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Large-Scale Dairies and Their Neighbors: A Case Study of the Perceived Risk in Two Counties

Abstract

Most urban residents, many nonfarm rural residents, and even family farmers view large-scale animal agriculture as an undesirable neighbor. A study examined the perceived attributes of the manager of the risk in two communities upon the siting of a large-scale dairy. Conclusions were: 1) community members are unable to identify the manager of the risk, 2) citizens feel hopeless to act, 3) personal experience in agriculture leads to understanding the issues, 4) large-scale animal agriculture is a cultural shift, 5) two-way communication with communities is essential, and 6) safety precautions by the farmer leads to greater community acceptance of the dairy.

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Introduction

In 1998, Ohio's agriculture industry contributed \$67.7 billion to the state's economy and employed one-in-six Ohioans in areas such as wholesaling, retailing, farm production, marketing, processing, and agribusiness (Ohio Department of Agriculture, 1998). The swine, poultry, and dairy industries represented a \$1.85 billion farm gate value in the state of Ohio. Ohio ranked eleventh in the nation in milk production, with several large-scale dairy units being planned (National Agricultural Statistic Service, 2000).

While Ohio is rich with agriculture, it is equally rich with metropolitan culture. Because Ohio ranked 6th in population, yet 35th in landmass among all states in 1998 (Ohio Department of Agriculture, 1998), its unprecedented margins of rural/urban interface became a crucible for "large-scale animal agriculture" versus "the community" conflicts. Due to the strong reactions of such communities, Ikerd (2002) referred to large-scale farming as, ". . . one of the most contentious issues to confront rural America in recent history" (p. 3). On the contrary, despite the numerous potential threats associated with large-scale animal agriculture, some communities in Ohio accepted the enterprises with little or no opposition.

The reactions of Ohio communities to large-scale dairy farms were similar to the reactions of communities that faced the siting of other risky enterprises, such as nuclear power plants, waste facilities, and prisons. Research consistently concluded that trust accounted for a significant portion of the variance in perceptions of risk in such situations (Slovic, Flynn, & Layman, 1991; Siegrist, 2000). Slovic (1999) concluded that activities perceived as high in benefit and low in risk were considered acceptable. However, a high degree of trust in those responsible for controlling unacceptable activities led people to participate in the risky activities. Numerous attributes of trust were identified, including confidence in the institution(s) responsible for controlling the risk and perceptions that the institution(s) responsible for controlling the risk acted in the best interest of

the community.

Purpose and Objectives

The purpose of the study reported here was to describe the perceived attributes of the manager of the risk that were present in a community that was generally unopposed to the siting of a large-scale dairy farm and to describe the perceived attributes of the manager of the risk that were present in a community that was generally opposed to the siting of a large-scale dairy farm. The specific questions that guided the study were:

1. How was the manager of the risk, associated with the large-scale dairy farm, defined by the communities?
2. How confident were communities in the manager(s) of the risk?
3. How did communities perceive that the manager(s) of the risk acted in the best interest of the community?

Methods and Procedures

An embedded, multiple case study was used (Yin, 1994). A combination purposeful sampling strategy (Patton, 1990) was selected to identify cases for the study that met the criterion of importance: size, ownership, location, and the overall community reaction to the proposed farm. Cases were identified in which the proposed dairy farm was large-scale, but under the state regulation limit of 700 cows. Chain sampling (Patton, 1990) was utilized to ultimately identify the best two Ohio communities for comparison: Liberty Township, located in Wood County, and Jackson Township, located in Wyandot County.

A unique strength of the case study design is the use of multiple sources of evidence (Yin, 1994). The study utilized transcribed interviews as the primary source of data and reviews of documents and archival records as secondary sources of data. Two rounds of informant interviews were used to learn information about the culture being studied (Pelto & Pelto, 1978).

During the first round of interviews, seven individuals were interviewed in Wood County, and five individuals were interviewed in Wyandot County. Interviewees from both counties were one of more of the following county/township representatives: the Agricultural Education instructor at the public high school closest to the proposed farm; the Agriculture and Natural Resources Extension Agent who was working in the county when the farm was proposed; the Farm Bureau Organization Director who was working in the county at the time of the proposed siting; a Township Trustee in the township of the proposed siting; a representative of the county Soil and Water Conservation District; or a representative of the local media. These original sources provided five names each for the chain sampling. As recommended by Glesne (1999), a pilot study was conducted prior to the main interviews.

The second round of informant interviewees was determined through criteria (affected by the siting of the farm) and chain sampling (Patton, 1990). Twenty interviewees for each county were selected: owners of the proposed farms, neighbors of the proposed farms, operators of farms in close proximity to the proposed farms, individuals who vocally opposed the proposed farms, individuals who were vocally unopposed to the proposed farms, and individuals who were knowledgeable about citizen interactions in the communities. A combined standardized open-ended interview and interview guide approach (Patton, 1990) was utilized. A tape recorder was used only during the interviews in which participant consent was given. Notes were taken during the interview to document key points and behaviors of the participant. A member check was conducted to ensure that participants felt the information they provided was accurately reported.

The researcher committed to the ethical guidelines outlined by Christians (2000). To increase trustworthiness, the researcher reflexively identified his/her experiences and feelings that may have influenced the study: (1) a personal and educational background in agriculture; (2) an appreciation for rural life and traditional agricultural practices; (3) a belief in the need for agricultural progress; and (4) a concern for the well-being of the environment. These potential influencers were shared in the standard protocol used for each interview. The interviews are synthesized and reported in the findings.

Findings

Wyandot County

Defining the Manager of the Risk

In defining the manager of the risk, community members were asked to identify who was responsible for controlling the risks associated with the farm. Three categories emerged: (1) the farm operators; (2) government and environmental agencies; and (3) Vreba-Hoff Dairy Development.

The Farm Operators. Numerous community members identified the operators of the farm. One participant commented, "The farmer is the only person who can control what goes on over there. No one else can do anything because he doesn't have to be regulated." Others recognized that the Soil and Water Conservation District (SWCD) and Vreba-Hoff were useful for consultation, but that ultimately the operator of the farm had control of the risks.

Government and Environmental Agencies. Numerous government and environmental agencies were identified. County and township government was recognized as being responsible for ensuring the quality of the roads, as well as dealing with social concerns within the community. One informant indicated that the Health Department was responsible for managing the water quality and that the Department of Natural Resources would manage the rivers, streams, and aquatic life. The Occupational Safety and Health Administration (OSHA) was identified by one informant because the agency regulated the employees at the farm. The EPA and SWCD were also identified because of their involvement in working with the farm to develop waste management plans.

Vreba-Hoff Dairy Development. Vreba-Hoff Dairy Development was identified. While some informants felt that Vreba-Hoff was solely responsible, others meshed Vreba-Hoff with the dairy operators and gave both the responsibility. "I'm talking about everything from the family, all the way up to the corporation. They all share some responsibility." Informants' confidence in Vreba-Hoff's ability to manage the risks was mixed. One person said:

I think they want to. It gets back to the scale thing. I think they got 600-700 cows there now. Yeah, that's manageable, I think they can do that. Now, if they go up to the 1,500 or 2,000 or whatever the next level is, I don't know, I don't know.

Confidence in the Manager of the Risk

When asked to rate their confidence in the operators' ability to manage the risks, community members who supported the dairy were very confident. One farmer who contracted with the operators said, "I'd give him a 10. [The operator] is even going to build another lagoon to be safe. He has one of the best milk qualities with low bacteria. He does an excellent job." On the contrary, neighbors of the farm who were directly affected by some of the negative impacts were not confident in the operators. One angrily stated:

He can't control it himself though. He built on a marsh and he just can't do anything about it. He doesn't have any experience over here either. There's just no way he can take care of the odor, flies, and manure.

Community members' confidence in the government and environmental agencies varied. One citizen said:

But from what I can see in the design, I would say their chances of keeping that in control is probably a seven or eight [on a ten-point scale]. I think they've taken a lot of steps. I think the owner has tried to work with these agencies and seek help when he needed to.

However, one informant who vocally opposed the farm said, "No one in government has helped us – trustees, commissioners, people in Columbus – none of them want to get their hands dirty with this problem."

Acted in the Best Interest of the Community

Living on the premises, working closely with SWCD, being friendly and open to other members of the community, being active in local organizations, injecting the manure, spraying for flies, and running a clean operation were given as ways that the operators acted in the best interest of everyone around them. Comments included, "To me, they are trying to do everything by the book," "From being over on the farm a lot, I know that [the operator] is concerned about his operation," and "He doesn't seem to be a person who is just out being selfish."

On the contrary, one informant felt that the farm enjoyed not having to follow the strict rules in the U.S. as they had to follow in the Netherlands and that the operators did a poor job managing the farm, which hurt the air and water. The participant said, "He just wants to make money and isn't concerned about what he's doing to other people."

Informants who identified government and environmental agencies as the managers of the risk felt that they were operating in the best interest of the community as indicated by their comments on the cooperation between the farm and such organizations and indicating that the outcomes of the relationship were positive for the entire community. One individual who did not recognize government and environmental agencies as the managers of the risk felt that the organizations were not acting in the best interest of the community, as indicated by their delay in fixing roads and their apathy toward citizen concerns.

Conclusions and Discussion for Wyandot County

Participants identified three managers of the risk: operators, government, and Vreba-Hoff.

Participants identifying Vreba-Hoff perceived the farm operators to be part of the Vreba-Hoff organization. Informants identifying Vreba-Hoff as the manager of the risk were confident that the company could control the risks of the dairy at its current size, but not during future farm expansion.

Individuals supporting the dairy and identifying the farm operators as the manager of the risk were confident in the abilities of the farm operators to control the risk. Neighbors of the farm who opposed the dairy and identified the farm operators as the manager of the risk were not confident in the abilities of the farm operators to control the risk due to lack of experience, poor quality soil, and a record of poor management.

Informants with high confidence in government agencies perceived that the agencies had done their best to work with the farm in the past. Informants with low confidence in the agencies believed the agencies were unwilling to get involved.

Informants identifying the farm operators as the manager of the risk felt that the operators acted in the best interest of the community by: living on the site of the farm, working closely with SWCD, being friendly and open to the community, participating in local organizations, injecting the manure, spraying for flies, and operating a clean facility. Citizens opposing the farm felt that the operators did not act in the best interest of the community, as evidenced by their record of poor management and apathy for the community.

Informants identifying government and environmental agencies as managers of the risk felt that they acted in the best interest of the community by cooperating with and assisting the farm. A participant who opposed the farm felt that the government and environmental agencies did not act in the best interest of the community, as evidenced by their apathy toward handling citizen concerns.

Wood County

Confidence in the Manager of the Risk

The Farm Operators. One common response, when being asked to identify the manager of the risk, was that *no one* could control the risks associated with the farm, as demonstrated by the "hands-off" approach taken by most individuals and agencies in handling the concerns raised by citizens. However, the most commonly identified managers of the risk were the operators of the farm. Several people unopposed to the farm identified the farm operators, whereas one person opposed to the farm identified the farm operators. However, all of the informants were confident in the operators' ability to control the risks associated with the dairy. One participant said, "I'd give them a seven (on a scale of one to ten). You don't stay in business unless you're efficient and take care of your cows. You treat your farm as a part of you because you need it to run well to make a living."

Government and Environmental Agencies. A group of citizens opposed to the farm identified politicians as the managers of the risk. However, the group unanimously rated the politicians as a zero on a one-to-ten scale stating that the politicians would not control the risks until the negative impacts effected them personally. In addition, the group felt that the politicians had not acted in the best interest of the community, as indicated by their lack of initiative in solving the problems brought to them by community members. One person said, "They have done nothing, they haven't done a thing. They're worried about their own personal agenda and that's all that matters." One participant identified the ODA as the manager of the risk, but expressed very low confidence in the agency: "I met him [Director of ODA] and thought, 'Oh my God, we're in deep trouble.' He could not answer one question that I had."

Acted in the Best Interest of the Community

Informants unopposed to the farm believed the operators were acting in the best interest of the community primarily for the well-being of their operation. The informant opposed to the farm thought the operators were not acting in the best interest of the community mainly because they were buying materials outside of the area and were bringing odor and flies into the neighborhood.

Conclusions and Discussion for Wood County

Commonly noted among the opposition was that no one could control the risks associated with the dairy farm because most individuals and agencies did not make sufficient efforts to alleviate the concerns raised by citizens. Individuals who did identify a manager of the risk often identified the farm operators. Citizens opposed to the farm identified politicians and the ODA as managers of the risk.

All informants identifying the farm operators as the manager of the risk were confident in the abilities of the farm operators to control the risk because "the operators had to run a clean, efficient operation in order to stay in business and make a profit." Those identifying politicians as the manager of the risk were not confident in the politicians' abilities to control the risks because they felt that the politicians were only looking-out for their own political well-being and not the well-being of the entire community. The individual who identified the ODA as the manager of the

risk expressed very low confidence in the agency's ability to control the risk.

Participants unopposed to the farm felt that the farm operators acted in the best interest of the community, primarily for the well-being of the operation. On the contrary, the participant who opposed the farm thought the operators did not act in the best interest of the community because the operators purchased materials from outside of the community, and brought in flies and odor. Citizens identifying politicians as the managers of the risk perceived that the politicians did not act in the best interest of the community, as demonstrated by their lack of initiative in solving the problems brought to them by citizens.

Implications

The wide variety of managers of the risk identified suggests that communities do not know who is actually responsible for controlling the risks associated with the farm. Information of an educational nature such as flow charts indicating key personnel and their duties must saturate the community prior to the siting of a large-scale dairy operation.

Some citizens feel hopeless because governmental agencies have not alleviated the concerns of the citizens. Local agencies need action plans in preparation for pre-siting of these operations.

Large-scale animal operations bring about a cultural shift in many Ohio communities, representing a type of agriculture that is not business-as-usual. Large-scale operations are a business and must take steps in the community to gain the trust of citizens, as all businesses must. Operations must maintain a history of excellent management, and provide open communication to the community through public relations initiatives such as farm open-houses and school tours. Representatives of the farm must be active and friendly in the community.

Two-way communication with the public allows for easier access into communities. Large-scale animal management firms must share information about the intentions of the farm, the farm operators, the benefits and threats presented to the entire community, and the involvement of the management firm. In addition, the management firm must listen to concerns of citizens and make adjustments to the siting plans accordingly. Presenting information to civic organizations, cooperating with neighbors of the farm, and acting on concerns of the community will lead to better acceptance, as well as a healthier community environment in which to live.

Extra efforts made by the farm to ensure a safe operation leads to greater acceptance by communities. The study suggests that farm operators abide by state laws for CAFOs, even when the farms operate under the CAFO limits.

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