the act's requirements regardless of whether any agricultural operation within the area affected by the plan meet the act's definition of a concentrated animal operation.⁶⁵

It should also be noted that both nationally and in Pennsylvania, the public and regulators have focused their attention on hog operations. However, there is potential for the attention to encompass poultry and dairy operations as the issues of phosphorus, air quality, or other issues are explored and public policies and programs developed.

B. *The Legal Context*

Legal requirements for ILOs are affected by any or all of the following:

- The police power authority of local government expressed in general and specific municipal law to address matters affecting public health, safety and welfare through local ordinances such as zoning, subdivision and land development, building permit and environmental safety and control ordinances;

Preservation of Farmland, 45 U. PITT. L. REV. 289, 297 (1984) (stating "those individuals who choose to continue farming often become involved in unpleasant conflicts with their non-farming neighbors over the activities necessary to continue their operations").

60. See 2000 Pa. Laws 67, 68 (amending various sections of the Municipal Planning Code, 53 PA. CONS. STAT. ANN. §§ 10101-12200 (West 1995 & Supp. 2001)).

61. See 53 PA. STAT. ANN. § 10105 (West 1995 & Supp. 2001).

62. See 3 PA. CONS. STAT. ANN. §§ 901-915 (West 1995 & Supp. 2001).

63. See 3 PA. CONS. STAT. ANN. §§ 951-957 (West 1995 & Supp. 2001).

64. See 3 PA. CONS. STAT. ANN. §§ 1701-1718 (West 1995).

65. See generally 3 PA. CONS. STAT. ANN. § 1706(a) (West 1995) (providing that a concentrated animal operation is one where the animal density is greater than two animal equivalent units per acre of land on an annualized basis. An animal equivalent unit is considered to be one thousand pounds of live weight of livestock or poultry animals, regardless of the number of animals).

- State enabling laws, such as the Municipalities Planning Code, that authorizes local communities to enact land use planning measures and controls.
- State laws that address activities affecting water quality, such as the Pennsylvania Clean Streams Law and the Nutrient Management Act.
- State laws that protect agricultural operations from nuisance suits, commonly known as “Right to Farm” Laws.
- State laws, such as the Agricultural Security Act, whose purpose is to create agricultural security areas, or districts, which provide for conservation and protection of development of agricultural lands, State laws that establish the State Conservation Commission and County Conservation Districts and define their jurisdiction and procedures.
- State laws that establish the Environmental Hearing Board and grant it decision-making authority over environmental issues.
- Federal laws that address activities that affect water quality, such as the Federal Water Pollution Control Act, commonly known as the Clean Water Act
- Federal and State Constitutional provisions establishing substantive and procedural due process, the authority of federal and state governments and the relationships between state and local governments.
- State court decisions interpreting common law concepts of nuisance, negligence and trespass, as well as defenses to such causes of action.

The application of these laws to ILOs depends very much upon situation-specific factors, including:

- The area and physical characteristics of the land on which the facility will be located.
- The numbers and types of animals that will be raised at the facility.
- The livestock management process adopted by the facility.
- The facility’s decisions regarding manure management, including the need for construction of new facilities or reliance on existing facilities.

The following overview, however, is designed to permit a general understanding of the legal context affecting disputes over ILOs.

i. *Local Ordinances*

Pennsylvania municipalities (e.g., townships, cities, and boroughs) have primary authority to plan for the use of land.⁶⁶ Generally, community authority is exercised through the promulgation of local land use controls.⁶⁷ Such controls include: building permit ordinances, subdivision ordinances, land development ordinances, environmental control ordinances and zoning ordinances.⁶⁸ These land

66. See 53 PA. CONS. STAT. ANN. §§ 10501, 10601 (West 1997 & Supp. 2001).

67. See *id.* § 10603.

68. See *id.* § 10603.

use controls are created to achieve some general objectives, such as to protect public health, safety and morals, and provide for the general welfare.⁶⁹ In addition, municipalities are also authorized to achieve a series of specific objectives.⁷⁰ These objectives, include such things as promoting conservation of energy, use of renewable energy resources, preservation of natural and historic resources, encouraging preservation of prime farmland and ensuring that municipalities enact zoning ordinances that facilitate the present and future economic viability of existing agricultural operations and do not prevent or impede the owner or operator's need to change or expand their operations in the future to remain viable.⁷¹

The nature of these local land use controls varies. For example, a township's building ordinance may simply require that the ILO owner apply and pay for a permit and provide limited information about an activity. However, other ordinances may impose more extensive conditions or requirements. For example, an environmental control ordinance may require the ILO to fully describe what it proposes to do and how it will do it, require that the facility do certain things or describe the steps it will take to prevent harm to the community, and require approval of a permit before operation may begin.

The 2000 amendments to the Municipalities Planning Code will undoubtedly impact on local government authority to establish conditions that affect existing farming operations. While the impact is clear, this article will not address the nature of them, as they were not in place at the time this research was conducted. While stakeholder comments refer to issues that will be affected by the amendments, it would be unreasonable to speculate how stakeholder views would be affected by the amendments.⁷² Discussion of the impact of these changes remains available for another day.

ii. *State Statutes and Regulations*

Two Pennsylvania statutes are particularly relevant to understanding the controversial nature of disputes over ILOs. These statutes are the Nutrient Management Act ("NMA")⁷³ and the Protection of Agricultural Operations From Nuisance Suits law, commonly known as the "Right to Farm" Law ("RFL").⁷⁴ Both of these statutes impact on local community authority to regulate ILOs in whatever way communities see fit.⁷⁵

69. *See id.* § 10603.

70. *See id.* § 10603.

71. *See* 3 PA. CONS. STAT. ANN. § 10105 (West 1995 & Supp. 2001).

72. For a detailed discussion of the impact of these amendments, refer to John C. Becker, *Promoting Agricultural Development Through Land Use Planning Limits*, 36 REAL PROP. PROB. & TR. L. J. (forthcoming 2002).

73. *See* Nutrient Management Act, 3 PA. CONS. STAT. ANN. §§ 1701-1717 (West 2001).

74. *See* 3 PA. CONS. STAT. ANN. §§951, *et seq.* (West 2001).

75. *See* 3 PA. CONS. STAT. ANN. §§ 951, 953-54, 1702, 1717.

The Pennsylvania Legislature created the NMA to protect water quality through abatement of nonpoint source pollution activities.⁷⁶ More specifically, the NMA protects water quality in Pennsylvania by requiring certain ILOs that generate or use animal manure to develop nutrient management plans.⁷⁷ The plans are prepared by certified specialists and reviewed and approved by either the State Conservation Commission or the responsible county conservation district before the ILO can begin operation.⁷⁸ ILOs must operate in a manner consistent with their approved plans or face sanctions. Importantly, however, not all ILOs are required to prepare and receive approval of nutrient management plans.⁷⁹ The NMA applies only to those ILOs that are defined as Concentrated Animal Operations (“CAO”s).⁸⁰ CAOs are farms that have more than two animal units for each acre of land on which animal manure is being applied.⁸¹ This definition, which is tied directly to the question of which facilities are covered, implies a decision that those facilities that are subject to the Act pose the greatest threat of pollution and are thereby subject to the Act’s requirements.

The Act further provides that local governments do not have authority to pass regulations or ordinances that are inconsistent with or more stringent than the requirements of the Nutrient Management Act.⁸² Indeed, when townships passed ordinances that imposed higher fines and required greater setback areas than those contained in the NMA, the ordinance was successfully challenged in court as being inconsistent with the NMA.⁸³ This provision is known as a “pre-emption” provision as its purpose is to limit the ability of local government to address a problem that would ordinarily be within its level of authority.⁸⁴ Pre-emption is an established mechanism for accomplishing policy goals such as regulatory consistency, predictability and economy. Nonetheless, as will be demonstrated in the Finding section of this article, the pre-emption provision in the NMA has resulted in confusion and dissatisfaction for some stakeholder groups.

The Pennsylvania Legislature passed the Protection of Agricultural Operations From Nuisance Suits law in 1982.⁸⁵ This law, like many others in states across the country, came to be commonly known as the “Right to Farm” law.⁸⁶ However, the operation of the law cannot be accurately described as one that grants someone a right to continue an activity absolutely. At best, such laws grant certain

76. See *id.* §§ 1701, *et seq.*

77. See *id.* § 1702(1).

78. See *id.* §§ 1706(d), (e).

79. See *id.* §§ 1706(a), (b).

80. See *id.* § 1706(a).

81. See *id.* § 1706(a).

82. See *id.* § 1717.

83. See *McClellan et al. v. Granville Township Bd. of Supervisors, Bradford County Ct. C.P.*, No. 99EQ000016 (decided April 6, 2000).

84. 3 PA. CONS. STAT. ANN. § 1717 (West 2001).

85. See 3 PA. CONS. STAT. ANN. §§ 951-57 (West 1995).

86. See *Hand, supra* note 59, at 297-98.

protections if described conditions or requirements are met. Most states have adopted such laws, and their form varies across the country.⁸⁷

The Pennsylvania RFL was created to conserve, protect and encourage the development and improvement of agricultural land for production of food and other agricultural products.⁸⁸ Its purpose is to slow the loss of agricultural resources.⁸⁹ If a farm meets the RFL's definition of a "normal agricultural operation," complies with federal, state, and local requirements and does not directly harm public health, safety or welfare, local governments cannot consider that farm a nuisance when public nuisance laws are passed.⁹⁰ In addition, the Act can be a defense to a farm owner sued by a private citizen for a nuisance claim against him or her if the agricultural operator has lawfully been in operation for one year or more prior to the date that the nuisance complaint is filed and the conditions or circumstances complained of are normal agricultural operations and have existed substantially unchanged since they were established.⁹¹

iii. *Federal Statutes and Regulations*

Certain ILOs also need to meet the requirements of the federal Clean Water Act ("CWA") and its regulations.⁹² The discharge of a pollutant from a point source, which is a defined and identifiable place, into a water source is a violation of the CWA if the facility has not complied with the Act's terms and conditions.⁹³ "[A]gricultural stormwater discharges and return flows from irrigated agriculture" are not considered to be discharges from a point source.⁹⁴

To comply with the CWA, persons whose businesses discharge pollutants must obtain permits.⁹⁵ These permits impose operating conditions upon the business in order to minimize harm to the water system.⁹⁶

As with the NMA, not all ILOs are covered by the CWA. The CWA applies only to those ILOs that are defined as concentrated animal feeding operations ("CAFOs").⁹⁷ A concentrated animal operation under Pennsylvania's NMA is not necessarily also a CAFO under the CWA. To be a CAFO, an ILO must be an "animal feeding operation"⁹⁸ and must have either: (1) at least 1,000 animal units confined at

87. *See id.* at 298-99.

88. *See* 3 PA. CONS. STAT. ANN. § 951 (West 1995 & Supp. 2001).

89. *See id.* § 951.

90. *See id.* § 953.

91. *See id.* § 954.

92. *See* 33 U.S.C. § 1251(a) (1994).

93. *See id.* § 1362(14).

94. 33 U.S.C. § 1362(14) (1994).

95. *See id.* § 1342(a)(1).

96. *See id.* § 1342(a)(5).

97. *See id.* § 1362(14) (defining a point source and includes within it the term "concentrated animal feeding operation").

98. EPA Administered Permit Programs: The National Pollutant Discharge Elimination

the facility; (2) between 301 and 1,000 animal units confined and either discharge pollutants through man-made systems or directly into the water source; (3) less than 301 animal units confined and, after an inspection, be found to discharge pollutants through man-made systems or directly into the water source.⁹⁹

Only those ILOs that come within the definition of a CAFO are required to obtain CWA permits. These permits are granted and enforced by the Pennsylvania Department of Environmental Protection. Generally, in order to obtain these permits, CAFOs must submit the following:

- A nutrient management plan (see NMA *supra* note 73 and accompanying text)
- An animal manure storage facility permit
- An erosion and sedimentation control plan
- An individual National Pollution Discharge Elimination System storm water discharge permit¹⁰⁰

This overview of the legal context highlights the following difficulties in the statutory and regulatory context affecting ILOs that was generally applicable at the time the research was conducted:

- Local governments' authority to protect public health, safety and welfare in the community is limited by the NMA and the RFL.¹⁰¹ The exact extent of this limitation is not clear since interpretation of the limitations have been few. For example, if the NMA is considered to be a water quality law, does it have any impact on other types of environmental problems, such as air quality or odor? Do local governments retain authority to limit operations that threaten air quality, rather than water quality? Can local governments regulate those ILOs that are not regulated by the NMA?

- Although both the NMA and the CWA are intended to protect water quality, neither statute applies to all ILOs.¹⁰² The NMA and the CWA may apply to different ILOs, due to the differences in the definitions of a CAO and a CAFO. As will be seen in the Findings, this inconsistency has caused confusion for many stakeholders.

- In many parts of Pennsylvania, county conservation districts bear substantial responsibility for the implementation of the NMA.¹⁰³ In addition, they play a role in the CWA permitting process. As will be seen in the Findings, there is

System, 40 C.F.R. pt. 122.23(b)(1) (2001) (defining Animal Feeding Operation).

99. See *id.* § 122.23(c); see also *id.* pt. 122, App. B.

100. See 25 PA. CODE § 92.5a (2001).

101. See 3 PA. STAT. ANN. §§ 953, 1717 (West 2001).

102. See *id.* § 951 *et seq.*; 33 U.S.C.A. § 1251 *et seq.* (West 2001).

103. See Pamela S. Clarke & Stacey M. Cronk, *The Pennsylvania Nutrient Management Act: Pennsylvania Helps to "Save the Bay" Through Nonpoint Source Pollution Management*, 6 VILL. ENVTL. L.J. 319, 332-333 (1995); see also 3 PA. CONS. STAT. ANN. § 17.04(8) (1993).

confusion about the allocation of regulatory responsibility among agencies, and some stakeholders are concerned that the conservation districts may not be fully equipped for their current regulatory roles.

V. FINDINGS

A. *Issues in Intensive Livestock Operations Conflicts*

Stakeholders in disputes over ILOs in Pennsylvania have many different interests. Some groups worry about health and safety, for both humans and the environment. Others want to continue to be able to make a living as farmers. Still others want to have a globally competitive agricultural program. All of the stakeholders have an interest in how decisions are made and in who makes them. However, they often disagree about the “right way” to make the decision.

Some of the stakeholder groups also have common interests and common values. These common interests include the desire for an economically viable community, a high quality of life, and a safe place to live and raise children.

Stakeholders’ interests are summarized in Figure 1.

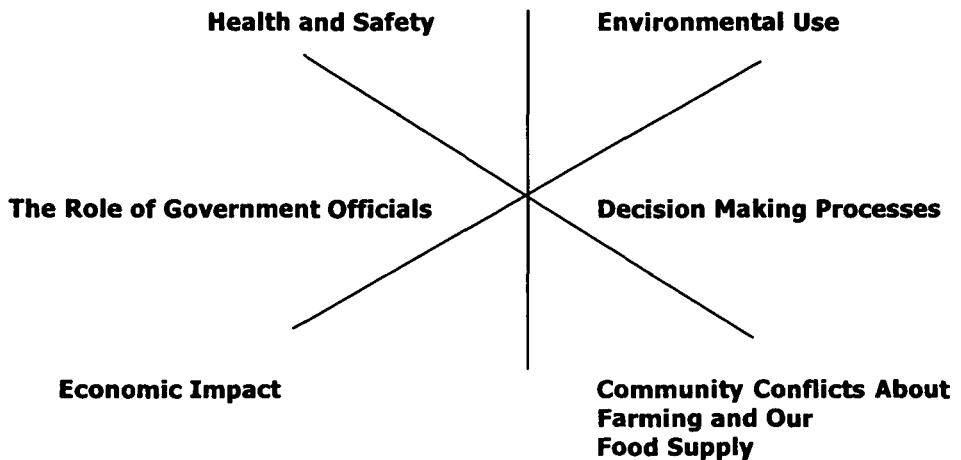


Figure 1

B. *Pennsylvania Viewpoints*

i. *Pennsylvania Stakeholders' Interests*

This section describes stakeholder views on these issues. The interview comments selected are not exhaustive, but they were chosen to illustrate the concerns and perspectives of Pennsylvanians interviewed as part of this study.

ii. *Environmental Use*

Many stakeholders: citizens, environmental advocacy groups, public agencies, and the agricultural community, discussed the importance of taking care of the environment. Agribusiness decision-makers, farm leaders, and small farmers see themselves as stewards of the environment. They believe they are siting, operating, and regulating intensive livestock operations in a way that will protect the environment. One interviewee referred to a national pork producers program to demonstrate stewardship. Another emphasized DEP's role in environmental protection within the commonwealth. Still another espoused the coexistence of environmental protection and farming.

Many community groups see themselves as environmental stewards, and do not believe current regulations adequately protect the environment from the effects of intensive livestock operations. Meanwhile, some farmers are concerned current regulations go too far. These farmers believe family farms are unlikely to harm the environment, and they fear the cost of complying with regulations could drive family farms out of existence.

iii. *Health and Safety*

The interviews revealed that community members living near an existing or proposed ILOs, and representatives from environmental groups are concerned about health and safety issues. These stakeholders worry about the spread of diseases and illnesses potentially related to odors.

iv. *The Role of Government Officials*

Concerns about health, safety, and the environmental impact of intensive livestock operations appear to be compounded by dissatisfaction with the government officials responsible for regulating land use by intensive livestock operations. In many communities, there is an obvious lack of trust in government officials. Three specific perceptions contribute to this lack of trust:

First, there is a perception of lack of clarity in current laws about which agencies have authority to make decisions, how to reconcile inconsistencies among different agency regulations, and just how much authority particular regulatory agencies really have. Second, some stakeholders do not trust government officials because the stakeholders perceive government officials lack the expertise or resources needed to make and enforce good decisions. Third, citizens express great concern about perceived conflicts of interests or bias at both local and state levels. Some groups perceive some local and state officials are acting as advocates and supporters of intensive livestock operations when their job should be to act as advocates for all citizens.

Other groups think local government officials are bowing to community concerns even when farmers have satisfactorily completed all of the tasks required by existing local regulations. They do not believe this is fair.

v. *Economic Impact*

Citizens, farmers, and agribusiness stakeholders share a concern about the economic health of local communities. These stakeholder groups differ on their perceptions of the economic impact of intensive livestock operations for local communities. Some people believe these operations will improve the economic situation of the communities in which they are built. Others argue they are detrimental to the local economy.

vi. *Community Conflicts About Farming and Our Food Supply*

Economic concerns like those raised above are often connected closely to predictions about the future of farming and food production. Many in the agricultural field feel the conflicts over intensive livestock operations often lead to polarization between small and large farmers in discussions about the “right” way to farm. Some believe intensive livestock farming is inevitable and necessary to compete in a global economy. Others believe this type of farming is really an industry that does not belong in agricultural communities. They do not believe intensive livestock operations offer farmers long-term economic viability. Additionally, people feel a tension between wanting to do what is right for the overall community, and not wanting to do it at the expense of some members of the community, particularly small farmers.

vii. *Decision-making Processes About Intensive Livestock Operations*

A fundamental concern of almost everyone involved in these conflicts is participation in decision-making processes. Everyone feels it is important he or she have a say in decisions that affect their community, their ability to use their land as

they choose, and/or their right to have a safe living environment for their families. People want to be treated with respect and to have their input taken seriously.

Some people are frustrated with the type of public decision-making processes they are currently offered. They feel these processes often hinder the kind of exchange of ideas, concerns, and information needed to make good choices. Of course, stakeholders realize sometimes no compromise is possible because one or both sides are not willing to listen or hear the other's point of view.

The interviews reveal that many stakeholders feel they do not have control over decisions they think they should have. Environmentalists and citizens focus on the local government's loss of control over decisions regarding land use by intensive livestock operations. In contrast, the agribusiness and farming stakeholder groups perceive that local government officials are intentionally exceeding their authority in a way that inappropriately limits farmers' control.

C. An Anatomy of Conflicts Over Intensive Livestock Operations

The description of the growth of ILOs in Pennsylvania, along with our interview data, suggests a number of reasons why ILOs have become contentious issues in Pennsylvania. This analysis of the social dynamics that contribute to the development and escalation of conflicts over ILOs offers insight into the polarized nature of these conflicts.

The analysis of these dynamics focuses on the inter-relationships between the stimuli that get people involved in the conflict, their cognitive responses (perceptions, feelings, interpretations, attributions, etc.), and the actions they choose to take in response to their assessment of what is happening. Our model of the conflict dynamics is comprised of four main steps (See Figure 1). In the first step (labeled A in Figure 1) a stimulus or precipitating action occurs. This may be the passage of a state level law or local level ordinance, a proposal for siting a CAFO in a community, a change in existing regulations, or an incidence of environmental damage (such as those in North Carolina). Whatever action is taken is understood to take place against an existing backdrop of history and already established relationships among the stakeholders.

In step two, this stimulus triggers one of several critical cognitive or affective reactions from concerned stakeholders (see B in Figure 1). These cognitive or affective reactions include perceptions of uncertainty, risk, lack of fairness, threats to one's identity, and mistrust. These cognitive or affective reactions play a key role in the progression of conflicts over ILOs. For example, some stakeholders may perceive the action as unfair. They may experience it as increasing or reducing the level of certainty they feel about these issues. They may see the action as affirming or posing a threat to their social identity (e.g., as a farmer or an environmentalist or as an agribusiness person). The action may also increase or reduce the level of trust one stakeholder group feels toward other stakeholders in the dispute. For these stakeholders, the actions trigger a number of negative responses.

In Step three (see C in Figure 1) these cognitive or affective reactions to the stimulus lead an individual (or a group) to make a judgment about the degree to which they can control the situation. Stakeholders whose cognitive or affective reactions are negative (feel threatened, distrustful, etc.) are likely to feel they have little control over their situation. They may perceive they cannot influence the development of an ILO plan proposed by an ILO owner from outside their community. Still others may believe environmental groups have had inordinate amounts of influence over how the regulations stipulated in the Clean Water Act are enforced. Our data suggests that perceptions of control associated with negative affective or cognitive responses are of two main types: (1) some stakeholders express a sense that an inequality of power exists with respect to ILO siting and regulation. That means some people believe they cannot influence a particular situation as much as other stakeholders can; (2) others believe they have no recourse. They feel silenced because they do not believe they can influence the handling of how or where an ILO is sited. On the other hand, stakeholders who perceive the initial stimulus as beneficial to them are likely to experience an enhanced sense of control in the situation. For example, some farmers believe the current legislation in Pennsylvania affords them considerable latitude to farm as they choose.

Step four of the model (see D in Figure 2) suggests that parties assess their reactions and make a judgment about their ability to exert control over the situation, and, based on this assessment, make choices about how to behave in the conflict. These assessments influence both the degree to which they become mobilized in the conflict and the venue (*e.g.*, process) they select as a viable way to pursue their goals. For example, the less control they perceive they have, the more likely they will be to engage in some form of conflict behavior in order to protect or restore their own sense of well-being and control. On the other hand, stakeholders who perceive they have a high degree of control are unlikely to feel any need to take protective actions that might lead to conflict.

A	B	C	D
Stimuli—Actions that are taken	Cognitive/ Affective reactions <ul style="list-style-type: none"> ● uncertainty ● risk perception ● fairness ● identity threat ● trust 	Judgment about one's Perceptions of Control	Conflict Behavior <ul style="list-style-type: none"> ● Choice of Venue ● Degree of Mobilization

Figure 2

The overall model generally applies to all stakeholder groups. However, because the model is quite complex, the article describes specific parts of the model in a step-by-step fashion below. It also discusses how the model reflects differences among stakeholder groups where appropriate. Initially this article will examine the kind of stimuli that give rise to conflicts over ILOs. Then, the article will show how each of the five cognitive/affection reactions described above can affect perceptions of control and how these, in turn, generate conflict-inducing behaviors.

i. *Stimuli*

The project data identifies a variety of stimuli that serve as entry points for people in the conflict. These range along a continuum from direct to indirect stimuli. Examples of direct impact situations include proposals to place an intensive livestock operation somewhere in the community. Examples of indirect impact situations include passage of a new law or a decision by an agency or a court that then results in a response from the community based on its assessment of how such action will affect the community's interest. The more direct the impact of an action, the more probable it is the individual or group will respond.

A wide range of stimuli, such as the passage of a law, the adoption of a new regulation or the application of new court or agency rules, can trigger conflicts over ILO's. Responses to these stimuli take a variety of forms that we explore in the following sections. Here, we briefly show how one stimulus, laws regulating CAFO operations, trigger different reactions in different stakeholder groups.

Dissatisfaction with regulations is frequently based on disagreement with the substantive terms of legislative or regulatory measures. For example, community activists, environmentalists, and government officials all criticized the Nutrient Management Act. The pre-emptive nature of this act has resulted in some community members worrying about their perceived loss of control over livestock operations built in their communities. Others worry about perceived inadequacies in the law, like its initial failure to regulate manure exported from the CAFO to other farms. When these concerns were voiced, exported manure was not subject to regulation under the original guidelines established in this act.¹⁰⁴ Some government officials raise a different concern about the act, suggesting it gives an advantage to owners and

104. In January, 2000, after this study began and the interviews were conducted, the Department of Environmental Protection adopted regulations (*See* 25 Pa. Code § 91.36(b)) to address the concern raised by several of the people interviewed that a loophole existed in a regulatory program designed to protect water quality. These regulations require landowners who apply manure to comply with approved standards published by the agency in its publication, "Manure Management for Environmental Protection." Alternatively, landowners that choose not to follow such guidelines can comply with environmental protection obligations by obtaining a permit from the agency. Passage of the additional measures and timing of the interviews did not allow for follow up questions to see how any of the people interviewed would react to the new provisions.

developers in that if non-compliance is suspected, the burden of proof lies with the accuser, not with the developer. Some people express deep concerns about the economic impact that compliance with environmental regulatory laws might have on business.

VI. PERCEPTIONS

In this section we consider each of the five cognitive/affective reactions (Box B in Figure 2) and how they relate to perceptions of control (Box C in Figure 2).

A. *Perceptions of Uncertainty*

One important result of the kinds of stimuli mentioned above is that they produce change. Changes may include shifts in stakeholders' understanding of the laws, how state agencies enforce those laws, or what is included in the specific plans for a proposed ILO. When such changes occur, they often create uncertainty for those affected. Our data show that all stakeholders react to uncertainty, but they experience different kinds of uncertainty.

Regulations are a very important source of uncertainty for many stakeholders. For some, the laws may specify precisely what they must do to comply (e.g., the Nutrient Management Act requires operators to prepare a nutrient management plan). For others, however, the law may present a confusing morass of information that creates discomfort and uncertainty for them regarding what actions others will or will not take. This confusion leads to an increase in dissatisfaction with the law and may lead to a decreased sense of control. This is especially true when efforts to clarify the confusion lead to inaction or to actions that others perceive as disregard for legal mandates themselves.

Uncertainty was also expressed around issues of enforcement. Both farmers and government officials talk about problems with enforcement. Some interviewees note that part of the problem is that state agencies charged with implementing regulations do not have enough information themselves to answer questions about them. Another person sees the root of the problem with townships that are willing to enact regulations that they know violate the Nutrient Management Act. This person believes that even though the Nutrient Management Act is law in Pennsylvania, authorities that should uphold it are willing to violate it.

In addition to concerns about enforcement, agricultural stakeholders sometimes get upset because of the inadequacy of the law. Additionally, some CAFO operators express concerns that community residents believe CAFOs are electing to locate in certain communities that have lax regulations.

For community members, uncertainty focuses in three particular areas: pre-emption, health effects due to odors, and confusion over enforcement of regulations. Pre-emption is one major source of uncertainty for local communities. Pre-emption deals with a local community's authority to address an issue that has already been

addressed at the state level. Substantive provisions of the Nutrient Management Act have gained attention because they involve pre-emption of local authority to pass ordinances that are more restrictive than the state provisions. While pre-emption may be clear to some, for others it creates considerable confusion. Specifically, people seem to be confused about what pre-emption is, why it was used in the Nutrient Management Act and how it affects their local authority to deal with problems that concern local residents.

There is also considerable confusion about the health effects of odors. A government official expressed concern whether offensive odors will come from the new facility. The official did not have accurate information to answer the question, but he could speculate on the type of factors that would influence the ultimate answer to the question.

For agribusiness, uncertainty occurs because the links among community concerns and farm operations are not clear. From the perspective of one stakeholder, community concerns are difficult to respond to directly because they are linked only indirectly to specific actions taken by farmers.

Uncertainty for agribusiness also stems from the proliferation of townships in Pennsylvania making it difficult to be aware of and responsive to a myriad of different local provisions. The extent to which someone feels uncertain about a stimulus influences their perceptions of the risk involved with that situation and the amount of control they have over that situation. Thus, the more uncertainty an individual perceives about their health, the environment, and/or the regulations and their enforcement, the more likely they are to perceive that there are substantial risks associated with that situation while also feeling they have little control over it. This decreased sense of control may well stimulate conflict behavior. This discussion is summarized graphically in Figure 3

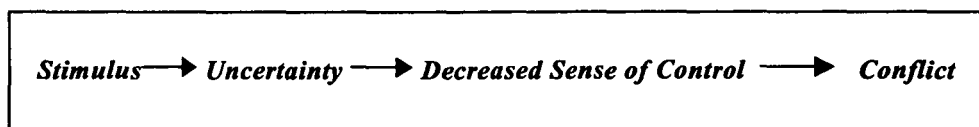


Figure 3

B. Perceptions of Risk

Perception of risk refers to one's view of the danger involved in a given situation. That means people view risk as either the likelihood that something will happen or how bad it will be if something does or does not happen. Some people believe that meeting the standards prescribed for a Nutrient Management Plan rules out the possibility that an ILO could pose any health or environmental threats to a community. For them, there is no risk associated with the siting and running of ILOs. For others who are concerned about potential long-term health problems from concentrated odors associated with ILOs, perceptions of risk could be very high.

Project data suggest that perceptions of risk are expressed in forecasts and affective reactions. Forecasts include expressions of concern about regulations on farmers, the environment, economics, and rights. Affective reactions included concerns about community cohesion and threats to oneself and one's family.

Perceptions of risk vary across stakeholders. For example, one government stakeholder believes that perceptions of risk to the environment are high and widespread across a variety of stakeholders. According to this stakeholder, groups who think the laws are flawed take every opportunity to promote that point of view and feed off each other.

Stakeholders also expressed affective concerns about how the conflict fractures communities, about health risks and about threats to oneself in the form of verbal abuse. One stakeholder clearly expressed affective concerns about community cohesion. By indicating the more farming background that you have, the more likely you are to disagree with the people who are opposed to CAFOs generally. Another stakeholder expressed a unique concern about his/her own and his/her family's health. That person was concerned that pigs' strong immune system and genetic similarity to humans makes CAFOs a major health risk. That stakeholder believes the integrators cannot guarantee that the pigs' diseases won't become ours because of the genetic link. That is why putting pigs in this situation is dangerous. Somewhat surprisingly, even expert stakeholders expressed concerns about risk to themselves, including their personal safety.

The greater stakeholders' perceptions of risk, the more likely they will feel a threat to their own safety and will want to exert some control over the situation to alleviate or ameliorate the potential for harm. On the other hand, stakeholders with low perceptions of risk will likely experience considerable control and have no need to initiate conflict. These relationships are reflected in Figure 4.

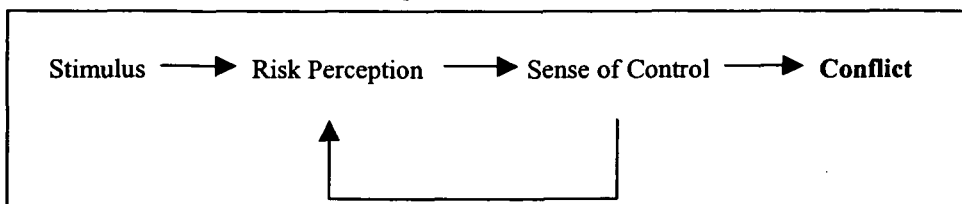


Figure 4

Additionally, the perception of risk that a group or individual holds may also be influenced by their perceptions of control. This means that the greater the perception of control a group or individual holds, the lower they perceive the risk to be. For example, someone who thinks they can control the amount of manure run-off that will enter a stream may believe that they are providing a facility that poses virtually no risk to a community. Others, who believe they have no influence on the legal procedures for siting an ILO, may fear that older people in their community are

exposed to an inordinate amount of risk. This relationship is represented via a dashed feedback loop in Figure 4.

Finally, stakeholders' perceptions of risk and their perceptions of control are both likely to influence their conflict behavior. The greater the degree of risk a stakeholder perceives, the more likely they will become engaged in the conflict. However, their perception of control may temper or influence the choice of process or venue they select. That is, someone who perceives they are placed at a high risk but also believes they have a great deal of control over the legal or legislative process, may opt for traditional approaches to solving conflict such as political processes or the courts. We refer to these as prescribed venues. By prescribed venue we mean the method prescribed in existing laws for getting information or registering complaints or the use of traditional processes like working through the legislative process. On the other hand, a stakeholder who believes they have very little political or legal power and who perceives that they are in great risk may be more inclined to engage in alternative conflict behavior (e.g., mobilization behavior such as protests or rallying a community to fight the siting of an ILO.) See Figure 5.

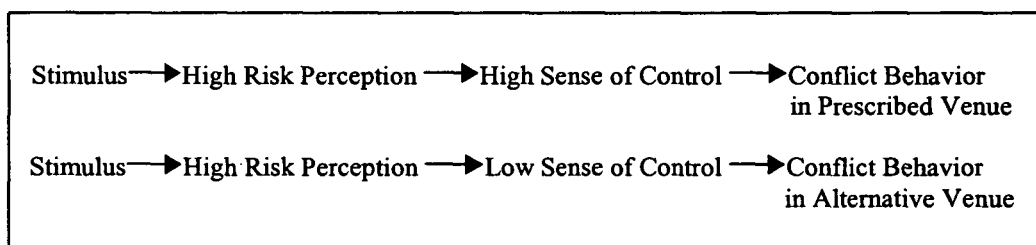


Figure 5

C. Perceptions of Fairness

An individual's perception of the fairness of a specific law or regulation can also influence their perception of their ability to control the outcome of disputes that involve the unfair law or regulation.¹⁰⁵ After evaluating one's perception of the fairness of laws or regulations, people generally translate their evaluation into a perception of their ability to control the outcome of a dispute in which the law or regulation is involved. To the extent a person perceives a law as unfair and believes that they have little ability to change it, they are more likely to initiate conflict. The perceptions of unfairness and of having little control over the outcome of a dispute increase the chance of conflict when a law or regulation perceived to be unfair is

105. See generally Daniel W. Shuman & Jean A. Hamilton, *Jury Service - It May Change Your Mind: Perceptions of Fairness of Jurors and Nonjurors*, 49 SMU L. REV. 449, 452 (1992) (setting forth the general principle that perceptions of fairness are independently affected by personal experiences).

applied. Conversely, the perception of a law or regulation as fair increases the perception of a person's control over the situation and reduces the likelihood of conflict initiation. Below we illustrate how different stakeholders link their sense of fairness to the degree of control they believe they can exercise and the conflict behavior they elect to take.

Comments from community members often reflect their sense of unfairness based on their perceived lack of control over the changes that are occurring in their communities. Pre-emption, in particular, leads community members to feel they have lost their ability to participate in shaping an outcome. Other community members see the process of enacting Act 6 as lacking integrity, and, therefore, they conclude that the Act itself is unfair. As noted earlier, others expressed concerns about how regulations are enforced. One interviewee complains that different procedures are used in different cases.

To others that we interviewed, particularly those aligned with farmers, their perception of control is linked to frustration felt when they view others ignoring laws that they believe to be fair. Once Act 6 was passed, they saw its provisions as clear and believe that townships are now trying to change the "rules of the game." Therefore, our data suggests that a person's perception of the fairness of laws and regulations is influenced by their degree of dissatisfaction with law and regulation. Perceptions of fairness of law and regulation result from:

1. Disagreement with or objection to substantive provisions of law;
2. Perceived lack of influence in the law-making process; and/or
3. Dissatisfaction with how the laws are enforced.

Schematically, these relationships are reflected in Figure 6.

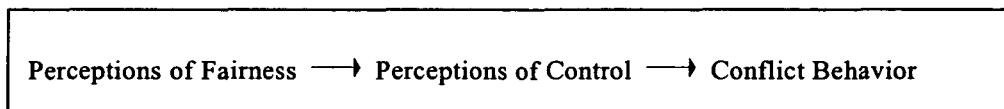


Figure 6

D. Threats to Social Identity

Stimuli may also pose a direct threat to the social identity of stakeholders. Social identity refers to that part of an individual's sense of self that comes from their affiliation with particular groups: community member, activist, farmer, farm advocate, environmentalist, etc. These group memberships can be based on categories (like ethnicity or gender), ascribed by others (through stereotyping), or can be adopted by choice.

People involved in the conflict see themselves, and are seen by others, as members of groups. In disputes over ILOs salient social identities include: community member, activist, farmer, farm advocate, environmentalist, etc. These social identities are important because group membership conveys both a sense of

belonging for members, as well as an assumption that group members have some set of shared attributes. As a social identity becomes salient for a group member, it becomes more important to their overall sense of self. Threats or challenges to this social identity feel like threats to one's person.

Social identities in our interviews influenced conflict in several ways. Parties' perceptions about their level of influence and control are connected to the salience of particular social identities. For some groups, the social identity is a source of structure and security. It reinforces group members' sense of belonging, their confidence in their voice, and thus their perception that they will be successful in using prescribed processes to achieve their goal.

In other instances however, if one's salient social identity is threatened by a stimulus, this challenges the group member's sense of security and can lead to a reduced perception of control. The violation of the identity often reinforces the group members' perceptions that he/she cannot expect to be successful in using a prescribed venue and thus gives energy to attempts to be heard in an alternative venue. Alternative venues (e.g., protest, new ordinances, community organizations, challenges to credibility of prescribed processes, etc.) can enhance the person's perceived ability to control the outcome of a dispute or offset the perceived unfairness of the law or regulation.

Threats or violations of a group identity came from both outside and within groups and impact conflict behavior in different ways. In cases where a salient social identity is violated or challenged by someone outside the group, the external challenge often serves to mobilize group members. The violation of the identity also reinforces group members' perceptions that they cannot expect to be successful in using a prescribed venue and gives energy to their attempts to be heard in an alternative one.

One salient social identity expressed by community members is that of an American citizen living in a democracy. When their expectations of the meaning of this identity are violated, they feel called to act. In some instances however, the external violation leads people to decide to stop participating in any process. Rather than mobilizing groups, it leads to immobilization. For example, when one stakeholder's espoused identity as a community supporter was challenged, he now questions whether the effort needed to maintain a relationship with the community is worth the cost.

Finally, there are examples of social identities that are challenged or threatened by other members of the same group during an internal conflict about the nature of the group's identity. These threats can lead to immobilization as well.

These internal threats happen in different ways. In some cases, the social identity of the group is challenged because members do not share the same views nor do they have shared goals in the conflict. In our data, such splits are evident within government agencies, communities, and among farmers. For farmers, this split often occurs between persons who see themselves as members of the community and others who suddenly view them as the enemy. Several interviewees offered observations on this identity issue.

“Spoilers,” group members who are seen by other members of the group as acting in ways that do not reflect the values and norms of the group, can also challenge a group’s identity. In summary, threats to social identity are related to conflict behavior in the way depicted in Figure 7.

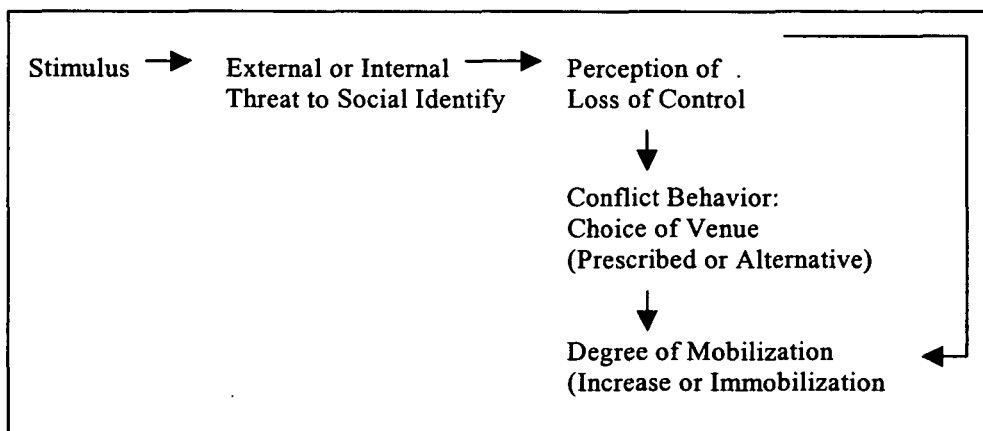


Figure 7

E. *Perceptions of Trust*

Another cognitive factor interacting with perceptions of control is trust. Perceptions of trust, or more accurately the lack of trust, have a significant impact on the level of influence and control parties feel they have and, in turn, on the venue they are willing to use to influence the conflict process. Trust issues emerged as an important part of the conflict process in many of the conversations we had with people. Trust issues existed within groups or agencies, among community members, between integrators and other parties in the conflict and between citizens and the government.

In this section, we focus on trust issues that interact with social identities. When individuals categorize both themselves and others as members of particular groups, they develop expectations about how members of those groups should behave. For example, when someone identifies himself as “citizen” and others as “representatives,” this categorization creates a set of expectations for how “citizens” should be treated and how “representatives” should behave. When their own expectations are not met, stakeholders, rightly or wrongly, often experience a breach of trust.

The lack of trust in government officials was a strong theme in our interviews. Citizens come into these conflicts with a specific set of expectations for their elected government officials. These expectations include a set of “shoulds.” The state should protect citizen interests, help citizens and be responsive to citizen concerns, follow the

procedures and guidelines it sets for itself, and be honest in its dealings with citizens. When these expectations are not met, group members feel a sense of violation regarding who they are because these expectations are associated with their sense of their social identity. As trust declines, these groups mobilize to make their voices heard, often using alternative venue choices.

Some citizens' trust decreases as they perceive government legislators or agency officials aligning themselves with one interest group rather than protecting and responding to the interests and concerns of all citizens. Citizens distrust government when they perceive government officials taking sides, and/or acting as advocates and supporters of intensive livestock operations when they believe the job of government representatives should be to act as advocates for all citizens.

On the other hand, farmers and agribusiness representatives are also distrustful when they perceive government officials are exceeding their authority by supporting community concerns over the interests of farmers. When farmers satisfactorily complete the tasks required by existing regulations, these stakeholders believe a permit should be granted. These stakeholders believe when local townships pass ordinances that go beyond Act 6, they are clearly illegal.

Distrust also increases when groups believe that the system is not doing what it promised to do. Whether it is a perceived lack of will, resources, or adequate regulations, groups feel they cannot trust government officials to do their job.

Finally, groups express distrust of the government when they perceive agency officials and elected representatives as being dishonest. One stakeholder explained how frustrating it is when people that "are complaining of real health problems or perceived changes" are called liars and told that their complaints "must be their imagination," even when the agencies or the agribusiness haven't actually conducted studies on the issues yet themselves.

When distrust occurs among one or more stakeholder groups, this leads to violated expectations and a decreased sense of control. As we have noted above, this decreased sense of control fuels conflict behavior, particularly mobilization and use of alternative venues. These relationships are depicted in Figure 8 and described further in the next section.

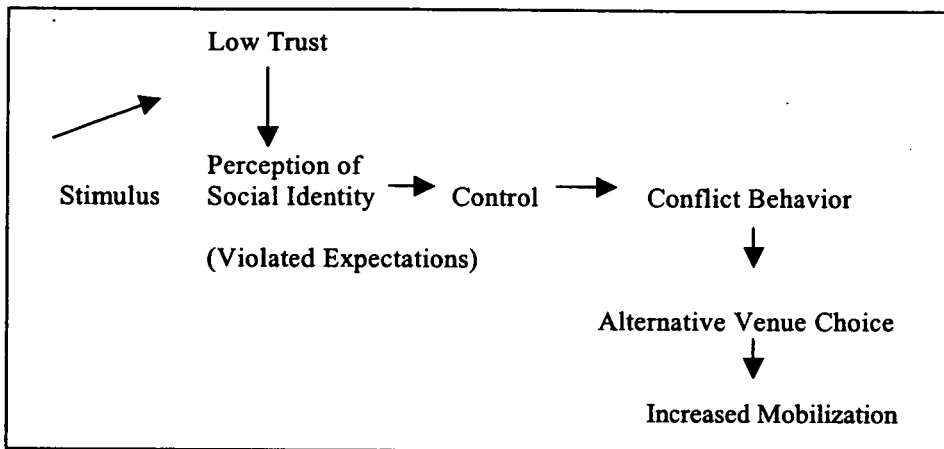


Figure 8

F. *Perceptions of Control and Choice of Venue*

Over time, as people respond to a particular stimuli, they come to have a sense about how much control and influence they have in the conflict. One of the repeated themes was the desire by parties on all sides of the issue to be heard, and to have a voice in making decisions regarding ILOs, particularly if there is a conflict. Environmentalists, agribusiness representatives, local farmers, government officials and community members all want to have their interests, needs and concerns taken into consideration as decisions are made. Some stakeholders perceive that they have little voice. As noted earlier, for some local residents the issue of pre-emption, in particular, epitomizes the loss of their ability to participate in shaping an outcome.

As parties get involved in a conflict, they assess their ability to have influence. This assessment affects the choices they make about how to act in the conflict and the most viable venue in which to pursue their goals (see D in Figure 2). If they feel they have a voice, then they are more likely to use a prescribed or official venue for influencing what happens in the conflict (NMP, permitting, etc.)

People prefer to engage in decision-making processes that they perceive will be procedurally fair. That is, one in which they will have an opportunity to play a role in the decision-making process, and to have voice and influence over the outcome of the process. Thus, the venue that a stakeholder chooses will reflect these factors, whereas individuals who perceive that they lack voice in the decision making process or who seek to offset perceived unfairness in the laws and regulations, will seek alternative venues to express their viewpoint.

Some activist groups express related concerns about voice. These groups are concerned that they do not have the resources, the time or the personal power to

participate in negotiations with other stakeholders and, as a consequence, feel that the deck is stacked against them.

Often in conflicts over ILOs the decision-making venues are prescribed (e.g., conservation districts decide on the suitability of a nutrient management plan). If the prescribed venue is perceived negatively, however, the venue itself exacerbates the conflict. As with challenges to a person's social identity, when negative perceptions of fairness and a perceived inability to influence an outcome exist, individuals and groups seek out alternative venues where the likelihood of being heard is increased.

Therefore, we conclude that a person's perception of their ability to be heard and to influence the outcome of a dispute is reflected in their preferred choice of venue. Venues that enhance a person's ability to control the outcome of the dispute, or which are believed to offset perceived lack of control, will be favored. Additionally, a person's perceptions of his or her individual or group ability to influence the outcome of disputes affects the person's willingness to become involved in the resolution of disputes.

Persons who perceive a law or regulation to be fair and who perceive they have individual or group power to control the outcome of disputes involving the application of the law or regulation will mobilize as individuals or in groups in order to exercise greater influence. If, however, a person perceives a law or regulation to be unfair, and that he or she has little control over the outcome of a dispute, he or she will be less likely to mobilize. In this case, immobilization may be manifested in decisions or actions to withdraw from any situations that could lead to conflict or the conflict, itself. This is depicted in Figure 9.

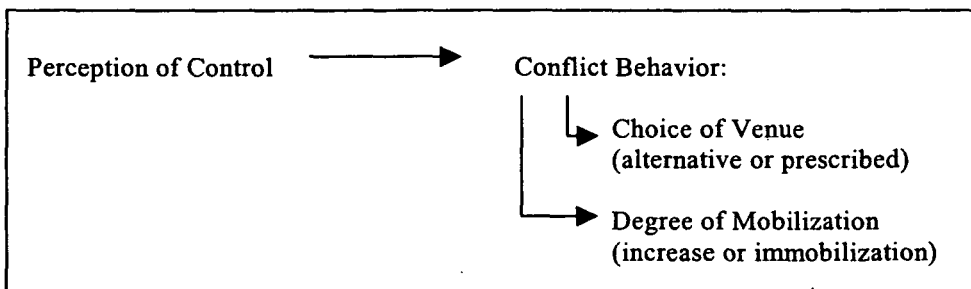


Figure 9

VII. CONCLUSION

A. *Concluding Comments on the Model*

In this model we reflect how each of the five cognitive/affective reactions can affect stakeholders' perception of control. These, in turn, influence the choice of venue and the degree of mobilization that the conflict takes.

This section has reviewed the many social forces that generate conflicts over ILOs and cause these conflicts to intensify. These conflicts can exact a tremendous emotional, social and economic toll on those involved. Costs and expenses for all parties can quickly escalate and delay adds to these costs. At its worst, the situation pits competing community values against each other and the community itself is no longer clear as to where it stands. These conflicts have had wrenching effects on individuals, as well as on the social fabric of many communities. While such conflicts likely cannot be totally avoided, they can be addressed in more constructive fashion than they have been in the past.

B. *Conclusions and Unresolved Questions*

Based on this analysis, the project team concludes that an individual or group's perception of its ability to control a situation is the most important predictor of conflict behavior. When stakeholders experience considerable uncertainty or risk, feel threatened, believe they have little voice, or mistrust other stakeholders, stakeholder perceptions of control over the situation decreases. If perceptions of control decrease, individuals and groups seek out alternative means of asserting some degree of control over the situation, and the potential for conflict rises.

Given the importance of perceptions, what factors or elements influence their development? Access to scientific information about a process or activity involved in a dispute is a crucial element in the development of individual and group perceptions. Accuracy and credibility of this information are key considerations. Are some sources of information viewed to be more credible, or conversely less credible, than others?

The advent of the World Wide Web has increased everyone's access to information, but what is the value of the information that the web has made available to us? Is anyone asking whether the information obtained is worth the time and effort to find and download it? Is it just some slanted, partisan ramblings of interest groups and individuals who seek to persuade others to their point of view without concern for what it costs to achieve that result? Is anyone evaluating the accuracy of what the web provides? Does anyone care if the information is accurate? While this may be an important issue, it also raises the question whether the accuracy of information obtained from other sources is any more or less credible than that obtained on the Internet.

A second significant conclusion is the importance that the perception of fairness in a process is a fertile ground for conflict. These research results show that

people often perceive the fairness of a process on the basis of how it was determined. If a person played a role in developing the process, that person views it to be fairer than one where he was excluded from the development process. How could a process be viewed as fair if the contribution of some groups was not sought or actively avoided? What opportunities are there for government to influence public perceptions regarding fairness? Are decision makers willing to open decision-making processes to allow for broader public input and participation? Are decision makers willing to give up a degree of power and control over the process and share it with others? In this context, one insight from the research is that the average person's perception regarding the impact depends upon their participation in the decision-making process. Seemingly, most people believe they have greater influence over the outcome than decision-makers will admit. To remedy this, should government dispel the public's ill-conceived notion, or should government correct the process to allow the public's role to achieve what they perceive it to be?

Preemption is a valuable example of this situation. In the eyes of lawmakers, preempting authority of local governments to address issues that have been addressed at the state or federal level is a recognized principle. While the authority of government to preempt is clear, the results of the interviews establish that there is confusion in the minds of people regarding why preemption could or should be used in a given situation, and the impact that preemption will have on those affected by it. How will people in local communities benefit when their ability to control sensitive land uses is removed? Perceptions of fairness are negatively influenced when people perceive that the process that led to adopting the measure did not seek input from all stakeholder groups, or severely discounted the views of one or more groups while favoring others. How should government officials, wielding the power to preempt, exercise it? Do political considerations outweigh all other considerations?

Enforcement of laws and regulations is a third example of significant results from this research. Interestingly, both parties recognize that only strict enforcement of the existing laws and regulations will appease their interests. To those who favor existing laws and regulations, anything less than full enforcement is viewed as the loss of a benefit that should be provided. To those who do not favor existing rules, anything less than full enforcement allows offenders to reap a benefit they were not intended to receive. Government can take no action that is less than full enforcement without risking the alienation of some significant group of people.

A fourth significant conclusion is that groups who conclude they have the ability to affect the conflict in a way that advances their interests are more likely to use the established methods to apply the law or resolve a dispute. Stakeholders who approve of the existing regulations are more likely to trust the processes for implementing them. Conversely, those stakeholders who do not favor existing regulations perceive they have little ability to advance their interests through the established methods and will be forced to choose an alternative, which restores a sense of control over their situation. Given this set of concerns, what action can or should government take to change these perceptions?

Based on these conclusions, future actions taken by government must: (1) reduce risk and uncertainty regarding a wide variety of issues associated with intensive livestock operations, (2) acknowledge and respect identity while provide a balanced voice, (3) be perceived as fair by all, (4) increase trust among the stakeholders, (5) enhance all stakeholders' perceptions of control and, (6) reduce tensions among the parties. The clear challenge to policy-makers is to develop a process that is more supportive than it is disruptive. Actions taken today will have significant impacts tomorrow.