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Does the Illinois livestock management facility act and CAFO siting process contribute to community conflict?

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**Does The Illinois Livestock Management Facilities Act and
CAFO Siting Process Contribute to Community Conflict?**

By

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A capstone project submitted to the Graduate faculty
in partial fulfillment of the requirements for the degree

MASTER OF SCIENCE

Major: Interdisciplinary Studies (Community Development)

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Abstract

The increased consolidation of hog production in the agricultural industry, primarily the increased numbers of Confined Animal Feeding Operations (CAFOs) have triggered serious impacts to the Community Capitals Framework (CCF) of some of the localities in which they are constructed. Evidence exists that all seven-community capitals are affected to some extent. These impacts lead to distrust and conflicts within the community, eventually eroding the CCF balance.

The CCF is the structure through which all community capitals interact and create valuable interdependence. Atrophy in this structure created by the destruction of any capital can prevent the community from achieving the balance necessary to be healthy and sustainable.

The Illinois Livestock Management Facilities Act (ILMFA) is the statutory structure by which CAFO sites are determined in Illinois. Can the ILMFA adequately address the needs of the CAFO developer and impacted neighbors? Is there a better method of CAFO siting that addresses local issues while facilitating the siting of new CAFO developments?

KEYWORDS: Confined Animal Feeding Operations (CAFOs), Community Capitals Framework, Illinois Livestock Management Facilities Act (ILFMA), CAFO siting

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Introduction

In the summer of 2011 newspaper reports documented the conflict between Professional Swine Management, the developers of Shamrock Acres, the proposed CAFO, and surrounding neighbors in rural McDonough and Schuyler Counties. Proponents of Shamrock Acres made the claim of new jobs, increased property tax payments and increased support of local feed dealers. Opponents voiced concern over the intense odors created by hog confinements, the potential for water and land pollution and destruction to township and county roads. The rhetoric grew contentious and eventually the developers tabled the proposed CAFO.

In January 2012 Junction Acres, a CAFO proposed by the same management group as Shamrock Acres, was the subject of a Public Informational Meeting in Carthage, Illinois. This meeting was requested by the Hancock County Board to address questions and public comments concerning the meeting of the eight siting criteria as established by the Illinois Livestock Management Facilities Act.

The ILMFA establishes eight criteria that must be met by a new livestock management or waste facility. Because these criteria form the basis of the county board's non-binding recommendation and have a significant role in the decision of whether or not the proposed facility is approved, the siting criteria is addressed at an informational meeting. The eight siting criteria include:

1. Registering a livestock waste management plan.
2. Creating a design in a location where the proposed operation will protect the environment.
3. Minimizing any incompatibility with the surrounding area's character and meeting setback requirements.
4. Determine if the facility is located within a 100-year floodplain or an otherwise environmentally sensitive area.
5. Determine if the owner/operator has submitted plans for an operation that minimizes the

- likelihood of any environmental damage.
6. Odor control plans that are reasonable and incorporate reasonable or innovative odor reduction technologies.
 7. Traffic patterns that minimize the effect on existing traffic flows.
 8. Determine if construction or modification of a new facility is consistent with existing community growth, tourism, recreation, or economic development (Illinois Department of Agriculture, 2012, p. 2-3).

Members of the public articulated their concerns, generally in a respectful fashion with an occasional sharp remark. However, given the existing CAFO siting process, their concerns are of little consequence. Under the existing system, local objections or county board rejection of the proposed CAFO are virtually meaningless. Through all the concerns, no matter how valid, the decision rests in the hands of the Illinois Department of Agriculture (The Department).

While listening to the remarks and testimony, I concentrated on the impacts CAFOs and the siting process has on community capitals. Most importantly I visualized the intricate web of the seven community capitals.

There was a considerable amount of time spent on the anticipated damage to county and township roads by the additional heavy truck traffic, especially during the late winter and early spring. Impacts to both build and financial capital includes the costs to local taxpayers for the repair of local infrastructure, including county and township roads and bridges resulting from heavy trucks passing over roads not intended for that particular use. However, impact to financial capital is not limited to roads and bridges, it can include the cost to mitigate environmental damage to land and water resulting from lagoon breeches and manure infiltration to local watersheds.

CAFO development is greatly influenced by the political capital of pro-industrialized agriculture. Professional Swine Management, the developer of Junction Acres enjoyed the

support of local farmers and suppliers, and agricultural groups such as the Illinois Farm Bureau and Illinois Livestock Development Group. This alliance created a contentious atmosphere when members of Concerned Citizens for Responsible Agriculture (CCRA) spoke openly. On many occasions, members of CCRA were publicly challenged and ridiculed by Nic Anderson, a lobbyist representing the Illinois Livestock Development Group. This type of intimidation only increased the rhetoric and diminished the political capital of those individuals opposing Junction Acres.

Under the structure of ILMFA, the public is invited to share their opinions and concerns at the public informational meeting. The public comments made at the meeting have virtually no impact on the outcome of the approval process. In effect, this process destroys any political capital of those who are not in favor of the CAFO. Additionally the county board can vote opposing the CAFO siting, the vote is non-binding, rendering what political capital of the county board, useless.

CCRA as an organization is representative of the work of human capital. The members of this group express came together to become a unified voice for their concerns. The issues they are most concerned over are the negative effects of odors to social capital including neighboring homeowner's ability to enjoy outdoor activities and visitors coming into the community to use the public amenities including parks and playgrounds.

Many members of the public were concerned with the impact Junction Acres might have on natural capital. Fears of lagoons over-topping during heavy rain events and leaching into nearby watersheds were common. Many speakers were concerned with the potential for accidental discharges on or around farm ground where nutrient applications are to be made.

The concerns voiced by most members of the public during the informational meeting focused on impacts to social, financial and natural capitals. I will focus my writing on the impacts to these three capitals and a method to give citizens a more powerful structure to satisfactorily address their concerns.

CAFO developers often make generously optimistic claims that their projects will create new jobs, stimulating the local economy by adding to local payrolls, which will eventually benefit local government units by increases in income, property and sales tax revenues.

Natural Capital is impacted by contamination to water and air. CAFOs that discharge or propose to discharge to waters of the state are point source polluters and are regulated by the National Pollutant Discharge Elimination System (NPDES) permit program. However, noxious odors are by far having the biggest impact in communities where CAFOs exist (VanAuker, et al, 2010, p. 27).

In 2011, the World Agricultural Outlook Board of the United States Department of Agriculture reported that the United States ranked third in the global production of pork tonnage following China and EU-27 (Table 1) and lead the world in pork exports with 34% of the foreign export market (Table 2). Of all domestic pork producing states, Illinois ranks fourth behind Iowa, North Carolina and Minnesota (Table 3).

Agriculture, specifically the production and export of pork products, plays a vital role in the economic health of the state of Illinois. In 2012, the United States Department of Agriculture (USDA) reported that Illinois' agricultural commodities generated \$14.9 billion for the state's economy for 2011. Of that total revenue, pork production generated over \$1.1 billion, representing 8% of the state's total commodities receipts and 6.7% of the total hog production in the United States (Table 4).

The Department supports the growth of the hog production industry in Illinois with their endorsement of the passage of the Illinois Swine Market Development Act in 2001. This act was designed to provide for the general economic welfare of producers and consumers of pork and the State of Illinois (Illinois General Assembly). The Department, in the spirit of supporting increased growth in the Illinois hog producing market, has an active presence in agricultural export markets, including the staffing of an agency office in Mexico, the second largest importer of United States pork products (Table 5).

In addition to the role the Department plays in the marketing of pork products, the agency also administers the ILMFA, the framework by which CAFO sites are approved for construction. Of the top ten pork-producing states, only Minnesota and Oklahoma accompany Illinois in assigning this responsibility to their state's agricultural agencies. The remaining seven states conduct this process through either the state's Environmental Protection Agency or the Department of Natural Resources (Table 6).

It is entirely reasonable and responsible for the Department to have an interest in the marketing and promotion of agricultural products produced in the state of Illinois. Agricultural producers rely heavily upon both state and federal agencies not only in the building of relationships to facilitate the marketing and promotion of their industry but the contributions these agencies make in protecting the entire agricultural industry. However, can an agency such as the Illinois Department of Agriculture be effective both in the role of promoter and the role of regulator of agriculture? And does this combination of important responsibilities create an institutional conflict of interest within the Department?

This paper will examine the impacts to social, financial and natural capitals created by proposed CAFO development and what, if any, the ILFMA plays in that conflict. By

reviewing the existing literature on the impact on community capitals, analyzing both the Illinois Livestock Management Program and Iowa Master Matrix and interviewing local actors in Illinois CAFO development I hope to determine if the potential exists to make modifications to the ILMFP to reduce community conflict by giving local citizens a valued role in the CAFO siting process.

Research Question

On January 4th, 2012 I attended the contentious Junction Acres public informational meeting requested by the Hancock County (Illinois) Board and conducted by the Department. The developer, Professional Swine Management (PSM), arrived fully armed with a marketing campaign complete with employee birthday party and picnic photographs, to give attendees the impression that CAFO employees were family and the hogs being raised for slaughter were pets.

“DR. HOLLIS, PSM: So to give you a little bit more deeper opinion now of why I think we are here, really it's here tonight to talk about the people. That's the people that we work with, the people that want to build this farm, the people that service the pig business we work with. It is also about the pigs. Because many of you may not know about what we do and so we are going to try and share some of that. And then it is also about the neighbors and how we work to satisfy the concerns and to satisfy the issues that are raised up about livestock production and specifically about a farm like Junction Acres. So tonight is about the people, the pigs and the neighbors” (Illinois Department of Agriculture, 2012, p. 19).

Following the presentation of PSM, the floor was opened for questions and/or comments from the attendees. In some cases the opponents of the Junction Acres development became emotional, using crass, sarcastic and occasionally inflammatory remarks. However, the most impactful exchange of the evening, leading to my increased curiosity of this issue is as follows:

| *“MR. CONIGLIO: Has the State of Illinois ever turned down an application for one of these mega hog facilities in western Illinois? That's my question.*

| *MR. GOETSCH: I would answer that two ways. No, we have never turned one down, but yes, there have been some that we have never approved.*

| *MR. CONIGLIO: Okay. One quicker question. With McDonough County Board and the gentleman here from the Hancock County Board, we all give our opinions at board meetings, we vote for or against, which means nothing. Our opinion doesn't really matter. The State of Illinois makes the decision. I don't even know why they ask the counties to vote on it.*

| *MR. GOETSCH: I am not sure what your question is but I disagree with your statement. I believe that this is very important and I think I can point to just about every project that we have ever had a County Board involved in where they provided input -- see, the problem is or one of the challenges I guess we have is you as the County Board have to make a recommendation based on the information that is available now, whereas the Department has the luxury of learning from what you go through and issues that you might identify that are lax in an application, we can then go back to the Applicant and say, you know, hey, there is a problem with "X" or there is a problem with "Y", or you didn't meet this particular criteria because of this or this or that, what can you do to change your application?”*

(Illinois Department of Agriculture, 2012, pp. 133-134).

I came away with three immediate observations following the public informational meeting. First: The siting criteria focus in Illinois is on the CAFOs potential impact to the environment rather than agricultural production. Second: The Department of Agriculture is the responsible agency for site determination. Third: This process, as I have observed, appears to exclude meaningful public input despite the public informational meeting and county board vote

I could visualize now, how frustration, created by what seemingly appears to be a perfunctory process, would ferment into community conflict. This led me to my first

State	Responsible Agency
Iowa	Natural Resources
North Carolina	Environment and Natural Resources
Minnesota	Agriculture
Illinois	Agriculture
Missouri	Natural Resources
Nebraska	Environmental Quality
Indiana	Environmental Management
Oklahoma	Agriculture, Food and Forestry
South Dakota	Environment and Natural Resources
Ohio	Environmental Protection Agency

question: “*Why would the responsibility for site determination rest in the hands of the Department?*”

Of the top ten pork-producing states, only Minnesota, Illinois and

Oklahoma engage their respective agricultural agencies in the task of administering CAFO siting applications. In the seven remaining states; Iowa, North Carolina, Missouri, Nebraska, Indiana, Oklahoma, South Dakota and Ohio, the responsibility for CAFO siting belongs to a regulatory agency such as natural resources or environmental protection.

My second, broader question is: *What are the impacts of CAFOs on the community that leads to community conflict?* My third and final question is: *Is there a better CAFO siting process that the state of Illinois might adopt?*

The first two questions can be addressed through a more focused problem statement: Does The Illinois Livestock Management Facilities Act and CAFO Siting Process Contribute to

Community Conflict? The third question would be addressed if the research leads to the argument that an alternative to the existing siting process is needed.

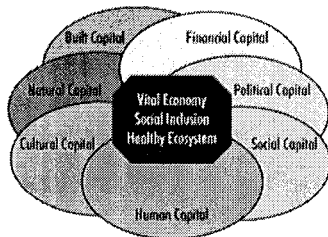
Literature Review

This literature review sets out to define each of the capitals within the Community Capitals Framework and the impact of CAFO development. The impacts to capitals resulting from these operations can largely be placed in three categories: social, financial and natural. In the end, like most planning issues, these issues often prove to be intertwined.

This review will also examine the limited existing literature on the Illinois Livestock Facilities Management Act, the public act that establishes the siting criteria, which applicants must satisfactorily meet before being granted a permit to construct a CAFO in the state of Illinois. The review will conclude with an examination of the Iowa Master Matrix and how it is implemented.

Community Capitals Framework (CCF)

At the very heart of rural community development is the Community Capitals Framework (CCF). This framework reveals the interactions between different parts of a community (Jacobs, 2007, p.1). The seven community capitals, which interact, to make up a community are: Natural, Cultural, Human, Social, Political, Financial and Built (Flora, C. & Flora, J. 2008, p. 19).



Communities most successful in supporting sustainable community and economic development are successful in nurturing each of the seven community capitals. In addition to identifying the capitals and the role each plays in community and economic development, this approach also focuses on the interaction among these seven capitals as well as how investments in one capital can build assets in others (Flora, C., 2008).

CAFO development has severely impacted the Social, Financial and Natural Capitals in

the communities where they are built.

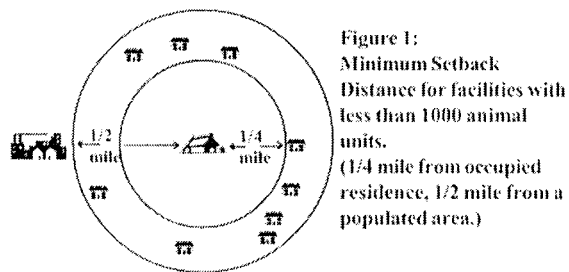
Built Capital

Built capital is the supporting foundation that facilitates human activity. Much of rural development policy is aimed at the enhancement of built capital assuming the result will be an improvement in people's lives. When emphasis is placed on built capital while ignoring the social capital of the community, the result can lead to unintended consequences including rural sprawl and gentrification. Built capital can support within community but can exclude those who are disadvantaged and divert financial capital from other worthy investments (Flora, C. & Flora, J. 2008, pp. 206-207).

Impacts to Built Capital

When identifying the impacts of CAFOs on built capital the arguments typically center on two primary concerns: neighboring property values and rural roads and bridges. However, only setbacks to buildings are addressed in the act.

The ILMFA specifically identifies the setback distances between CAFOs and neighboring buildings. In Illinois, new facilities with 50 or more animal units must abide by setback



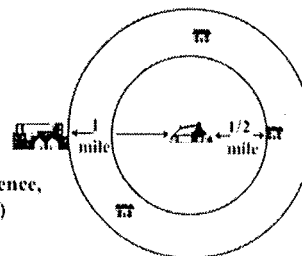
requirements, which range from one-quarter to one mile, depending upon the size of the facility and number of adjacent homes. In addition, compost operations at these facilities must be located at least

one-quarter-mile away from the nearest occupied residence unless that residence is on the facility's property. The compost area also must be at least 200 feet from the nearest potable water. If the composting site lies within a 10-year floodplain, suitable action must be taken to

protect the site from flooding (Illinois Department of Agriculture, 2001, p. 9).

For new CAFOs with 1,000 to 6,999 animal units the setback distance is 1/4 mile + 220 feet for each additional 1,000 animal units over the first 1,000. From a populated area, the setback is 1/2 mile + 440 feet for each additional 1,000 animal units over the first 1,000 (Illinois Department of Agriculture, 2012, p. 9).

Figure 2:
Minimum Setback Distance
for facilities with
7,000 or more animal
units.
(1/2 mile from occupied residence,
1 mile from a populated area.)



CAFOs can cause the degeneration of nearby communities. Studies show CAFOs negatively impact residents' property values that are located within a five-mile radius of a CAFO. Although recent studies do not specifically identify the variables influencing property value declines, the overall effect on properties located near CAFOs evidence that the decline in property value can be attributed to CAFOs' adverse effects. Accordingly, the adverse effects from CAFOs raise the social costs of rural communities (Cronauer, 2011, p. 645).

The magnitude of the economic loss suffered by the neighbors of a CAFO can be significant. The costs shifted to the residents of the region by a CAFO adversely affect the value of neighboring properties. This, in turn, lowers the taxable value of these properties and shifts costs to all other residents of the taxing area. In a 1995 study in North Carolina, found that neighboring property values were affected by large hog operations based on two factors: the existing hog density in the area and the distance from the facility. The maximum predicted decrease in real estate value of 7.1 percent occurred for houses within one-half mile of a new facility in a low hog farm density area. 1997 and 1998 updates of this study found that home values decreased by \$.43 for every additional hog in a five-mile radius of the

house. For example, there was a decrease of 4.75% (about \$3000) of the value of residential property within 1/2 mile of a 2,400 head finishing operation where the mean housing price was \$60,800 (Weda, W., 2002, p. 6).

Neighboring residents are fearful of depreciating home values in close proximity to CAFO operations. A township real estate assessor, testifying in the Shamrock Acres public meeting asserted that property values within 1/10 mile from the CAFO would fall 83%-90%. Properties within 3/4 miles would decrease 30% and homes values 3 miles from the CAFO would fall 6.6% (Illinois Department of Agriculture, Shamrock Acres, 2011, p. 104).

A study of thirty-nine CAFO operations conducted at Northern Iowa University found large adverse impacts suffered by houses with in a three mile radius to and directly downwind from a CAFO. Beyond the three miles, CAFOs have an adverse impact on house prices, but this impact, in generally, diminishes with increasing distance from a CAFO (Isakson, H., Ecker, M., 2008, p. 9).

The Isakson & Ecker study also separates the effects of proximity, size, and prevailing winds, demonstrating for the first time that prevailing winds play a dominant role for houses within three miles of a CAFO, while facility size plays a dominate role for houses beyond three miles from a CAFO. Additionally, this study finds that the impact of swine CAFOs is farther reaching than previous studies report; CAFOs can reduce the value of houses, albeit by a small amount, as far as six miles away (Isakson, H., Ecker, M., 2008, p. 9).

On September 14, 2001, the Clark County, Illinois Supervisor of Assessments announced the county has established an assessment abatement for the fifty residential homes around the Welsh Farm (a hog CAFO) in northeast Clark County. Homes within a half-mile of the hog production facility received a 30% reduction in property assessment. Homes within a three-

quarter mile radius received a 25% reduction. Homes within a one-mile radius received a

CLARK COUNTY ILLINOIS PROPERTY ASSESSMENT REDUCTIONS					
	1/2 Mile	3/4 Mile	1 Mile	1 1/4 Mile	1 1/2 Mile
Assessment					
Reduction	30%	25%	20%	15%	10%

20% 15 percent within one and one-quarter miles; and 10 percent for one and one-half miles (Weda,

W., 2002, p. 6).

The potential for negative impacts are not limited to neighboring homes and buildings, CAFOs do not pay for the damage they cause to county roads and infrastructure. One Iowa community estimated that costs for gravel-road upkeep increased about 40% due to truck traffic to industrial hog confinements. The annual estimated cost of local road upkeep around a 20,000 hog confinement is \$6,447 per mile due to truck traffic. CAFOs are also eligible for tax write-offs that can decrease the amounts of taxes paid locally (Institute of Science, Technology and Public Policy, 2007, p. 6).

Township and county roads and bridges, constructed through the expenditure of publicly collected taxes and fees, are owned by the public and considered to exist as public capital. These assets, created by governmental units are built for the public good (Flora, C., Flora, J., 2008, P. 178).

Prior to construction, CAFOs are often promoted locally through claims that they will bring economic vitality to the community. However, research conducted after operations begin indicates otherwise. The evidence shows a retraction in the number of jobs, depressed property values, reduction of income for local businesses and a huge drain on county resources resulting from CAFOs coming into a rural area. Commercial truck traffic related to CAFOs creates significant costs to counties and townships through the necessitation of road and bridge upgrades and repairs (Institute of Science, Technology and Public Policy,

2007, pp. 5-6).

In the public informational meeting for Grand Tower Farms, the argument made by township road commissioners and county highway engineers is that gravel and dirt rural roads were never built to support multiple 80,000-pound tractor-trailers, especially in the February-April freeze-thaw cycle (Illinois Department of Agriculture, Grand Tower Farms, 2012, p. 103). Additional property tax revenue collected on the development would equal roughly \$100,000. Of that increase, the local township would collect an additional \$3,300 and the county road and bridge fund would collect \$2,000 (Illinois Department of Agriculture, Grand Tower Farms, 2012, p. 104).

Dave Schneider, Schuyler County Highway Engineer asserted in the Grand Tower Farms public meeting that the proposed CAFO would be setting on a gravel road, three miles from the nearest hard surfaced road. The increased annual costs to maintain the gravel road would range between \$12,800 and \$16,000 per mile depending upon the width of the roadbed. The increase in road maintenance for the three miles could climb to \$36,000 with only an additional \$2,000 property tax increase to help offset the costs (Illinois Department of Agriculture, Grand Tower Farms, 2012, pp. 104-105). Tony Coniglio of the McDonough County Board shares a similar concern, “the increased county road maintenance costs will exceed the additional tax collected” (Coniglio, 2012).

Cultural Capital

Cultural Capital determines what constitutes knowledge and how knowledge is to be achieved and validated (Flora, C. & Flora, J. 2008, p. 55). Included within the context of cultural capital is legacy, the understanding of society and a person’s role in it including speech, dress and ways of being (Flora, C. & Flora, J. 2008, p. 55).

Those in the community with power are most able to define the issues of knowledge in accordance with their own values. Cultural capital includes the values and symbols that are reflected in everyday life (clothing, music, arts, language and local customs) and can be thought of as the filter through which people live their lives, practice their rituals and celebrations and how they see the world (Flora, C. & Flora, J. 2008, pp. 55-56).

Impacts to Cultural Capital

CAFOs have the capacity to impact the cultural capital and the quality of life in communities as well. Beverly Branff of Raritan, Illinois shared her concerns in a public informational meeting on the South Morgan Acres CAFO proposal in 2011. Ms. Branff feared if a CAFO were to be built on land near her hometown, community and economic development would cease and the thirty-year Fourth of July celebration would be discontinued due to odors (Illinois Department of Agriculture, South Morgan Acres, 2011, pp. 134-135).

Individuals from three North Carolina rural communities showed that quality of life was greatly diminished among who residents near a 6,000-head swine confinement operation, compared to residents near two intensive cattle operations or near an agricultural area without livestock operations that required liquid waste management (Flora, J., et al, 2002, p. 149-150).

Quality of life was indicated by the number of times that neighbors could not open their windows or go outside even during nice weather due to CAFO odors. Thirty percent of respondents from around the hog CAFO as compared to a maximum of three percent from the other two communities indicated that each of these problems had occurred 12 or more times during the past six months. Many rural residents comment that it is difficult to plan

social activities in their homes because of the uncertainty of whether the air will be tolerable for guests (Flora, J., et al, 2002, p. 149-150).

As large-scale farm operations increase, the adverse consequences for rural community quality of life also increase. When the number of family farms is replaced by larger, more concentrated operations, including CAFOs, family incomes were lower, poverty increases and school quality suffers. In addition, the number of social organizations, retail establishments and civic groups decline (Stofferhan, C., 2006, p. 7).

Hunting is a very important part of the cultural fabric in rural Illinois. The West Central Illinois area is nationally recognized as a primary destination for duck, goose, wild turkey and deer hunting. Nationally, the Illinois hunting industry ranks 4th in total economic output (Carver, E., 2008, p. 11). Derrick Helmars, a resident of Hancock County, Illinois expressed his concern over the proposed Junction Acres confinement operation and how it might impact his ability to enjoy the sport of hunting with his friends and family:

“We simply hunt for the enjoyment of spending time with friends and our kids in the outdoors, or the hunting experience is being able to enjoy the peace and tranquility of the outdoors in its natural state. Also a chance to get outside, enjoy the fresh air and get a break from the hustle and bustle of everyday life. We are very concerned and fairly competent the proposed facility is going to destroy our hunting experience in this area” (Illinois Department of Agriculture, Junction Acres, 2012, pp. 229-232).

In the public meeting for the Shamrock Acres CAFO, Mrs. Barrie McVey expressed her concerns of his children not being able to play outdoors due to the fear of the odors emitted by a confinement:

“Studies show over and over again that our nation's children do not get outside enough and are too inactive. The proposed facility will destroy my children's outdoor playground. They've been playing and working in the woods with us since they were toddlers. This confinement operation will ruin that for them. Is this fair to them?” (Illinois Department of Agriculture, 2011, Shamrock Acres, pp. 141-142).

Political Capital

Political capital within a community consists of organization, connections, voice and power. Political capital is the ability of a group to influence the distribution of resources or determine what resources are available within a community (Flora, C. & Flora, J. 2008, p. 144).

Political capital also determines the standards, rules and regulations to be followed and enforced. Political capital is not only focused on who runs a community but who might be excluded in the allocation of resources (Flora, C. & Flora, J. 2008, p. 144).

Holding a political office is only one small part of the Political Capital that exists in a community. Political capital can also be found in individuals and groups. For instance, if faced with the threat of a school closing due to lack of enrollments, a group may form to battle the threat to the community. The group may start a letter campaign, get signatures for a petition, or disseminate information to the public as a means of exercising their political capital muscles (Jacobs, C., p.11)

Impacts to Political Capital

Opponents to CAFO development face very difficult political battles in their communities and state capitals. This is not about being Republican or Democrat; it is about access to decision makers, influence and living with the results of the politics of agriculture.

An important part of the Illinois CAFO siting process is the public informational meeting held to give citizens an opportunity to learn about the development and voice their opinions. One shortcoming to these meetings is that the testimony has very little impact to the final decision.

Through the analysis of the four transcripts, citizens and county board members asked the

Department representatives if their comments, part of the public record, have ever caused the Department to decline a siting application. Ms. Paula Clark, a neighbor to the proposed Shamrock Acres site questioned the Department if negative public input has ever caused an application to be declined.

“MS CLARK: ... I assume that these meetings, being informational meetings, are to take the public's opinions into account. But my question for you is has there ever been an application made to the Department of Agriculture where all the criteria was met -- as in Shamrock Acres, all the criteria is met. Has there ever been an application denied because of public opinion or, you know, the thoughts and the public basically itself? Has it ever been denied? Has ever an application been denied?”

MR. GOETSCH: Well, first, I would like to say that the eight siting criteria for this particular project have not been met. I mean, that's what we're here to begin -- we're gathering information about. The next step in the process is for the county board to weigh in what they believe -- or whether they believe that the eight siting criteria are met. But then, to get to your last question...the way the statute is written, we really don't deny a project. We just wear people out. If they don't -- if they're not able to meet the eight siting criteria, we have to tell them, okay, you're missing -- you can't -- you haven't been able to meet criteria six and because of this, this, and this. And then we give them an opportunity to respond. And then, if that response is still not adequate, we tell them it's still not adequate, you still haven't met this, this, and this. And eventually they either are able to change their design enough to meet it, or they get worn out and they give up. I mean, that's -- so we really don't flat out deny an And there have been some projects that were not able to meet all eight siting criteria, and they have gone away.

MS. CLARK: Well, I'm not referring to the ones that were not able to meet the specifications. I'm referring to the ones that were able to but there was public opinion -- and what about the recommendation of the county board? Has there ever been an application denied because the county board actually did not want it or recommended against it?

MR. GOETSCH: There hasn't been any -- like I said, not specifically denied, but there have been ones where the county board identified some problems, and we then reiterated those problems back to the applicant, and the applicant was not able to -- not able to correct or adjust the project such that they were able to finally meet the siting criteria. I guess I would say, though -- I think I see where you're going -- that we don't have the discretion that we just can't -- the statute does not allow the department to say, "Let's have a straw pole. Everybody in favor yes; everybody opposed nay. Okay, the nays have it." Sorry. We're not going to approve it. We don't have that ability. If a project meets all the criteria, then, we are compelled to approve that project” (Illinois Department of Agriculture, 2012, pp.82-84).

Public informational meetings in the siting process are conducted through a request made by the county board of the respective county where the site is proposed. By statute, the vote to approve or disapprove the CAFO site by the county board is nonbinding. In the Junction Acres public meeting, McDonough County Board member Tony Coniglio, raises his concern over this issue.

“MR. CONIGLIO: I have got a short question...Has the State of Illinois ever turned down an application for one of these mega hog facilities in western Illinois?”

MR. GOETSCH: I would answer that two ways. No, we have never turned one down, but yes, there have been some that we have never approved.

MR. CONIGLIO: Okay...With McDonough County Board and the gentleman here from the Hancock County Board, we all give our opinions at board meetings, we vote for or against, which means nothing. Our opinion doesn't really matter. The State of Illinois makes the decision. I don't even know why they ask” (Illinois Department of Agriculture, 2012, pp. 132-133).

Over the years, CAFOs have expanded with less oversight and regulation than many industries, due partly to inadequate public awareness and political pressure from strong lobbies that support agribusiness and big oil. For several decades, the public and policy makers have focused their attention and conservation efforts on energy and transportation, even though greenhouse gas emissions from raising animals as food far surpass those from transportation worldwide. Federal farm subsidies, price controls and other economic policies favoring industrial agriculture have enabled giant feeding operations to further expand throughout the U.S. Such policies were originally intended to aid family farms and this “preferential regulatory treatment reflects the national attachment to and political and cultural cachet of family farms” and “stems in large part from a concerted effort by corporate growers to portray themselves as small farmers, who live off the land in harmony with their surroundings (Oliver, S., 2012, p. 6).

When given the opportunity to speak, stakeholders on both sides of the CAFO issue have

perceived that they were not treated with dignity or respect and their concerns were delegitimized. Perceptions of de-legitimization and disrespect from other stakeholders often pose a threat to people's salient social identity. Social identity refers to that part of an individual's sense of self that comes from his or her affiliation with particular groups (e.g., community member, activist, farmer, farm advocate, environmentalist, citizen, etc.).

Generally, social identity provides a source of structure and security that reinforces group members' sense of belonging, their confidence in their voice and, we suggest, their confidence that they will be heard in a prescribed venue. Consequently, threats to salient social identities often evoke strong protective responses. Repeatedly, the interviews revealed that stakeholders believed that their identities as citizens in a democracy and as valued members of communities were threatened (Welsh, N., & Gray, B., 2002, pp. 307-309).

CAFO operators and their supporters have developed a framing argument based on what might be called plain necessity. They argue the days of small farms that had a few chickens and pigs are long gone, replaced by an era of specialization and economies of scale. CAFO operators, agribusiness firms, and many agricultural researchers agree with a poultry producer interviewed for this study, who noted that CAFO production systems are "both the natural direction for animal husbandry and the only option" and that they "are inevitable in the changing world in which we find ourselves." Out of necessity, these operators employ lobbying firms such as ALFA (Henson, Z., & Bailey, C., 2009, p. 167).

ALFA is the most visible agribusiness firm and powerful lobbying force in Alabama. Between 2004 and 2008, ALFA pushed a piece of legislation called the Alabama Family Farm Preservation Act. This act would eliminate the ability of local governments to regulate any farm or expansion of farming operations. The bill includes a wide range of activities

protected from legal action based on nuisance, including roadside stands and farmers' markets, the plowing of land, the use of labor, and also "the generation of noise, odors, dust, and fumes in the production of farm products" and "the disposal of manure" (Henson, Z., & Bailey, C., 2009, p. 167).

Human Capital

Human capital includes the attributes of individuals that contribute to their ability to earn a living, contribute to organizations within the community, contribute to their families and contribute towards their self-improvement (Flora, C. & Flora, J. 2008, pp. 84-85).

Additional human capital in communities exists in the form of educational attainment, both formal and informal. There is great wealth in tapping into the skills, abilities, and knowledge of community members. Communities that have abundant human capital have people who value lifelong learning and who are always willing to try new ways of thinking. Creativity, the ability to think in a new ways and possessing the knowledge and skills to solve problems are all forms of Human Capital (Jacobs, C., p. 7)

Impacts to Human Capital

The impacts to human capital are varied and depending upon your view, can be positive or negative. Those impacts can take the form of depopulation of communities where CAFOs are located, public health effects from CAFO development or citizens accessing new employment opportunities.

Human capital outcomes are important in understanding the impacts of concentrated animal feeding operations. Communities or counties that are successful in providing for their inhabitants and contributing to the general welfare are ones that seek the "increased use of the skills, knowledge and ability of local people". Economic developers often view CAFO

operations as a form of economic and community development, arguing that they enhance both the quantity and quality of human capital (Flora, J., Chen, Q., Bastian, S., & Hartmann, R., 2007, p. 8).

Local CAFO developers are eager to tell local stakeholders their developments are good economic development tools with good jobs and family like work environments (Illinois Department of Agriculture, Junction Acres, 2011, p. 18-39). However, even Dr. Bill Hollis of Professional Swine Management admitted his firm will not pay overtime wages for any hours over forty that are worked by his Junction Acres employees (Illinois Department of Agriculture, Junction Acres, 2011, p. 105-106).

Examples of human capital in the CAFO siting process might include people seeking more information about the risks and benefits of siting facilities in their area and using their knowledge and skills to be a part of the decision-making process, as well as considerations of the health of workers and neighbors of the facilities (Brawner, L., Horstmeier, M., McGuire, J., & Soulis, J., 2007, p. 12).

Public Health as Part of Human Capital

CAFOs have public health impacts. Workers suffer documented ill effects from manure-related gases, odors, and degradants; dust; bacteria; and endotoxins. CAFOs, including swine CAFOs, produce water and air emissions that may affect the health of neighbors, surrounding communities, and the environment. CAFOs also make routine use of antibiotics and other feed additives to offset the greater risk of infection from the concentration and accelerated production of animals. This contributes to the global crisis of antibiotic resistance (Ostenberg & Wallinga, 2004, p. 1707).

Social Capital

Social capital is the human interaction people experience while living within the same community and is the foundation of all communities (Flora, C. & Flora, J., 2008, p. 117). Since it is interactive, social capital is built not by individuals but through the interactions and relationships within the larger group of individuals within the community.

Social capital consists of features of social organization, such as networks of secondary associations, which are human relationships consisting of nonfamilial individuals, firms and organizations (Cohen, J. & Rogers, J., 1992, p. 393) and features high levels of interpersonal trust and norms of mutual aid and reciprocity, which act as resources for individuals and facilitate collective action (Lochner, Kawachi & Kennedy, 1999, p. 260).

Social capital has also been defined as the sum of the resources, actual or virtual, that accrue to an individual or a group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition (Adhikari, 2008, p. 4).

Social capital is divided into two parts; bonding social capital and bridging social capital. Bonding social capital consists of the connections between individuals and groups who share similar or common backgrounds (Flora, C., & Flora, J., 2008, p. 125). Bonding social capital also cements only homogenous groups and can have negative effects for society as a whole but may have positive effects for the members belonging to the closed social group or network (Beugelsdijk & Smulders, 2003, p. 5).

Bridging social capital connects diverse individuals and groups within the community, together. Bridging social capital also expands relationship building to include connecting individuals and groups from inside the community to individuals and groups outside the community. An example of bridging is the relationship built between citizens of a

community and an external organization bringing valuable resources to it. Bridging social capital helps to create relationships between diverse individuals and groups (Flora, C., Flora, J., 2008, P. 125).

Social capital is the trust, mutual reciprocity, and sense of shared future between Individuals. This includes their ability to work constructively for the good of the community. It forms the fabric of family life and community dynamics. Indicators of bonding social capital include the quality of relationships between community and family members, and individual and collective responsibility to solving community related problems.

Indicators of bridging social capital include community links to outside groups and knowledge. Opportunity for community dialogue, such as the chance to express one's opinion about a community concern with the sense that it will be respected, is also key to the presence of strong social capital (Flora, et al 2002, p. 1).

To build social capital within a community, there must be both trust and reciprocity. Reciprocity within the confines of social capital is the knowledge that a good turn will be repaid at an unspecified time to an unspecified individual within the community. This generalized notion of reciprocity involves uncertainty, risk and vulnerability based on trust in others and their commitment to the group, rather than a sense of individual-to-individual obligation (Newton, 1997, pp. 575-576).

Impacts to Social Capital

The impacts to Social Capital manifests itself through farmer/non-farmer distrust (Sharp & Smith, 2003), angry public and personal discourse between CAFO supporters and opponents, public disagreements resulting letters to newspaper editors, protests at public meetings and other conflict within communities (Ikerd, 2008).

The expansion of CAFOs has created high levels of conflict in communities, largely because people disagree over the permitting of operations, location of the facilities, and their impacts on the community (Ayres, J. Purdue Extension, 2008). The stakes are high, and conflicts are emotionally charged. CAFO owners, other farmers, neighbors, and elected officials are pitted against one another, often times damaging relationships for years.

Proponents and opponents of large-scale concentrated animal feeding operations (CAFOs) agree on only one thing: CAFOs create conflict in rural communities. CAFO proponents see those in opposition as emotional, uninformed radicals, who are opposed to modern agriculture and possibly progress as a whole. Opponents accuse the CAFO developers of being bullies, insensitive and unconcerned about the rights other people in the community. Seemingly wherever CAFOs become a significant public issue, the social fabric of that community is ripped to shreds (Ikerd, 2008).

Community conflict is usually triggered by a stimulus or precipitating action in a community, such as a proposal for siting a CAFO or an incidence of environmental damage from a particular site. The stimulus generates responsive actions by other stakeholders that either fuel or circumvent conflict. Although the model presents only one cycle of stimulus and reaction, it is understood to be cumulative, occurring against an existing backdrop of history and established relationships among the stakeholders (Welch and Gray, 2002).

The impact on community capitals extends beyond the interpersonal relationships of a community. The environmental problems with CAFOs have a direct impact on human health and welfare. Human health can suffer because of contaminated air and degraded water quality, and from diseases spread from farms, including antibacterial resistance, or MRSA.

Quality of life can suffer because of odors or insect vectors surrounding farms, and property values can drop, affecting the financial stability of a community (Hribar 2010, p. 3).

CAFO opponents also feel they have no choice but to file lawsuits to have their voices heard. Additionally, requests for documents (FOIA Requests) frequently go ignored or are rejected, leading to more legal battles. Opponents also harbor strong distrust of government regulatory agencies responsible for administering the approval process and are distrustful of institutions of higher education, seeing them as agents of industrial agriculture (Donham & Thu, 1995, pp. 10-11).

In efforts to reduce community conflict, seven states, Oklahoma, Iowa, Minnesota, Wisconsin, Nebraska, Missouri, and Kansas created statutes or constitutional provisions that restrict corporations from engaging in farming or agriculture or from acquiring, purchasing or obtaining land for agricultural production. When these laws have been challenged on the basis that they violate the Equal Protection Clause, Due Process Clause, Privileges and Immunities Clause and Contract Clause of the US Constitution, courts have consistently upheld their constitutionality (Lobano & Stofferhan, 2008, p. 221)

A significant impact to social capital of CAFOs is the disruption of the quality of life for neighboring residents. More than the production of an unpleasant odor, the smell of a CAFO can have dramatic consequences for surrounding rural communities where residents enjoy outdoor activities. The encroachment of a large-scale CAFO near homes can be destructive to rural living. The highly cherished values of freedom and independence associated with life oriented toward the outdoors gives way to feelings of violation and infringement.

Social gatherings are affected through disruption of routines that would normally provide a sense of belonging and identity, including backyard barbecues and visits by friends and

family. Country homes are no longer an extension of or a means for enjoying the outdoors. In fact, they have become a barrier against the outdoors that must be escaped (Donham, Flora, Hodine, Thome, Thu & Wing, 2007, p. 318).

The noxious odors are indicators of dangerous gases, which create localized health risks. In May 1993, a plume of airborne cattle manure extended over three miles from the Palo Duro Feed yard across David Bergin's ranch in Texas. Bergin's son went into respiratory arrest and was rushed by helicopter to a hospital where he remained in intensive care for several days (Constance & Bonanno, 1999, p. 15).

Following the incident, Bergin filed a lawsuit against the feed yard. In July 1994 the Texas Natural Resources Conservation Commission inspected the Palo Duro facility and reported "the concentration of dust being carried outside the feedlot was adequate to interfere with the normal usage and enjoyment of the property to the north, which included Bergin's house. The dust could potentially cause adverse physiological discomfort, such as burning and itching eyes, coughing and breathing difficulties, to persons of ordinary sensitivity and individuals with compromising health conditions could be more severely impacted" (Constance & Bonanno, 1999, p. 16).

Public health concerns associated with CAFOs that are of particular concern to the elderly and those suffering from asthma include the increased prevalence of respiratory problems associated with exposure to toxic gases, odors, and microbes in both air and water. Hydrogen sulfide is one air contaminant associated with swine production and has been found to exceed air quality standards in residential areas close to CAFO operations (Henson & Bailey, 2009, p. 156).

Odors emitted from US Midwest hog production facilities present farmers, residents, and

state regulatory agencies with a set of complex challenges. The changes to a more industrialized structure of livestock production in this region have intensified conflicts between farmers and non-farmers. Increased production scale and geographic consolidation in combination with continued urban and suburban sprawl have been cited as contributing factors. The conflict spotlights production scale and manure handling in confinement production systems because impacts of these processes have demonstrated their potential to negatively affect local and regional air and water quality (Tyndall, Schuck, Harman & Hoff, 2012, p. 316)

Financial Capital

Financial capital is representative of resources that can be converted into monetary instruments, making them liquid (Flora, C., Flora, J., 2008, P. 176). This form of capital is not exclusively money but can take the form of tangible objects (Built Capital) (Flora, C., Flora, J., 2008, P. 177) such as public roads and bridges built through the collection of property or motor fuel taxes.

Impact to Financial Capital

There is evidence that CAFOs have the potential to place financial burdens on local governments. Properties in close proximity to a CAFO can see a reduction in value up to 40%, as found in a 2007 Iowa study (Institute of Science, Technology and Public Policy, 2007, p. 6). This loss in value affects tax assessments and therefore county tax revenues.

CAFOs' potential health hazards and environmental concerns are reflected in negative socioeconomic effects on the surrounding community. CAFOs can cause the degeneration of nearby cities and villages. Moreover, studies show CAFOs negatively impact residents' property values within a five-mile radius. Although recent studies do not specifically

identify the variables influencing property value declines, the overall effect on properties located near CAFOs evidence that the decline in property value can be attributed to the CAFOs adverse effects. Accordingly, the adverse effects from CAFOs raise the social costs of rural communities (Cronauer, 2011, p. 648).

Corporate agribusiness giants are vertically integrated, traditionally owning the hogs from birth to post-market. But they often do not own the facilities in which the hogs are raised nor the pits that store the manure. These companies often contract with meatpacking plants to take the hogs, effectively shutting out the small family farmer from earning a living. Partly in response to this shift in production, the number of independent small farmers has decreased dramatically in the last two decades. CAFO operations with gross incomes in excess of \$900,000 spend less than 20% locally, while farms with incomes under \$100,000 spend 95% locally.

Because of the undesirable aspects of living close to CAFOs, including the odor, exposure to toxins, and polluted groundwater, hog confinements effectively preclude new businesses from relocating the surrounding community. Studies have indicated that concentration and industrialization of agriculture have been associated with economic decline, both locally and regionally.

The cost of mitigation the air and water pollution caused by CAFOs rests on local taxpayers, not on the transnational corporations that own the hogs or the CAFO, thereby increasing local costs. Essentially, local economies subsidize the operations of CAFOs and their large out-of-state corporations (Institute of Science, Technology and Public Policy, 2007, pp. 6-7).

Often, CAFO developers claim increased employment as a benefit when attempting to

generate support within the rural communities where they wish to build. However, the emphasis on efficiency of CAFO operations, relying heavily on technology rather than physical labor, actually leads to higher unemployment rates in those communities (Pew Commission on Industrial Farm Animal Production, 2008, p. 28).

On the occasion that employment growth is realized, the growth is usually not strong enough to reverse out-migration that could be attributed to the CAFO. Corporate hog facilities do not purchase inputs or sell hogs locally.

People who work in the largest CAFO facilities may live outside the community. There is no multiplier effect of dollars being spent locally when large corporate-owned CAFOs are built in a community (Pew Commission on Industrial Farm Animal Production, 2008, p. 28).

Claims of CAFO expansion and business growth and diversification are weak. There is little data to support these claims or claims that confined hogs contribute directly or indirectly to local economic development. It appears that in the case of hog CAFOs. Forward and backward linkages to local communities are much weaker than the linkages present under conditions of more diversified crop-livestock farms where hogs were not raised in confinement (Flora, Chen, Bastian & Hartmann, 2007, p. 15).

On the household level, hog CAFO expansion is related to a decline in core poverty, but is largely unrelated to other indicators of income change. Interestingly, housing costs, but not housing values, showed a steep decline in these counties. These data raise serious questions as to whether the growth of hog, poultry, and beef cattle confinement operations in the 1990s and into the present decade in Iowa could be considered successful local economic development (Flora, Chen, Bastian & Hartmann, 2007, p. 15).

As the losses of lifestyle and property value that accompany air pollution have been

recognized by rural residents and resistance to CAFOs has grown in rural agricultural areas (Weida, 2002, p. 5).

The CAFOs' response to this resistance is fundamentally determined by the fact that a CAFO is structured to view local residents as nuisances instead of assets. CAFOs crave isolation, and they are carefully designed to facilitate an isolated existence. They select areas close to good roads and railroads, so they can import those things they need to build their facilities. They use/hire very few people and often import those employees who run their facilities. These people usually live far from the CAFO site (Weida, 2002, p. 5).

To reduce their operating costs, CAFO developers make every effort to pay as few taxes as possible. This mandates locating in areas with existing infrastructure or infrastructure the public will finance. This also gives the CAFO developer an incentive to leave an area before the tax base deteriorates and prior to tax rate increases. The growing separation between rural agricultural areas and rural residential areas can be helpful in this respect. If community leaders believe that a CAFO will improve its economy, they are likely to support the CAFO, to the detriment of the residents in the agricultural areas around it (Weida, 2002, p. 5).

Property tax abatements are also a concern for communities with CAFOs. In Illinois, a state law allows for a state abatement of property taxes up to 70% if the facility operates an air pollution control device. In testimony given at the South Morgan Acres public meeting, a local real estate broker/appraiser stated that a McDonough County CAFO is receiving a 43% state granted air pollution control tax abatement (Illinois Department of Agriculture, South Morgan Acres, 2011, p. 151).

Natural Capital

Natural capital directly provides environmental services to a community that cannot be imported. Value to this capital can be enhanced or degraded through human action. The destruction of natural capital impairs the internal sources of improvement of the quality of life of a community, leading to a non-sustainable path of development (Collados & Duane, 1999, p. 441).

Impacts on Natural Capital

CAFOs present a variety of environmental concerns that can divide into three categories: air, water, and soil pollution.

Many of the arguments against CAFOs are based on the environmental impacts from managing the waste produced. Waste control is one of the most serious issues facing CAFOs and the surrounding community due to the high concentration of hogs in a confinement (average 10,000 per farm). Each 200 hog produces an average of 13 lbs. of waste per day, totaling over 100,000 lbs. of waste per farm, per day (Wanninger, 2011, p. 11).

Traditional dispersed livestock agriculture has not been a significant cause of statutorily point-source pollution. Nonpoint pollutants are defined as “contaminants of air and surface and subsurface soil and water resources that are diffuse in nature and cannot be traced to a point location” (K. Loague & D. Corwin, 2005, p. 1429).

Hog confinement operations are considered statutorily point sources of pollution. Point source pollution is defined as pollutants that enter the transport routes at discrete identifiable locations and that can usually be measured (K. Loague & D. Corwin, 2005, p. 1429).

Hog waste from CAFOs is commonly stored in lagoons or open-air storage pits lined with clay or geo-membrane plastic liners. Though there are many systems to handle hog waste,

lagoons are the cheapest available. Because of seepage and other problems with earthen lagoons, regulating agencies are encouraging producers to build formed structures with walls and a floor constructed of concrete, concrete block, wood, steel, plastic, rubber, fiberglass, or other synthetic materials. But until they are mandated and their absence is fined, they are not put in place. There is no fail-safe method of waste storage and treatment, which is used as an excuse to deal with manure in the cheapest way possible. In Iowa and other states, mismanagement of lagoons and extreme weather events has created animal waste overflows and spills. Installation of existing technology could prevent a lot of these impacts, but requiring them is fought by dominant farm organizations, the Iowa Farm Bureau and the Iowa Pork Producers, as reducing profits.

Manure nutrients, necessary for crop production, can be pollutants when farmers, growers, and packers treat them as waste or when they exceed the ability of soils and crops to use them. Excess manure nutrients, such as phosphorus and nitrogen, can have serious health or environmental impacts and therefore affect community sustainability. Excessive phosphorus causes algae blooms, depleting oxygen needed by fish and other aquatic life (Flora, Chen, Bastian, Hartmann, 2007, p. 17). Excessive nitrogen can be toxic to aquatic life and cause human health problems. Congress enacted the Safe Drinking Water Act in 1974 to ensure that every water supplier provides drinking water that meets minimum health safety standards. The Environmental Protection Agency (EPA) sets these standards. The EPA has set health-based limits for over 80 contaminants in drinking water, many associated with industrial agriculture. These contaminants include metals (e.g., lead), fertilizers (e.g., nitrates/nitrites), pesticides (such as atrazine), and microorganisms (Flora, Chen, Bastian, Hartmann, 2007, pp. 16-17).

CAFO production systems generate significant volumes of waste from feces and dead animals. Hog wastes are managed as slurry that have a strong and pervasive odor affecting neighboring property owners. One extension specialist asked “What do you get when you add 10 gallons of water to one gallon of hog s***?” The answer was “11 gallons of hog s***” (Henson & Bailey, 2009, p. 156).

Beyond the humor of that statement is the reality that not only do hogs generate enormous volumes of fecal material, that volume is compounded by a factor of ten by water used to flush the waste that falls through slats in the floor of the confinement barn. This slurry is then pumped into holding ponds or lagoons and periodically sprayed or knifed on pastures or farm fields, spreading both the wastes and the odor over an extensive area, and posing water quality problems due to runoff into creeks and streams.

Animal pathogens including bacteria, pathogenic protozoans, and viruses are found in animal wastes and can survive for extended periods in lagoons. Lagoons and ponds sometimes leak, causing problems with groundwater pollution. Other problems occur if heavy rains cause overflows from holding ponds or lagoons (Henson & Bailey, 2009, p. 156-157).

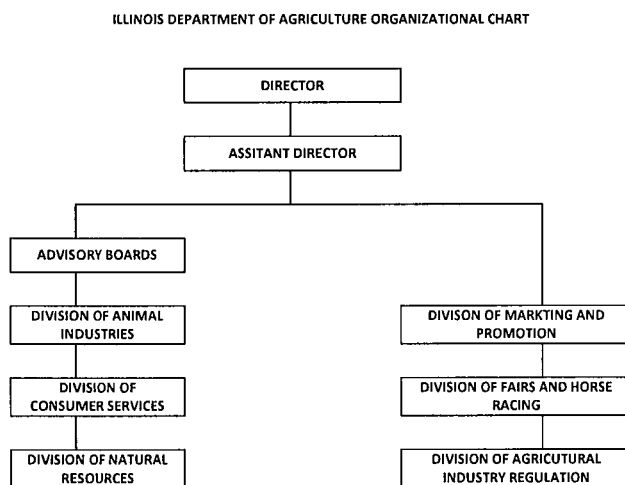
Agricultural production in the United States annually discharges large amounts of nitrogen and phosphorus into area ground and surface waters. These nutrients from crop and animal production are found in 50% of impaired lakes and 20% of impaired rivers in the United States. Current production of manure nutrients on CAFOs often exceeds the nutrient requirements of the surrounding cropland available for manure spreading, thereby increasing the potential nutrient discharge into surrounding waters. Growing public concern over manure and subsequent nutrient-related pollution is evident in recent state and federal

legislation enacted to regulate livestock and poultry production (Kaplan, Johansson & Peters, 2004, p. 688).

The Department and The Illinois Livestock Facilities Management Program

Within the Illinois Department of Agriculture there are two separate organizational entities. Department superintendents report to the Director and Assistant Director and have statutorily distinct responsibilities. The first entity on the left side of the organizational chart is responsible for regulatory and oversight functions for the Department.

These responsibilities include oversight of animal industries, departmental laboratories,



agricultural facility inspections and natural resource management. The Bureau of Environmental Programs, located within the Department of Natural Resource Management, conducts the Illinois CAFO siting process. The second entity on the right side of the organizational chart is

responsible for the promotion, marketing and regulation of agricultural products and the inspection and certification of agricultural warehouses for grain products (Joint Committee on Administrative Rules, 1992, p. 1301).

After the CAFO has been approved and is operational, operators are responsible for complying with the Final CAFO Rule by obtaining a National Pollutant Discharge Elimination System permit (NPDES permit). The NPDES permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United

States. Point sources are discrete conveyances such as pipes or man-made ditches (EPA 2008, p. 70418). In Illinois, the Illinois Environmental Protection Agency (IEPA) is responsible for issuing NPDES permits. IEPA also is the responsible agency in addressing any subsequent pollution problems resulting from the CAFO operation or nutrient application accidents.

In 1996, the Illinois legislature adopted the Illinois Livestock Management Facilities Act (ILMFA) with the intention for the Act to facilitate an “economically viable livestock industry” while simultaneously providing environmental protection to benefit the surrounding neighbors and CAFOs (Cronauer, 2011, p. 640)

The Illinois General Assembly identified eight issues needing to be addressed through a comprehensive act:

- (1) Enhancements to the current regulations dealing with livestock production facilities are needed.
- (2) The livestock industry is experiencing rapid changes as a result of many different occurrences within the industry including increased sophistication of production technology, increased demand for capital to maintain or expand operations, and changing consumer demands for a quality product.
- (3) The livestock industry represents a major economic activity in the Illinois economy.
- (4) The trend is for larger concentration of animals at a livestock management facility due to various market forces.
- (5) Current regulation of the operation and management of livestock production is adequate for today’s industry with a few modifications.
- (6) Due to the increasing numbers of animals at a livestock management facility, there is a potential for greater impacts on the immediate area.
- (7) Livestock waste lagoons must be constructed according to standards to maintain structural integrity and to protect groundwater.
- (8) Since a majority of odor complaints result from manure application, livestock producers must be provided with an educational program that will enhance neighbor awareness and their environmental management skills, with emphasis on management of livestock wastes.

This act in turn, created the Illinois Livestock Facilities Management Program (ILFMP) in an attempt to mitigate and ameliorate the contentious issues that developed

between CAFO developers and neighboring communities. The Department's Division of Environmental Protection's Bureau of Natural Resources administers the siting process of the ILFMP (Illinois Department of Agriculture, 2001, p. 6).

The Act requires CAFOs with over three hundred animal units to employ a certified livestock manager to implement odor control procedures and manure management plans. CAFOs that are not deemed new facilities can bypass the public informational meeting requirements and the setback requirements (Illinois Department of Agriculture, 2001, p. 6).

A "notice of intent to construct" a CAFO facility must first be filed with the Department to ensure that certain setback requirements are met. Constructing new CAFO facilities requires the Department to conduct a thorough vetting process. The ILMFP site approval process requires multiple steps by CAFO developers, affording neighbors the opportunity to require an informational meeting with the Department and the CAFO developers (Illinois Department of Agriculture, 2001, pp., 7-8).

Opponents of CAFOs often feel the "deck is stacked" against them when challenging developers and although public informational meetings provide a forum for the public to ask questions of the Department and CAFO developers, and are a required step of the siting process, they offer little real opportunity for meaningful or effective citizen input (Welch and Gray, 2002, p. 316).

The Department employs a Public Informational Meeting approach. This approach provides an opportunity for all interested citizens to be educated about a proposed CAFO siting. In this meeting, information regarding complex issues of law, science, and technology can be raised and discussed (Welch and Gray, 2002, p. 316).

Structured in this way, these public meetings offer stakeholders little opportunity for

voice. Indeed, when stakeholders speak, they often are perceived, and may intend to be perceived, as disruptive (Welch and Gray, 2002, pp. 316-317).

The locally elected county board can request a public informational meeting whenever a new livestock management or waste-handling facility is proposed. However, the CAFO must house at least 1,000 or more animal units or use an earthen lagoon to handle animal waste (Illinois Department of Agriculture, 2012, p. 1).

Within thirty days of the informational meeting, the county board may issue a recommendation stating whether the CAFO satisfies the Act's eight siting criteria. However, the county board's recommendation is only advisory and non-binding on the Department's decision.

Accordingly, within forty-five days of the informational meeting, the Department may choose to approve the CAFO so long as it is decided that "more likely than not," the Act's purpose is met. The Department retains sole authority to approve a proposed CAFO because Illinois zoning laws, which prohibit local county boards from issuing agricultural zoning restrictions, ensures that the CAFO decision is completely removed from local counties (Cronauer, 2011, p. 646-649).

In addition to the possible conflict of interest, the ILFMP helps to perpetuate the deterioration of social capital in the communities surrounding the proposed CAFO development. Since the passing of the Illinois Livestock Facilities Management Act in 1996, the state statute creating the ILFMP, the Department has never denied a CAFO permit to an applicant (Illinois Department of Agriculture, 2011, pp. 82-83).

The Iowa Master Matrix

The Iowa General Assembly, acting in response for greater community-level control over

CAFO permitting, passed legislation in 2002 setting guidelines for the establishment of the Master Matrix (IMM), which was later created and adopted by the Iowa Department of Natural Resources (IDNR). The IMM gives counties a voice in the CAFO approval process, though it does not give them final decision-making authority. In passing this law, it preempted local governments from approving, denying or creating new regulations for CAFOs. The Master Matrix is not required; counties have discretion to decide whether to adopt it. As of 2008, only 12 of Iowa's 99 counties have not adopted the IMM.

The IMM is a scoring system that awards points for the adoption of additional practices beyond the minimum that state law requires to approve a CAFO permit. The IMM awards points for increasing the required separation distances. More stringent manure management practices also gain additional points. The IMM has a total of 880 points, of which 440 are required to "pass." In addition to the overall score, 25 percent of available points must be earned in each of three subcategories of impacts on air, water and the community in order to receive a passing score (Galluzzo & Osterberg, 2008, p. 2).

The IMM is meant to give local governments and community members access to information about proposed operations, more input regarding the siting of confinement operations and to encourage project modifications that will minimize environmental and community impacts. While counties are not compelled to use the matrix to evaluate proposed CAFO sites, the matrix does give community leaders more input regarding CAFO locations but the final permitting power rests in the hands of the IDNR (Brawner, Horstmeier, McGuire & Soulis, 2007, pp. 6-7).

Research Methodology

Unlike the abundance of scholarly writings on the IMM, examinations of the Illinois Livestock Management Facilities Program are virtually nonexistent, making the content of this work valuable for the expansion of future discussion.

Following my personal attendance at the Junction Acres public meeting, it was necessary to collect additional data. This collection was accomplished through qualitative methods

CAFO Development	Date of Hearing	County
Shamrock Acres	July 12, 2011	McDonough
South Morgan Acres	December 5, 2011	McDonough
Junction Acres	January 4, 2012	Hancock
Grand Tower Farms	May 3, 2012	Schuyler

including document analysis, interviews and personal observations.

I conducted a document analysis, examining the verbatim transcripts from four public informational

meetings conducted by the Department on behalf of three county boards in West Central Illinois. In some cases the transcripts exceeded three hundred pages. I was able to reduce the data by focusing on the issues impacting social, financial and environmental capital, citizens asked to be addressed through their questions and sworn testimony. The purpose of this analysis was to determine if evidence of impacts to social, financial and environmental capital, similar to what exists in the current literature, exists in the ILMFP siting process.

My second qualitative methodology was the conducting of conversational telephone interviews. The individuals were chosen because of their active participation in the public informational meetings of both Shamrock Acres and Junction Acres. These interviews were conducted with participants in the public informational meetings: Ms. Ramona Cook, member of Rural Residents for Responsible Agriculture, has been engaged in community organizing and environmental activism. As a retiree from the Chicago, Illinois area, Ms.

Cook and her husband were looking to relocate in downstate Illinois, close to family in a quiet and peaceful community. Subsequent CAFO development and coal strip mining have prompted her to engage with like-minded community members in battling both entities.

Warren D. Goetsch, Chief, Bureau of Environmental Programs for the Illinois Department of Agriculture was chosen to interview due to his leadership role in the Bureau of Environmental Programs and his facilitation of the public informational meetings. I also engaged in a face-to-face interview with Mr. Tony Coniglio, a member of the McDonough County Board. Mr. Coniglio was selected because of his position of responsibility as a county board member and his experience in CAFO issues from a local government perspective both as a county board member and as a township official.

The conversations with Ms. Cook and Mr. Coniglio were casual in nature, both offering both personal opinions and rhetorical information. Mr. Coniglio offered more information on the financial impact to the county and township road budgets. Mr. Goetsch was helpful in discussing the Department's role regarding the siting criteria, the ILMFA and public informational meetings.

In each interview, my questions were specific and focused on the issues but not scripted. Interviewees were often asked follow-up questions to expand on initial comments. Hand written notes were taken during the conversations.

I conducted a document analysis to draw comparisons between the ILMFP and other leading hog producing states. In conducting this analysis my attention was focused on siting processes that differed that that of the ILMFP. Essentially I was focusing on a more locally driven siting process placing higher values on the inputs from citizens and a method that placed a higher value on the communities wherein the CAFOs were being proposed. While

there was an abundance of literature for many states, the most plentiful and descriptive focused on the Iowa Master Matrix. It is for this reason, I chose the IMM to compare with the ILMFP.

Results and Discussion

Global demand for economically produced pork continues to rise at a rate of almost 0.4% annually (Livestock and Poultry, 2012, p. 3). Although US domestic hog production is predicted to decline this year (Livestock and Poultry, 2012, p. 15), demands on the market still exist and producers are looking for more efficient methods to produce and market hogs (Dong & Hennessy, 2010, p. 667-668).

Productivity differences translate into important cost advantages for larger operations. The evidence from the hog surveys conducted by the USDA indicates that large industrialized hog operations hold substantial cost advantages over smaller farms (MacDonald & McBride, 2009, p. 17). The scale effects may be even stronger in more complex statistical analyses that control for location, production practices, and operator characteristics (MacDonald & McBride, 2009, p. 18).

In recognition of the continued increase in pork consumption and the need by the agricultural industry to meet the market demands it could be safe to assume the pork industry is not going away. Realizing that reality and perhaps to create an improved relationship between CAFO developers and opponents, it might be advantageous to make modifications to the siting process in Illinois

Through an analysis of the transcripts from public informational meetings conducted by the Department, I took note of issues impacting both environmental and financial capitals, which have been cited in existing literature resulting in creating community conflict, ultimately impacting social capital.

The frustrations expressed by attendees opposed to CAFO development at the public information meetings focused on issues surrounding both environmental and financial

capitals. These issues ultimately resulted in negative impacts to social capital expressed through the strained relationships between local CAFO developers, many of whom are local, long time residents of their communities and opposing neighbors.

Not all of the issues expressed in the public meetings were a result of the ILMFP siting process; many of the concerns expressed are common among CAFO opponents across the county.

In each of the four meeting transcripts I analyzed, non-farming families exhibited distrust in the developers far more than The Department, largely for the failure of the developer to present a waste management plan, final site plans or adequately address odor concerns in the public meetings.

Ramona Cook, a member of Concerned Citizens for Responsible Agriculture expressed her concerns over odors: “the smell never leaves your clothes...and people can still smell the CAFO beyond the setback” (Cook, 2012).

Of the four meetings, the most profound distrust exhibited was this exchange between Ms. Christine Davis, a citizen attending the South Morgan Acres public meeting and Mr. Warren Goetsch, representing the Department is indicative of the frustration CAFO neighbors have with the existing ILMFP siting process. Under the ILMFP, the CAFO developer is only required to submit a notice of intent to construct for the public meeting to be called but is not required to present final construction plan to the public meeting for review and questions.

“MS. DAVIS: My question is actually to both people. Now, it is my understanding that on October 4th, the IDOA received the application to construct from this organization; is that correct? That's the number that I have down here they received the application.”

MR. GOETSCH: I believe that that is correct, but let me confirm that. Yes, that's correct.

MS. DAVIS: Thank you. So you also said that you do not have a detailed plan for

Morgan Acres; is that correct?

MR. GOETSCH: Well-

MS. DAVIS: You did not see one?

MR. GOETSCH: There are two applications, if you will. The first is the notice of intent to construct application, and that's what was received on October 4th.

MS. DAVIS: Correct.

MR. GOETSCH: And then sometime after that but before a final determination can be made, the applicant must provide detailed construction plans and specifications for each of the structures that they are proposing. We have not yet received those.

MS. DAVIS: Right. So they have had two months before this meeting and they have - they say they all have had history in pork production. I wanted to know why in this public hearing we didn't have an opportunity to have all of that available to discuss. We've been hearing about children and pigs and all sorts of nice things and your hopes and your dreams and your wishes to be good neighbors, but we had no specific plan to discuss. I would like to know why. You've had two months" (Illinois Department of Agriculture, South Morgan Acres, 2011, pp. 60-61).

In another public meeting, Ms. Pat Sullivan, a member of the public attending the Grand Tower Farms meeting, voices her concerns over the lack of waste management plans for public review at the May 3, 2012 public meeting.

"MS. SULLIVAN: Why are not the waste management plans presented? You have them. You know what they're going to be. Why are they not put out there as a neighborly -- as a more of a transparent thing so that people can see and feel assured that, yes, you are going to be a good neighbor; yes, you are going to go by the environmental standards; you're going to do all the things you're supposed to do. Why do we keep them close until you have to give them?

MR. WEST: Well, there's

MS. SULLIVAN: It is correct in the plan you don't have to give them until you start construction; right?

MR. WEST: That is correct for the most part, and I'll let Warren talk about the regulations themselves. And there's no intention to hold things, as you put it. We've written -- we partnered with PSM to write plans for those -- all of those facilities. They are site-specific plans. So the reason -- you can't write a plan until you know exactly -- you know the exact dimensions of the building, until we have building plans that are approved, until we know exactly which field these are going to go on because cropping rotations, tillage practices, soil types in those areas -- those all play a pivotal role in planning out the manure application. So until we have all of those pieces, we can't write the plan. These are, these are not generalized plans. These are specific to this site -- to each site. So as soon as that information becomes available, we write it and make certain that it's written at the appropriate time so we can get it we can meet the regulations" (Illinois Department of Agriculture, Grand Tower Farms, 2012, pp. 73-74).

A perceived weakness in the ILMFP framework is that the act essentially puts the siting process on two tracks. The first track is the actual site approval process with the Department. This process consists of the notice of intent to construct, meeting the eight siting criteria, submission of design and construction plan submission and all requisite environmental impact studies. Since the waste management plans are not required for 60 days following the start of operations, submission of the waste management plan would not be necessary to for the developer to receive a siting permit.

The second track is the public information meeting track. This essentially is when the developer submits their site plan for public review without a detailed construction design or a waste management plan.

Mr. Coniglio voted against the Shamrock Acres proposal but “our vote doesn’t mean anything, it’s non-binding, I don’t know why we bother” (Coniglio, 2012)

The final document analysis was to compare the ILMFP to the Iowa Master Matrix (IMM). In both processes, each state has the final siting determination. However, unlike the ILMFP, the IMM gives the county the opportunity to become a more involved player in the process.

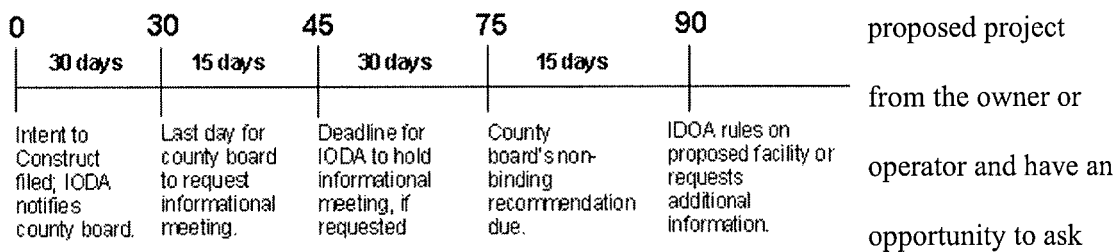
In the ILMFP, the applicant submits a Notice of Intent To Construct to the Department for review. If the Department determines that the application meets all applicable provisions of the ILMFP, the Department will issue an acknowledgement of setback compliance to the applicant. If the size and/or project type qualifies it for a possible public informational meeting, the Department sends notice to the county board and offers to schedule and conduct such a meeting.

A public informational meeting can be requested whenever a new livestock management or waste-handling facility is proposed that will either: a) house 1,000 or more animal units or b) use an earthen lagoon to handle animal waste. The purpose of the meeting is to ensure

that you (the public) receive accurate information about the proposed facility. The Livestock Management Facilities Act requires farmers wanting to build a new facility to file a notice of intent to construct with the department. The filing of this notice triggers a five-step process to review the farmer's application.

The Department will send a copy of the notice to the county board and will publish the notice in the local newspaper. After the county board receives the notice, they have 30 days to request a public meeting. During that period, any county resident can petition the board to request a meeting by gathering 75 or more signatures of registered voters.

If requested, the Department of Agriculture will hold an informational meeting within 15 days of the board's request. At the meeting, the public is to hear a description of the



questions. Members of the public may also present oral or written comments regarding the project.

No later than 30 days after the meeting, the county board is required to submit an advisory, non-binding recommendation to the Department concerning the facility's construction. After this 30-day period ends, the Department has 15 days to review the application and the board's recommendation and determine whether the proposed facility meets provisions of the ILMFP. If it finds additional information is required to reach a decision, the Department can request such information. In such cases, the decision will be made after the owner of the proposed facility responds to the additional information request

(Illinois Department of Agriculture, 2012).

Iowa legislators, responding to public outcry from communities complaining that local governments had no decision making power in proposed confinement operations created a new set of livestock regulations, known as the Master Matrix. This act became effective on March 1, 2003 (Stormont, 2004).

The IMM employs a scoring system counties can use to evaluate proposed building sites for confinement operations that will house more than 2,500 hogs and require a building permit from the DNR. This system is designed to evaluate proposed building sites and manure management practices by focusing on three subcategories: air quality, water quality, and the impact the facility will have on the local community. Producers in counties that have adopted the matrix must meet higher standards than other permitted facilities. Before they can be approved for construction, they must earn points on the master matrix for choosing sites and using practices that reduce adverse impacts on the environment and the community.

Operators choose from a menu of regulations that impose requirements more stringent than state laws and earn points through compliance with the scoring criteria. For example, operators can earn points by choosing a site that exceeds minimum separation distances required by state law and by adopting more stringent manure management practices.

The matrix requires operators to establish minimum scores of 25% of available points in the air, water, and community impact subcategories and a total overall minimum score of 50%. The system is meant to give local governments and community members access to information about proposed operations, more input regarding the siting of confinement operations and to encourage project modifications that will minimize environmental and community impacts (Stormont, 2004).

Counties are not compelled by law to use the matrix to evaluate proposed CAFO sites. Counties that want to use the system must pass Construction Evaluation Resolutions before implementing the matrix (Brawner, Horstmeier, McGuire, Soulis, 2011, p. 7). As of February 2012, 88 of Iowa's 99 counties have chosen to use the matrix.

The IMM gives counties in Iowa more input regarding CAFO location, but final permitting power still resides with the DNR. After the county approves or rejects the application, they must send the results on to the DNR along with public comments.

Operators who attain minimum scores in all necessary categories and meet all other permitting requirements will still have their permits approved even if the public comments are opposed to the operation and the county recommends against the application. Operators can only be rejected based on their final scores; community outcry and environmental concerns are not enough to defeat an application (Brawner, Horstmeier, McGuire, Soulis, 2011, p. 7).

Both Illinois and Iowa share similarities in the construction application process. Each state, by its own methods, requires a notice of intent to construct a facility, a livestock waste handling application and waste management plan. However, the significant difference between the two states rests in how the application process is administered.

In Illinois, the ILMFP does not require the state or the operator to provide specific details outside of meeting the siting criteria, to the public at the time of the public informational meeting. This often results in community distrust of the Department and the operator. This distrust in turn leads to confrontational public meetings, community discord and perhaps unnecessary community conflict.

After the public meeting is concluded and all parties return home, the comments and

concerns voiced by attendees are part of the public record but have no discernable value in effecting the final decision.

The IMM, administered by the county, requires specific details of the operation to be shared with the public as part of the scoring process. Opponents of the operation might not agree with the final outcome, the matrix does offer a “value added” component by requiring increased measures to reduce the operation’s impact to the environment and the community.

Conclusions and Recommendations

Concerned citizens who attend public informational meetings are given an opportunity to voice their concerns, which are not unique to Illinois. However, citizens attend these meetings to discuss CAFOs without the benefit of knowing the specifics of facility size or the waste management plan. This void of information can turn public meetings into sarcasm and innuendo filled complaint sessions, accomplishing very little but reinforcing the preconceived notions that CAFO opponents are argumentative and emotional and developers are bullies and inconsiderate of community issues (Ikerd, 2008).

The ILMFP was written to address changes within the livestock industry including the improvements to production technology and changing consumer demands. However, the role the Department plays in administering the siting process is essentially that of an environmental regulator.

To better serve citizens and their communities while preserving the interests of agricultural enterprises, some changes are recommended. My first recommendation would be to modify the existing siting process. The existing process does not appear address local concerns in an adequate way. Local residents and county boards should have detailed knowledge of planned CAFO sites and be given the opportunity to exercise meaningful input that can be integrated into the final siting decision process. This could be accomplished by giving each county the option to adopt more stringent siting criteria, similar to the Iowa Master Matrix.

A points based system, encouraging increased setbacks for facilities, more technologically advanced waste management plans and creating incentives for protecting rural roads could possibly help to alleviate community concerns in these issues.

The matrix system can help provide tangible evidence that the construction of the operation exceeds minimum standards and would reward developers for following the criteria. This could result in the reduction of negative impacts to the community's social capital by reducing the deleterious effects of noxious odors that threaten homes and threaten property values. Schools, churches, health care and public use facilities in the vicinity would be less likely to suffer as well.

Rewarding operators by awarding higher scores in the matrix for increased separation from water sources would be create a benefit enjoyed by both the operator and the community. Threats to public and private wells, natural waterways and agricultural water sources, add to community concerns resulting in conflict could be reduced.

The matrix does not provide incentives for reductions in heavy truck traffic but can create scoring incentives by requiring developers to increase separation from roadways that would eliminate unnecessary backing and turning on gravel roads. This would reduce some damage to soft roads during heavy rain events and during the late winter/early spring freeze-thaw cycle. Nor will the matrix address all the financial capital concerns of taxpayers, township road commissioners or county engineers. This issue could be resolved by allowing counties to assess CAFOs at a higher property tax rate to divert additional revenue to local road and bridge funds.

Agricultural interests and their neighboring communities in Illinois would benefit from expanding the study of the current CAFO siting method. Further examination of the impacts to the Community Capitals Framework and sharing the results with agency officials and state lawmakers could very well bring about the changes necessary to improve the relationships between operators, government and local citizens. Greatly reducing the incidents of

community conflict and the disintegration to social capital.

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Appendix

Table 1: 2010 World Pork Production Rankings (USDA, April 2011)

Major Producers 2010	
	MMT
China	50
EU-27	22
United States	10
Brazil	3
Russia	2
World	103
U.S. Percent	10%
Million Metric Tons/MMT Carcass Weight Equivalent	

Table 2: 2010 World Pork Exporting Rankings (USDA, April 2011)

Major Exporters 2010	
	MMT
United States	2.1
EU-27	1.7
Canada	1.2
Brazil	0.6
China	0.2
World	6.1
U.S. Percent	34%
Carcass Weight Equivalent Forecast	

Table 3: 2009 Top Five Pork Producing States (USDA, April 2011)

Top 5 Producing States- 2009		
	MMT	\$Billion
Iowa	4.4	\$3.6
North Carolina	1.9	\$1.8
Minnesota	1.6	\$1.4

Illinois Livestock Management Facilities Act

Illinois	0.8	\$0.9
Indiana	0.8	\$0.7
Live Weight		

Table 4: 2007 Top 5 Agricultural Commodities in Illinois (USDA, July 2012)

Top 5 Agriculture Commodities, 2011			
	Total Receipts In Thousands	Percent of Total Farm Receipts	Percent of US Value
1. Corn	\$7,342,647	49.4%	16.4%
2. Soybeans	\$4,455,454	30.0%	13.4%
3. Hogs	\$1,192,005	8.0%	6.7%
4. Cattle and Calves	\$584,246	3.9%	1.1%
5. Greenhouse/Nursery	\$334,117	2.2%	2.1%
ALL COMMODITIES	\$14,856,786		

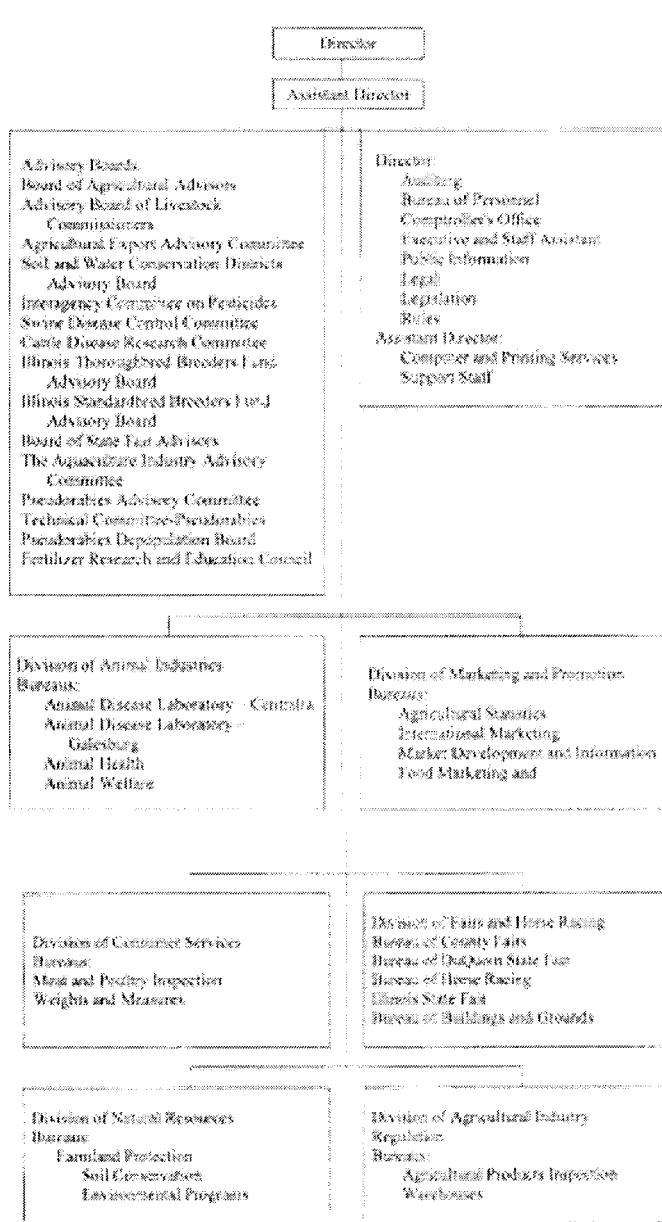
Table 5: Top 5 US Pork Exporting Markets (USDA, April 2011)

Top 5 U.S. Markets- 2010		
	MMT	\$Billion
Japan	0.4	\$1.6
Mexico	0.4	\$0.8
Canada	0.2	\$0.6
South Korea	0.1	\$0.2
Russia	0.1	\$0.2
All Markets	1.4	\$4.1
Product Weight Equivalent		

Table 6: Top Ten Pork Producing States by Rank

TOP TEN PORK PRODUCING STATES, CAFO APPROVAL AGENCY		
	RESPONSIBLE AGENCY	AGENCY LINK
IA	1 Natural Resources	http://www.iowadnr.gov/afo/index.html
NC	2 Div. of Water Quality	http://portal.ncdenr.org/web/wq/aps/afo/rules
MN	3 Agriculture	http://www.mda.state.mn.us/animals/feedlots/feedlot-dmt/feedlot-dmt-cafo.aspx
IL	4 Agriculture	http://www.agr.state.il.us/Environment/LMFA/index.html
IN	5 Environmental Mgt.	http://www.in.gov/idem/4994.htm
NE	6 Environmental Quality	http://www.deq.state.ne.us/
MO	7 Natural Resources	http://www.dnr.mo.gov/env/wpp/cafo/
OK	8 Agriculture	http://www.oda.state.ok.us/aems/cafolic.pdf
KS	9 Health and Environment	http://www.kdheks.gov/feedlots/index.html

Table 7: Illinois Department of Agriculture Organizational Chart



Source: <http://www.ilga.gov/commission/jcar/admincode/002/002007000B01000R.html>

Appendix A

The Illinois Swine Market Development Act

(510 ILCS 101/1)

Sec. 1. Short title. This Act may be cited as the Illinois Swine Market Development Act.
(Source: P.A. 92-158, eff. 7-25-01.)

(510 ILCS 101/5)

Sec. 5. Legislative intent. The legislature intends to promote the growth of the swine industry in Illinois; to assure the citizens of this State and the American public an adequate and wholesome food supply; to provide for the general economic welfare of both producers and consumers of pork and the State of Illinois; and to provide the swine production and feeding industry of this State with authority to establish a self-financed, self-governed program to help develop, maintain, and expand the State, national, and foreign markets for pork and pork products produced, processed, or manufactured in this State.
(Source: P.A. 92-158, eff. 7-25-01.)