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Abstract

As interest in small-scale food processing increases, so does interest in assuring that food safety regulations accommodate rather than hinder small processors. Some practitioners and advocates charge that regulations are unfairly slanted against smaller producers and favor large food manufacturers. Studies of regulatory implementation have suggested that inspection practices offer possible policy accommodations to small food businesses. Yet there has been little research on food safety inspections of small processors. This article describes a study of food safety inspections of small processors in the US state of Michigan. Interactions between inspectors and processors were explored using a qualitative ethnographic approach. Results indicate that these interactions have the potential to achieve accommodative regulatory outcomes. Inspectors took a collaborative, assistive approach which appeared to benefit processor operations as well as improve compliance. These results have implications for policymaking for small processors, and they lay the groundwork for further research on food safety regulatory implementation.

Keywords

food safety regulation
food safety inspection
regulatory implementation
small-scale food processing
qualitative research
ethnography

1. Introduction

Small-scale¹ food processing enjoys rising popularity in the US and other industrialized countries. To scholars and practitioners critical of mainstream food production, products hand-crafted at a small scale for local markets embody tradition and offer authenticity in an increasingly global food system (Graltion and Vanclay, 2009; Paxson, 2012; Terrio, 2000).² To

1 The US Small Business Administration defines a *small* business as employing fewer than 500 people. In the EU, *medium* businesses employ 50 to 249 people and *small* businesses employ 10 to 49. This paper reports on research involving food processing businesses with fewer than 100 employees and uses the term *small*.

2 Growth in small processing broadly accompanies the rise of “alternative” food systems that emphasize small-scale, local, artisan, and/or specialty production. While there are distinctions among each of these concepts, they overlap and are used virtually interchangeably in some studies, e.g., van Stel et al. (2007).

economic developers, small food business ventures represent income and employment opportunities (Bianchi, 2001; Blay-Palmer and Donald, 2006; Knudson et al., 2004; Tregear, 2005). Small processing attracts diverse practitioners; it is touted as a means of adding value to farm produce, and professionals from many backgrounds forge second careers as food entrepreneurs (Alonso and O'Neill, 2011; Ecker et al., 2010; Padilla-Zakour, 2004; Paxson, 2012).

Some advocates of this trend charge that food safety regulations discourage small processors, alleging that regulations are both unnecessary and unduly burdensome for them (DeLind and Howard, 2008; Sage, 2007; Worosz et al., 2008). There is evidence that regulations pose barriers to entry that favor large food manufacturers (Antle, 1996; Klapper et al., 2006). Small business owners may find regulations difficult to understand, lacking both the time to interpret requirements and the resources to hire outside expertise (Clayton et al., 2002; Walker et al., 2003; Yapp and Fairman, 2006). Some advocates of regionalized food production dismiss regulatory requirements as superfluous, arguing that smaller operations pose fewer risks than do larger-scale food manufacturing facilities and that oversight is less necessary when processors and consumers are familiar with each other, such as in direct markets or other short supply chains (Holloway and Kneafsey, 2000; Paxson, 2008; Sage, 2003).

Understanding how small processors experience the regulatory process and its outcomes requires understanding the implementation of food safety regulations during facility inspections. Facility inspections by public agency personnel represent a primary means of evaluating compliance with food safety requirements in industrialized countries (Fortin, 2009; Hammoudi et al., 2009; Hobbs et al., 2001; Yapp and Fairman, 2006). This is true particularly for many small processors, whose primary (and often sole) food safety oversight is through governmental

inspections, even as self-regulatory and private food safety regimes proliferate in food manufacturing (Havinga, 2006; Henson and Reardon, 2005; Mensah and Julien, 2011).

Inspection practice may accommodate small processors. Investigation of regulatory implementation foregrounds outcomes and interpersonal dynamics that may not be apparent in written requirements. The discretion and interpretive flexibility that inspectors exercise, interactions between inspectors and regulated parties, and the experiences that each brings to inspection situations substantively shape regulatory outcomes (Hutter, 1989; May, 2005; Pautz, 2009b; Yapp and Fairman, 2006). However, criticisms of regulation have focused largely on technical requirements promulgated in written rules. There has been little research on food safety inspections among small processors in industrialized countries,³ and virtually none in the US (Law, M.T., 2006). Investigation has been directed toward the barriers that business owners report rather than toward empirical observation (Edwards et al., 2004). Inspectors' experiences regulating small food businesses have not been researched. In short, a better understanding of interactions between inspectors and small processors is needed to address concerns about the food safety regulation of small processors.

As this paper will argue, inspector–processor interactions have the potential to shape regulatory outcomes to accommodate small food processors. Outcomes of food safety inspection extend beyond matters of regulatory compliance as many inspectors take an assistive approach. Inspectors take into account a business's broader context when determining and reporting violations. Positive interaction between inspectors and processors appears to improve both compliance and processing operations. These results have implications for policymaking to accommodate small processors, and they raise questions about the licensing exemptions

³ For exceptions, see work in the UK by Fairman and Yapp (2005a, b), Yapp and Fairman (2006), and Henson and Heasman (1998).

promulgated as policy solutions in the US. The results may also contribute to regulatory assessment and to a reappraisal of inspector roles.

This case study examines interactions between food safety inspectors and small processors in the US state of Michigan.⁴ It draws on two areas of study that are explored in the following sections: research on small business experiences of food safety and other public health regulation, and implementation studies. The study's qualitative ethnographic approach and methods are then presented. The results of the research follow and are organized around the development of processor–inspector relationships, the advisory role that inspectors assume, and the consequent flexibility and mutual accommodation that characterize many of their interactions with small processors. The article concludes with observations on the research method and implications for policy and further research.

2. Small businesses and public health regulation

Three issues are critical to investigating small food processors' experience of regulation. First, interpreting and implementing regulations require expertise, time, and financial resources that many small business owners lack (Fielding et al., 2005; Walker et al., 2003; Worosz et al., 2008). Those who do have resources to employ specialists may nevertheless be reluctant to delegate these responsibilities (North et al., 2001). Without expertise in interpreting regulations, small business owners may not understand the relevance of requirements to their operations. Yapp and Fairman (2006), for example, found that small food business owners did not understand the connection between structural maintenance requirements and food safety. Similarly, in research by Clayton and colleagues, small food business staff underestimated the

⁴ Food processors are regulated at a minimum by state-level agencies in the US. State food laws are based on federal regulations. Michigan food law is similar to that of other states.

risk levels of their products and only partially implemented sanitation requirements (Clayton and Griffith, 2004; Clayton et al., 2002). Consequently, small firm compliance tends to be reactive as owners respond to inspector directives, in contrast to the more proactive compliance practices of larger firms (Henson and Heasman, 1998; Yapp and Fairman, 2006).

Second, these practical constraints are compounded by a perception of unfairness, a sense that regulations are formulated in scientific and political processes that are each stacked against small businesses. There is evidence that requirements raise entry costs and make it more difficult for small businesses to start up and to grow (Antle, 1996; Klapper et al., 2006). Small business owners see regulations as impacting their operations disproportionately compared to large business and compared to the risks that they feel their operations actually pose (Petts, 2000). Regulatory standards are seen to reinforce the technologies and practices of larger-scale production. For example, specialty meat producers who do not use the veterinary drugs common in large-scale production are nevertheless required to monitor for these residues (Worosz et al., 2008). The influence of larger, more politically powerful interests on regulation is well documented (Nestle, 2010; Sage, 2007; Stigler, 1971).

Third, however, studies also suggest a more sanguine view of small business experience of public health regulations. Regulations may prompt business owners to internalize improved practices. Williamson et al. (2006) found that regulations helped drive small businesses to adopt resource-saving practices (cf Petts et al., 1999). Inspectors may play a critical role in helping businesses achieve these benefits by interpreting requirements and providing information and assistance (Elgood et al., 2004; Worosz et al., 2008; Yapp and Fairman, 2006). The next section further explores this dynamic by reviewing research on the implementation of food safety and other public health regulations.

3. Regulatory implementation

Inspection practices have the potential to accommodate small businesses, as studies have shown in the US (May and Wood, 2003; Scholz and Gray, 1997), UK (Fairman and Yapp, 2005a; Griffith, 2005; Hutter and Amodu, 2008), and Australia (Braithwaite et al., 1987; Nielsen and Parker, 2012). Facility inspections provide a primary food safety compliance mechanism;⁵ regulations are operationalized, and technical requirements are translated into concrete outcomes, in interactions between inspectors and the clients they inspect. Although food safety requirements are specified in laws and regulations, many requirements are broadly stated and require inspector interpretation within the context of specific facilities. The US FDA regulation on good manufacturing practice, for example, states that cleaning compounds and sanitizing agents “shall be free from undesirable microorganisms and shall be safe and adequate under the conditions of use” (21 CFR § 110.35(b)(1)). EU regulations state that “adequate facilities are to be provided, where necessary, for the cleaning, disinfecting and storage of working utensils and equipment” (Regulation (EC) No 852/2004). Law is “made” as inspectors interpret and implement these requirements, just as it is made in more formal policymaking processes (Commons, 1924; Lipsky, 2010 [1980]).

Regulatory outcomes are shaped by inspector approaches to implementation. Approaches vary, and different approaches may generate different regulatory outcomes in otherwise similar situations. For example, inspectors might interpret requirements flexibly or more rigidly. They might negotiate with regulatees or conduct themselves in a more authoritative way (Hawkins and Hutter, 1993; May and Wood, 2003; Scholz and Gray, 1997). Inspectors might provide information that assists regulatees in meeting requirements, or they might eschew a consulting

⁵ Including in the US (Fortin, 2009), EU (Goodburn, 2001), UK (Griffith, 2005; Hutter and Amodu, 2008), and Australia (Braithwaite et al., 1987).

role (Elgood et al., 2004; Law, M.T., 2006; Yapp and Fairman, 2006). An inspector may become more (or less) flexible over the course of his or her career (Gormley, 1998; Hawkins, 1984). Inspectors' implementation practices are affected by the culture and approach fostered at the agency level (Braithwaite et al., 1987; Hutter, 1989).

Interactions between inspectors and clients also shape regulatory outcomes. Business managers' decisions on compliance are affected by their trust in inspectors. Pautz (2009a, 2010) found that a collaborative approach between environmental inspectors and personnel at regulated facilities improved compliance. Inspectors may prioritize some requirements over others based on their prior experience of a facility, the intentions that they perceive in managers, and managers' notions of reasonableness (Lowe and Ward, 1997). Repeated interaction over time may foster collaborative problem solving, allow inspectors and managers to build familiarity and mutual understanding, and provide managers the opportunity to educate inspectors about their operations (Hawkins and Hutter, 1993; May and Wood, 2003; Yapp and Fairman, 2006).

4. Qualitative ethnographic research

The above research suggests that regulatory inspections have outcomes for small food processors that extend beyond strict matters of compliance, and that investigation of small processing inspections may inform policymaking to accommodate these processors. As indicated, however, there is little research on the practice of food safety inspections. This study was therefore *exploratory* in that it aimed to examine the value of further investigating these possibilities and to expand our understanding of food safety regulatory outcomes (Yin, 2014). A qualitative ethnographic approach was developed to do so.

A qualitative study affords flexibility in redefining concepts and revising data collection

instruments over the course of a study. In an exploratory study, it is important not to commit to a fixed course of investigation that may prove to be inadequate. The researcher's understanding of a problem may shift in unpredictable ways as fieldwork progresses, requiring flexibility to reframe the problem (Corbin and Strauss, 2008; Yin, 2014). For example, participants may raise issues in early interviews that are not addressed in an interview instrument.

Ethnographic methods allow the researcher direct interaction with research participants and give participants the opportunity to shape and correct the researcher's understanding of the situation. This interaction provides an iterative process of participant validation not possible with methods such as surveys. Participants may suggest different avenues of inquiry or challenge underlying assumptions. In this study, direct observation was critical in suspending assumptions about inspector–processor interactions, particularly commonly held beliefs that food safety regulation and small processing are inimical to each other (Latour, 2005; Law, J., 2004).

5. Methods

Cheese, bread, and jam were selected as product types, allowing the study to capture a small diversity of processors across Michigan. Processors were identified through (1) the assistance of agrifood professionals and resource providers; (2) internet searches for small-scale bread, cheese, and jam producers; and (3) “snowball sampling”—that is, processors contacted early in the project recommended other processors (Corbin and Strauss, 2008).

The Michigan Department of Agriculture and Rural Development (MDARD) issues licenses and conducts inspections of food processing facilities. Two types of inspectors in MDARD's Food and Dairy Division inspect these facilities. Bakers and jam makers are inspected by food inspectors, and cheesemakers are inspected by dairy inspectors. MDARD

inspectors otherwise work according to geographic area rather than type of product. In 2012, 47 food inspectors were responsible for approximately 2000 food processing operations, and 18 dairy inspectors were responsible for approximately 3500 dairy farms and processing operations.

MDARD Food and Dairy Division supervisors identified inspectors whose areas included small processing facilities. They provided inspectors' contact information, lists of facilities with facility contact information, and inspection due dates. Initial research plans were to adapt Hutter's (1989) typology of *persuasive* and *insistent* styles of enforcement and to select inspectors representing each style. However—and consistent with Gormley (1998) and Pautz (2009b, 2010)—MDARD senior staff indicated that individual inspectors drew variably on different styles of enforcement in different situations.

Selection of processors and inspectors was determined in part by their availability during fieldwork, and they participated voluntarily. Most processing operations were recent ventures; processors had been in business between 1 and 30 years, with a median of 6 years. Participating inspectors had between 3 and 26 years' experience, with a median of 18 years. Figures were missing for 3 inspectors.

As an exploratory case study, this research was designed for analytic rather than statistical generalization (Yin, 2014). That is, it aimed to explore and develop hypotheses rather than test them. Participant selection maximized access to field situations that would improve our understanding of inspector–processor interactions and food safety regulatory outcomes. Participants were not expected necessarily to represent broader populations of small processors or inspectors.

Data collection consisted of interviews and field observations as detailed in Table 1.

Table 1. Participation in interviews and field observations

	Interviews	Field observations
Processors n = 27	n = 24	n = 11
Bread n = 10	n = 8	n = 5
Cheese n = 11	n = 10	n = 6
Jam n = 6	n = 6	
Inspectors n = 19	n = 9	n = 12
Food n = 13	n = 6	n = 6
Dairy n = 6	n = 3	n = 6 ^a

^a 6 field observations involved 4 dairy inspectors: 1 dairy inspector was accompanied to inspections of 3 facilities.

Interviews. Processors and inspectors participated in semi-structured, one-on-one interviews between 30 and 90 minutes long, averaging 65 minutes. Discussion focused on the experiences of processors in dealing with inspectors, and of inspectors in dealing with small processors; factors that made the regulatory process beneficial for both parties; training that participants felt was needed for themselves and others; and regulations that processors wanted to see changed. Most interviews were audio recorded and transcribed. When interviews were not recorded, notes were taken manually. Interview transcripts and notes were coded for emerging concepts (Corbin and Strauss, 2008) using NVivo, a qualitative data analysis program.

During the interview phase, subjects participated as individuals, not as processor–inspector pairs. The processor clients of some inspectors did not participate, and the inspectors of some processors did not participate. In some instances, both a processor and his or her inspector participated.

Field observations. Field observations were conducted at facilities for which (1) an inspection was scheduled within the period of the study, and (2) both the processor and his or her

inspector were willing to participate in the study. Two sets of observations were conducted. First, processing was observed for between 2 and 4 hours in order to become familiar with the specifics of the operations. Second, food safety inspectors were accompanied to these facilities for the facilities' inspections. Inspections lasted between 1 and 3 hours. Informal one-on-one interviews with processors and inspectors were conducted before, during, and/or after observations. Observations focused on the approaches that inspectors took in working with small processors and the ways in which these inspections burdened or benefitted small processors. Issues that had emerged during interviews were further investigated.

6. Results: Interactions and regulatory outcomes

Interactions between processors and inspectors shaped regulatory outcomes and determined how written requirements were interpreted and implemented. Participants depicted this interaction as a *relationship* as they spoke of “partnership,” being on “the same team,” and working “shoulder to shoulder.” These results examine the development of these relationships, the assistance approach that inspectors took, and the possibilities for flexibility and mutual accommodation that ensued.

6.1. “Walk in their shoes:” The development of inspector-processor relationships

Relationships between processors and inspectors required time, flexibility, and interpersonal skills to develop. Through conversations during inspections, they came to understand each other's respective approaches, priorities, and challenges. Relationships were formed over repeated inspections and through give-and-take as inspectors learned about small processing techniques, processors acknowledged inspector authority, and both expressed curiosity and appreciation for the other. This section explores these insights.

Processors and inspectors invested considerable time in learning about each other's perspectives and ways of working. Even at the smallest of facilities—such as those measuring less than 1,000 square feet—some inspections lasted hours, much of this time spent in conversation. Processors explained their approaches to production, discussed new developments since previous inspections, described current challenges, and reviewed other matters with inspectors. A food inspector explained the importance of learning about the facilities she inspected:

If you know the nature of his process, you understand things he does...

[You have to] walk in their shoes.

Inspectors indicated that they had more experience in large-scale facilities than in smaller facilities and were more familiar with the equipment and methods that larger producers used. Inspections gave them an opportunity to learn about small-scale equipment and manual techniques. Three of the participating dairy inspectors had voluntarily taken Michigan State University's artisan cheesemaking short course in order to learn more about techniques used by new cheesemakers in their areas.

Many of the inspectors appeared to enjoy their interactions with small processors and expressed curiosity about and appreciation for small processors' situations. A dairy inspector spoke of the ingenuity with which an Amish farmer in his area had developed a cheese plant that met regulatory requirements without electricity:

I like going to new areas and just seeing the farms, seeing how they operate—all the farmers' thoughts on why they're doing it this way, why they're doing it that way.

Asked what made lengthy plant inspections worthwhile, another dairy inspector echoed the views of others when he replied, “The relationships.” In a separate conversation, a farmstead cheesemaker in this inspector’s area described him:

He takes pride in seeing us succeed. If he sees us in a news story, or if he walks in a store and he sees our cheese, he feels like he’s part of that...
[J]ust like if we’re buying hay from somebody, or the retail store, all the way along the chain, they’re part of the process. And the inspector, he feels like he’s part of the process.

Discussions between many processors and inspectors touched on personal lives as well as regulatory matters as they spoke of children, pets, and hobbies. A food inspector justified this:

If you don’t take the time to turn yourself into a human being for them, then they see you as a bad parent.

For their part, processors came to appreciate the difficulties that inspectors faced in interpreting broadly stated requirements, enforcing rules with which the inspectors themselves may not have agreed, and dealing with antagonistic business owners. In this processor’s experience, a well established rapport deescalated disagreements:

We all have in our jobs, especially government people, stupid rules they have to follow. They know it, you know it. There’s no point in fighting them about it. It’s better to just commiserate over arbitrary rules that make no sense. Give [the inspectors] credit for, ‘Sorry you gotta enforce that one!’ ‘Yeah, me too.’ And move on. Because to me that’s about building the relationship.

Some processors who did not believe that the government should have an oversight role over their businesses nevertheless indicated that individual inspectors had earned their trust and respect.

Relationships were formed in repeated interactions over time. Processors indicated that disagreements were easier to avert when inspectors knew them “as people.” Inspectors developed a familiarity with operations that put violations into specific context and helped prioritize concerns. As inspection budgets have decreased, this rapport has become more difficult to establish. A baker described the consequences:

One of the things that’s happened is the frequency with which you get inspected. I think when we first opened, it may have been every six months. And then the state’s budget gets cut, and there’s one inspector for more and more facilities, so then it winds up being once every couple of years...[Our previous inspector] came frequently enough that he would say, ‘I’ll watch this mold and see what happens when I come back in six months.’...There’s no way [for both parties to be on the same team] when you only get inspected once every two or three years. When [our current inspector] hasn’t been here for awhile, she’s sort of forgotten. She doesn’t really know us as people, and she doesn’t know what we’ve done.

Processors and inspectors described the importance of flexibility and interpersonal skills in developing relationships. Both characterized younger inspectors as generally stricter, more “by the book,” and harder to work with. A middle-aged dairy inspector stated that he “absolutely would have failed at this job” if he had started directly after college because he saw the world in

black and white at that time. Inspectors who had children or who had taught secondary education spoke of those experiences as making them more flexible and understanding in their interactions with clients. For their part, processors indicated frustration with some inspectors' "need to be in control and not taking the time to address a problem," as a cheesemaker put it. A baker described asking an inspector to explain the justification for specific requirements, which would in turn help him explain them to staff. Yet answers were not forthcoming:

Every question about 'why' is viewed as a challenge and confrontation and actually not answered.

For their part, inspectors indicated frustration with processors who believed they had nothing more to learn about their businesses:

You can tell, when you talk to some [business owners], they put up a wall right there: 'You don't know what you're talking about. I've been doing this for 18 years, 22 years. I think I know my business.'

Both parties agreed that inspectors ultimately held more power. Accepting this authority helped processors establish a mutually beneficial dynamic with inspectors, as this processor advised:

Keep in mind, you want them on your side. Because if you antagonize them, they can make your life hell. So understand you need them. You need them to approve of what you're doing. And to me, anytime you're in that situation, it's always best to let them be the expert. Even if you know the answer, ask the question. Let *them* show you *they're* smart.

In summary, processors and inspectors worked to develop trusting and collaborative

relationships with each other. They invested time to do so both during inspections and through successive visits over time. Inspectors learned about small processors' specific methods, and processors came to appreciate the challenges that their inspectors faced. Both parties emphasized the benefits of flexibility and interpersonal skills, while lamenting the consequences of poor relationships.

6.2. “Not just to regulate but to educate:” Inspectors as advisors

Processors looked to inspectors as experts who helped them improve quality and better serve customers. As smaller manufacturers, they did not employ specialized staff, and they welcomed inspectors' assistance and oversight. For example, a cheesemaker credited his inspector with identifying the source of a bacterial problem that he and his colleagues had been unable to solve. Inspectors also drew processors' attention to hazards that they may have otherwise missed. A baker described a visit during which an inspector required him, within a specified period of time, to replace the bakery's ceiling lights with shatter resistant bulbs. He reluctantly complied, noting the considerable cost of the bulbs:

When [my inspector] first came in, I didn't know about shielded lights.

Like, we had exposed lights with light bulbs. She said, 'Nah. Get [shielded lights].' And that was the best thing ever...I think it was three months later that I hit a light bulb [with a long handle], and it didn't shatter in a million pieces and go into all our dough and all our product. It stayed contained.

Inspectors helped processors enforce their own standards of hygiene and sanitation at their facilities. During one inspection, a baker expressed frustration at her landlord's delays in correcting problems in the kitchen she was renting. She discussed the problems with her

inspector, who stated that she was recording the violations in part to draw them to the landlord's attention. A cheesemaker described the leverage that inspection visits afforded her influence over staff:

I can play good cop and let [the inspector] be bad cop...And it does make it easier to manage [the operation].

Guidance also related to broader operational matters. Inspectors indicated that MDARD directs them to approach their enforcement role as educators and trainers.⁶ Processors recognized this approach and felt that it set MDARD apart from other, less accommodative agencies. For example, inspectors identified strategies for maintaining older equipment until processors could afford replacements. They relayed relevant experiences of other processors. Two food inspectors explained:

What I like about the job is you get to work with people and you get to help them solve their problems... We have two clients in this world: the public, and the [food business] entity. And they're not mutually exclusive... If we can help two of our clients get together, [who] can mutually help each other... we are going to help our clients do that.

I'm not here just to regulate but to educate.

The line between assisting and consulting can be thin, and MDARD does not allow inspectors to act as consultants to their clients. Yet with a positive rapport, inspectors may find ways to communicate the information that processors needed, as this jam producer indicated:

⁶ Six of the 19 inspectors indicated that they had post-secondary degrees in educational fields or had taught school before becoming inspectors.

They're not supposed to tell you what to do, but when you've built a relationship, they'll say something like, 'If I were you...'

In summary, inspectors functioned as experts who helped processors improve quality and better serve customers. MDARD encourages inspectors to assume an educational role. Inspectors are not formally permitted to give detailed guidance on how a processor might meet a requirement, yet processors indicated that inspectors with whom they had formed a positive relationship found ways to communicate this information.

6.3. “It’s just a conversation:” Flexibility and mutual accommodation

Processors indicated that a collaborative, give-and-take relationship with inspectors made it possible for them to pursue their own styles of production. When asked whether they recommended that any regulations be changed, most processors indicated that requirements had not in fact prevented them from doing what they wanted to do. As a baker responded, “It’s just a conversation.” That is, regulatory compliance involved discussing his own aims with his inspector and, together, determining how to achieve these aims while meeting requirements. He continued that regulations had not increased costs of operation since, in starting a food business, “*everything* is expensive. It doesn’t matter.” At another facility, a couple had opened the first brick oven bakery in their inspector’s area. They relayed an early episode in which the inspector asked that they take bread to farmers’ markets in plastic bags, and they described their consequent efforts to help her understand their reluctance to use plastic. One of them described the conversation:

I remember talking about [plastic bags] the most. After her hearing about what we wanted to do, and expressing what the concerns are from the

safety regulation standpoint, [I remember] her essentially saying, ‘Let me tell you how you can do this.’ And I just remember...breathing a sigh of relief, like ‘Oh my gosh, she’s willing to work with us and help us figure out how to make this happen.’...I appreciate the fact that she has taken the attitude of an advocate for small business owners rather than the gate keeper to entry for those who want to participate in Michigan's economy.

In some cases, extended discussion with processors also led inspectors to determine that smaller or less expensive alternatives achieved regulatory objectives. A farmstead cheesemaker recounted:

I remember the first conversation I had with [our inspector]. He said, ‘It will cost you at least a quarter million to start up.’ And in the end it was \$30,000...We said, ‘Can we do *this* instead?’

Inspectors indicated that they made efforts to accommodate processors whose intentions and capabilities they had come to trust over successive visits. A violation might not be cited at a facility where an inspector trusted that a processor would correct the problem without a formal citation. For example, during a cheese plant inspection, a dairy inspector pointed out a floor that was in need of repair. She omitted this violation from her report, noting the cheesemaker’s ongoing efforts to improve the facility and the consistently good test results of monthly milk samples:

I’m focusing [at this time] on low-cost ways of improving quality. If [the cheesemaker] were blowing me off and saying ‘Fine me,’ I’d be a different kind of inspector.

Processors, too, demonstrated willingness to compromise when working with inspectors with whom they had established a rapport. A cheesemaker at a different facility described an inspector's order to install plumbing that she considered unnecessary. She complied, reasoning that she trusted his overall intentions and that she believed it would make it easier to negotiate other, more significant issues in the future. She also noted that she had successfully challenged a previous order.

At the same time, inspectors' interpretive flexibility proved confusing and frustrating to processors when practices were allowed in some facilities but not in others. For example, many of the bakers in this study proofed dough in baskets made of wicker and lined with linen, achieving a specific quality of bread. Federal regulations require that food contact surfaces be "adequately cleanable" and "maintained to protect food from being contaminated by any source" (21 CFR § 110.40(a)). Inspectors interpreted this requirement to allow wicker baskets in most of these bakeries. However, bakers who were not permitted to use wicker expressed frustration that it was allowed in other bakeries and indicated that they did not understand why it was not allowed in theirs. Inspectors understood this frustration, but as one explained:

I've learned not to jump to conclusions about [other inspectors' different interpretations]. There are so many mitigating circumstances. Even things that seem like they should be cut and dry—there are circumstances.

Flexibility on some requirements was not possible. Dairy inspectors indicated that rules at both the state and federal level are more detailed for dairy processing than they are for bread and jam processing and tend to allow for less interpretation. Antibiotic testing of milk used in cheesemaking is one such requirement. While cheesemakers agreed that milk should be free of

antibiotics, many perceived the testing methods required in regulations to be designed for large-scale processing, and they advocated lower-cost alternatives that were not permitted. More broadly, although processors and inspectors generally agreed on the importance of protecting public health, many processors took issue with specific legal definitions of food safety, such as whether linen threads in products or flour beetles under a bakery oven should be deemed a significant risk to consumers.

Yet, in summary, a collaborative approach made it possible for most processors to pursue their own styles of production. Inspectors largely accommodated processors whose intentions and capabilities they had come to trust. Communication was particularly important in the instances in which inspectors allowed specific practices in some facilities and not in others.

7. Discussion and implications

Inspectors play a critical role in shaping regulatory outcomes in ways that accommodate small processors. Their direct interaction with processors during facility evaluations familiarizes them with different styles of production and enables them to identify ways for processors to comply with regulations in a way that is consistent with these styles of production. Inspectors in this study accommodated small processors' budgetary and resource constraints by enforcing requirements incrementally—focusing first on high-priority concerns and reserving lesser violations for subsequent inspections—and by taking a collaborative, assistive approach in achieving compliance. Positive prior experience at a facility, and trust in a processor, tempered inspectors' decisions whether to record some violations. In other words, food safety regulations do not necessarily impose large-scale manufacturing methods on smaller producers or impede small processing. While smaller processors may enjoy less influence in legislative processes than do large agrifood manufacturers, inspectors in this study indicated that their own power was

shaped and limited by their ability to communicate with processors and to persuade processors of particular interpretations of rules.

7.1. Observations on the method: Qualitative ethnographic research in regulatory studies

The study's qualitative ethnographic methodology allowed it to explore the concept of regulatory outcomes within the context of inspections, and it generated observations and results that would not have been possible using less flexible methods such as surveys. The study began with broad questions: What are outcomes of inspections for small processors? What are interactions like? The openness of the qualitative approach allowed data collection instruments to be revised as insights emerged. For example, previous studies had suggested that regulations posed barriers to business viability and that small processors experienced barriers to regulatory compliance. Questions during early fieldwork therefore addressed barriers. Yet many participants responded to these questions by speaking of the ways in which interpersonal relationships had mitigated barriers. Interview instruments were revised in order to pursue this idea at greater length.

The ethnographic approach allowed for observation of a range of regulatory outcomes and interpersonal interactions, some of which participants had not mentioned verbally. These results would not have emerged as clearly had processors and inspectors been asked about each other on surveys or in separate interviews, and they would not have emerged at all from a comparison of regulatory requirements and small processor practices.

Access to inspections hinged on inspectors' voluntary participation in the research and on their supervisors' support of it. These participants may not be representative of broader populations of inspectors; voluntary participation almost certainly created a selection bias toward

more accommodative inspectors that should be addressed in further work.⁷ The point here is that—representative or not—this accommodative approach offers a potential policy solution for small processors.

7.2. Conclusions and implications

The accommodative implementation described here is consistent with other research on regulatory agencies in the US (May and Wood, 2003; Pautz, 2009b, 2010), Denmark (May, 2005), and the UK (Hawkins and Hutter, 1993; Vickers et al., 2005). Although processors and inspectors in this study credited MDARD with fostering a more collaborative approach than did other agencies they had experienced, this approach is therefore not unique to MDARD, and the results are applicable outside of Michigan as well as the US. Further research is needed on ways in which food safety inspectors educate and assist; on the consequences of this approach for food businesses; and on the cultures and budgets of food safety agencies and the inspector approaches that agencies encourage.

The assistance that inspectors provide small food processors, and their interest in the success of clients' businesses, appear to be important to their effectiveness as regulators (van Zwanenberg et al., 2011). Inspectors strike a tricky balance between enforcing food safety regulations and fostering business improvement, mirroring the dual functions of regulation and economic development that departments of agriculture straddle in the US. Some inspectors in this study put processors in touch with other clients and mentioned specific products, even though this level of advice was formally outside of their charge. Like interest intermediaries between government and business, they “facilitate[d] the sharing and utilization of regulatory

⁷ Had a more random selection method been used, it is certain that some participating inspectors would have done so unwillingly, and these inspections would likely have been tense, uncomfortable, and difficult to interpret.

information” (Lee, 2011, p. 140).⁸ This suggests that the business development dimension of inspectors’ roles be explored further and perhaps be accommodated and strengthened. Further research is needed on the consequences of inspector assistance and of positive inspector–processor interaction for compliance and business improvement.

These results may contribute to regulatory impact assessment. The plant-level benefits identified in the study, such as improved processing operations and greater viability of processing businesses, may complement other factors used in benefit-cost analysis such as plant-level costs of compliance, costs of regulatory oversight, and public health benefits (Antle, 1999; Caswell, 1991; European Commission, 2013). Further research is needed to elaborate this conception of regulatory outcomes and to quantify the assistance that inspectors provide. Research is also needed to examine the costs of poor inspector–processor relationships.

This study encourages a reconsideration of the licensing and inspection exemptions that are currently popular as policy accommodations to small-scale processing in the US. Home processing laws have been passed in over half of US states, exempting some processors who produce small volumes of specific products in their home kitchens and for limited markets.⁹ At the federal level, the Food Safety Modernization Act of 2011 exempts farmers and processors whose production falls within sales and market limits and meets other restrictions. This study reveals what exempted processors miss out on, as they fail to gain from the assistance and specialized oversight that inspectors offer. Exemptions also fall short by defining small-scale

⁸ In Michigan, some of this assistance had been provided by extension offices before extension budgets were cut.

⁹ State home processing laws are known alternately as cottage food laws or “pickle bills.” In Michigan, the Cottage Food Law applies only to in-person sales made directly to the consumer, and annual sales of cottage food products are capped at \$20,000 per domestic residence. Only non-potentially hazardous foods are allowed (Michigan Compiled Laws § 289.4102).

processing largely according to how it is not large-scale processing. They fail to account for the risks that small processing poses and to guide processors in mitigating those risks (Hutter and Amodu, 2008).

In some respects, food safety inspectors do “invisible work” (Star and Strauss, 1999), negotiating mutually satisfactory regulatory outcomes with processors and managing complicated interpersonal dynamics while they may appear to be simply implementing straightforward written rules. As small processing continues to proliferate, accommodative inspection practices may offer policy solutions and quell the concerns of critics of regulation. Of course, these practices require agency resources, and further research is needed to examine the budgets and staff training required for the time and assistance such as provided by inspectors in this study. It is hoped that this paper illuminates the critical role that inspectors play in shaping regulatory outcomes for small processors, and the two-way interaction through which small processors also play a role in shaping their own outcomes.

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