

12-31-2010

The Michigan State University School of Agrifood Governance and Technoscience: Democracy, Justice, and Sustainability in an Age of Scientism, Marketism, and Statism

Jason Konefal
Sam Houston State University

Maki Hatanaka
Sam Houston State University

Follow this and additional works at: <https://egrove.olemiss.edu/jrss>



Part of the [Rural Sociology Commons](#)

Recommended Citation

Konefal, Jason, and Maki Hatanaka. 2010. "The Michigan State University School of Agrifood Governance and Technoscience: Democracy, Justice, and Sustainability in an Age of Scientism, Marketism, and Statism." *Journal of Rural Social Sciences*, 25(3): Article 1. Available At: <https://egrove.olemiss.edu/jrss/vol25/iss3/1>

This Article is brought to you for free and open access by the Center for Population Studies at eGrove. It has been accepted for inclusion in *Journal of Rural Social Sciences* by an authorized editor of eGrove. For more information, please contact egrove@olemiss.edu.

**THE MICHIGAN STATE UNIVERSITY SCHOOL OF
AGRIFOOD GOVERNANCE AND TECHNOSCIENCE:
DEMOCRACY, JUSTICE, AND SUSTAINABILITY IN AN AGE
OF SCIENTISM, MARKETISM, AND STATISM**

JASON KONEFAL and MAKI HATANAKA

SAM HOUSTON STATE UNIVERSITY

ABSTRACT

In this article, we introduce the Michigan State University (MSU) School of Agrifood Governance and Technoscience. Centered on the work of Dr. Lawrence Busch, the MSU School examines how science, the market, and the state function in food and agriculture, and possibilities to make these institutions more democratic, equitable, and just. Research by the MSU School consists of four specific foci: (1) actor-network theory and commodity studies, (2) standards, (3) third-party certification and tripartite standards regimes, and (4) supermarkets and supply chain management. We review each of these areas and discuss how the research in each contributes to democratizing science, the market, and the state. We then provide an overview of the articles in this special edition.

Governance of agrifood at all levels – from local to global – has undergone significant transformations because of political, economic, and cultural changes. Particularly important have been the implementation of neoliberal practices, the globalization of supply chains and markets, the development of retail oligopolies, the emergence of economy of qualities, and increasing public concern regarding food and agriculture. Together, these developments are shifting the regulation of food and agriculture from a state-centered system toward governance approaches. This transformation in the regulation of food and agriculture is having widespread effects on the food people eat, as well as on how, where, and by whom it is produced.

The work of Lawrence Busch, his colleagues, and current and former students at Michigan State University (MSU) has been at the forefront of research on the changing character of governance in food and agriculture. The MSU School of Agrifood Governance and Technoscience has developed a substantial body of research that examines the evolving relationship between technoscience, economics, and governance in food and agriculture. Particularly important contributions of this group have been theorizing the connection between governance and technoscience, and the use of insights and theoretical frameworks from science and technology studies (STS). Findings by the MSU School have furthered understandings of the relations between science, democracy, and power and the role of non-humans in the production of knowledge and things.

Although the empirical focus of the MSU School is quite varied, the overarching theme and objective has been the democratization of science, the market, and the state in food and agriculture. In *The Eclipse of Morality* and his Rural Sociological Society Presidential Address, Busch (1999; 2000a) outlined the general framework of the MSU School. In both, he contended that society has become increasingly ordered and dominated by three Leviathans: science, the market, and the state. Each of these Leviathans supplants democratic politics with an extra-human force that checks the interests and passions of the people. Put differently, moral responsibility has been transferred from the people to the largely undemocratic institutions of science, the market, and the state. Often, this has resulted in science that benefits special interests and not the public good, economic policies that benefit a small elite at the expense of the great majority, and states that are not responsive to their constituents. The outcome is that democracy has been confined to a relatively small slice of modern society, with corporate, administrative, scientific, and technological decisions largely outside the purview of democratic politics (Busch 2003).

Using Busch's observation on democracy as a point of departure, the MSU School focuses on ways to increase possibilities for democracy in the food and agricultural sciences, agrifood supply chains, and the governance of food and agriculture. Building on arguments for "strong" and "deliberative" forms of democracy (Barber 1984), the MSU School posits that participation by affected parties (e.g., farmers, workers, and consumers) is fundamental for fair and just institutions. Put differently, a central argument of the MSU School has been that 'experts' alone should not have sole responsibility for decisions that entail ethical, normative, and value judgments (Busch 2002; Middendorf and Busch 1997). For this to be possible, strong forms of democracy (i.e., active and meaningful participation) in science, the state, and the market are necessary.¹

The purpose of this special edition of the *Journal of Rural Social Sciences* is to bring together the various contributions of the MSU School in a single volume. Specifically, the contributions to this issue highlight the interactions between science, the market, and the state in determining the food people eat and how it is produced. The focus is on governance approaches, particularly standards and third-party certification, and the ways that these constrain and enable democratic possibilities. The insights that the MSU School offers will not only further

¹For example, Busch (1999; 2000a) has proposed the idea of "networks of democracy," where moral responsibility is something that must be continuously enacted through debate, dialogue, and deliberation.

understandings of the contemporary global agrifood system, but will also push us to think about the possible trajectories for democracy, justice, and sustainability. In the next sections, we provide a brief overview of the areas of research undertaken by the MSU School. Research by the MSU School is divided into four foci: (1) actor-network theory (ANT) and commodity studies, (2) standards, (3) third-party certification (TPC) and tripartite standards regimes (TSRs), and (4) supermarkets and supply chain management. We review each of these areas and discuss how the research in each contributes to democratizing science, the state, and market.

ACTOR-NETWORK THEORY AND COMMODITY STUDIES

In the mid 1990s, Busch and several of his graduate students undertook an analysis of the global development and diffusion of canola oil (Busch and Juska 1997; Busch and Tanaka 1996; Juska and Busch 1994; Tanaka and Busch 2003; Tanaka, Juska and Busch 1999).² Among the first research in agrifood studies to use actor-network theory (ANT), this research made important contributions to understandings of the development and adoption of agricultural technologies and the political economy of food and agriculture.³ First, Busch and his students demonstrated that technological development is very much tied to production and production to technological development. Second, they showed that not only humans, but also non-human actors (e.g., the physiological characteristic of plants and scientific instruments), influence both technological innovations and production practices.

Historically, two sets of literature examined agricultural innovations. First, agricultural economists have often focused on how macro-level structures generated incentives for technologies that would reduce production costs. Second, the adoption-diffusion literature examined micro-level interactions, most notably those factors that led farmers to either adopt or reject technologies. Juska and Busch (1994) argued that both approaches were partial, as they failed to examine how macro structures interact with micro processes. Additionally, Tanaka et al. (1999) noted that technological development itself has largely been black-boxed in studies

²See Tanaka and Juska in this volume for a comprehensive overview of this research.

³In short, ANT is a theoretical framework that examines the construction of ideas and things through analysis of network building processes. A key distinction of ANT from other network theories is not making a distinction between society and nature or humans and non-humans in terms of the ability to act or participate in the network-building process (Callon 1986; Latour 1987; Law 1987).

of agricultural innovations. In other words, the actual practices by which technologies are developed have been mostly taken for granted.

To bridge these gaps in the research, the MSU School used ANT to frame the development and adoption of technologies as network building processes. Using the case of rapeseed, they demonstrated that the production of new technologies and agricultural production are not discrete processes. Rather, agricultural production (which is influenced by macro structures such as government policies, trade agreements, and Cold War politics) is influenced by available technologies, while simultaneously, current forms of agricultural production influence technological development trajectories. Put differently, agricultural production influences the kinds of technologies developed, but new technologies then affect agricultural development, often by modifying it and creating new technological demands. Thus, Busch and his students argued that commodity systems cannot be understood without understanding the history of technological innovation, and that technological innovation cannot be understood without understanding the history of commodity systems.⁴

Two important findings have emerged from this research. First, as agricultural research affects the kinds of agrifood systems that develop, democratizing agricultural research is potentially a transformative activity. Second, as building and extending commodity chains entails constructing networks, it is often a highly contingent process. This then indicates that there are many possible points of intervention for 'external' actors concerned with social justice and environmental sustainability.

The second important contribution made by Busch and his students in the rapeseed research was to highlight the ways that nonhuman actors affect both technological development and production. A key insight of ANT – and one of its more controversial points – is that nonhumans act (Callon 1986). In extending their analysis of rapeseed development and adoption to nonhumans, Busch and Juska (1997) showed how the physiological characteristics of rapeseed, such as its high percentage of erucic acid, and lack of scientific instruments and techniques for measuring erucic acid, influenced the network building process (i.e., its translation into the edible oil, canola). While the question of whether and how nonhumans act remains controversial in agrifood studies food, agriculture scholars have come to pay greater attention to the ways that material conditions, scientific techniques, and

⁴ See de Sousa and Busch (1998) for a similar analysis using a case study of soybeans in Brazil.

available technologies enable and constrain both agricultural innovations and production.

STANDARDS

Standards are an area of inquiry that has become a central focus of the MSU School over the last decade. The focus on standards first emerged in the rapeseed research (Busch and Tanaka 1996), and then expanded to the role of standards in food and agriculture generally (Busch 2000b; Busch and Bingen 2006; Busch et al. 2006; Hatanaka, Bain, and Busch 2006; Juska et al. 2000; Ransom 2006, 2007; Reardon et al. 1999; Tanaka and Busch 2003). Before research by Busch and colleagues, with some exceptions, sociologists generally did not study standards. They were taken for granted as a mechanism for standardizing things and thereby reducing transaction costs. In undertaking a sociology of standards, the MSU School has demonstrated that reducing transaction costs is just one of many functions of standards in contemporary society.

Busch and Tanaka (1996) argued that by reducing the heterogeneity of people and things, standards make possible both capitalist markets and neoclassical economics. In other words, the MSU School contends that standards play a much more significant role in society than previously thought. Not only do they reduce transaction costs, without standards our economy and its markets would not exist as we know them today.

A second observation made by the MSU School is that standards are mechanisms by which people, plants, animals, and things are judged (Busch and Tanaka 1996; Busch 2000b). Busch (2000b:274) argued that “grades and standards are ways of defining a moral economy, of defining what (who) is good and what is bad, of disciplining those people and things that do not conform to the accepted definitions of good and bad.” Thus, not only do standards standardize, but they also judge. In this way, standards may benefit some actors, but may also constrain those who do not meet the standard (Bain, Deaton, and Busch 2005). Furthermore, Busch (2000b) noted that standards do not merely standardize and judge the targeted object, but all people and things that interact with the standardized object. For example, Ransom (2006) asserted that the drive to create “tender” red meat in South Africa – largely for export – transformed (often negatively) farmers, slaughterhouses, and cows.

Third, the MSU School has demonstrated that standards are not just neutral and technical in character, but are also socially mediated and often strategically used (Bain 2010; Bingen and Siyengo 2002; Reardon et al. 1999). While ‘experts’

often develop standards based on best practices and scientific evidence, standards developers are also embedded in social, cultural, political, and economic networks (Konefal and Hatanaka Forthcoming; Ransom 2007). The result is that standards may be biased toward specific interests, cultural positions, and/or political and economic approaches. Furthermore, in examining organic standards for shrimp aquaculture, Hatanaka (2010a; 2010b) showed that once developed, standards are still open to negotiation and contestation. The implication is that the implementation of standards is often not clear-cut and thus, gray areas exist regarding what counts as compliance. In short, the MSU School posits that standards are often quite malleable, flexible, and not always agreed upon.

More recently, Hatanaka, Bain, and Busch (2006) have argued that standards do not just standardize but are also increasingly used to differentiate. As the agrifood sector in the United States and other industrialized countries has shifted toward an economy of qualities, standards have become an increasingly important mechanism for differentiating goods. However, Hatanaka et al. (2006) have observed that while product differentiation is taking place, it is largely standardized. That is, while goods are being increasingly differentiated, the differences are also standardized. Thus, they conclude that the twin processes of differentiated standardization and standardized differentiation characterize much of the global agrifood system today.

In sum, the MSU School has shown that while often invisible, standards are very influential in that they define, judge, enable, and constrain humans and nonhumans. Furthermore, whereas standards are usually considered technical and value-neutral, the MSU School has demonstrated that they are often value-laden, normative, and politicized. Given these findings, democratizing standards-development processes is a vital task that needs to be collectively undertaken by scholars and activists.

THIRD-PARTY CERTIFICATION AND TRIPARTITE STANDARDS REGIMES

As the use of standards (particularly private ones) has proliferated, mechanisms have begun to emerge to ensure that standards are being implemented. Among the most prominent standards-enforcement mechanisms today is third-party certification (TPC). TPC has been a focal area of research for the MSU School over the latter half of the last decade (Bain and Hatanaka 2010; Bain et al. 2005; Busch et al. 2005; Hatanaka 2010a, 2010b; Hatanaka, Bain and Busch 2005; Hatanaka and Busch 2008; Konefal and Hatanaka Forthcoming; Loconto and Busch 2010).

A series of events, policies, and changes over the last three decades has resulted in significant transformations in the governance of food and agriculture today. These include: structural adjustment of the global South and the free trade agenda; neoliberal restructuring of states throughout the world; the emergence of retailers as the lead actors in agrifood systems; food safety crises; increased concern by consumers; and social movements within food and agriculture. Generally, the outcome has been a shift from government regulation toward governance in food and agriculture. The result is that both the state and private actors often participate in the development of standards, and third-parties oversee their implementation. In a series of articles and reports, the MSU School has examined both the drivers of the shift toward governance (discussed in the next section) and its implications, particularly for producers and workers in the global South.

Focusing on TPC, Hatanaka et al. (2005) examined how the shift toward governance is affecting retailers and producers. Compared with other forms of governance, they argue that TPC has several advantages for retailers as it gives them “(1) the flexibility to differentiate agrifood products by the attributes that concern them, and (2) ensures consistent implementation of standards regardless of the product’s origins, while at the same time, (3) minimizing transaction costs and financial liability” (Hatanaka et al. 2005:359). Put differently, TPC enables retailers to compete on price, protect their reputations, claim due diligence in the case of adulterated products, and avoid many of the costs associated with ensuring product quality. In more recent research, members of the MSU School have also shown that compliance with standards may be uneven under TPC (Bain 2010; Bain and Hatanaka 2010; Hatanaka 2010a, 2010b). Such findings raise questions as to the effectiveness of TPC as a standards-enforcement mechanism and thus, its benefits to retailers, as well as consumers.

For farmers, the implications of TPC are more mixed. On the one hand, TPC can guarantee quality and thus, help farmers gain access to markets. This is especially the case for farmers in less industrialized countries, where agriculture is often less regulated. Additionally, sometimes certification may also help farmers improve their management practices (Hatanaka et al. 2005). On the other hand, farmers often have to bear most of the costs associated with certification, which can be quite substantial. Consequently, for small- and medium-sized producers, the costs of TPC may be prohibitive. And, as TPC has become de facto mandatory for access to leading retailers, small- and medium-sized farmers are increasingly left with the choice of bearing the additional costs of TPC or shifting to more marginal markets (Busch et al. 2005)

Besides examining the emergence of TPC and the implications it has for producers and retailers, the MSU School has also undertaken research on the structure and practices of TPC. A defining characteristic of TPC is the purported independence of certifying bodies from actors in the supply chain. Because of their independence, certifying bodies are viewed as disinterested in the results of their audits. This is key to the legitimacy of TPC as a governance mechanism. However, Hatanaka and Busch (2008:75) have contested this understanding of TPC, arguing “TPC is embedded in social, political, and economic networks” and as such, “TPC is a socially mediated institution where actors often pursue their own benefits and/or agendas.”

In a recent piece, Loconto and Busch (2010) argued that standards development and TPC have become integrated into a larger and more comprehensive system of governance, namely tripartite standards regimes (TSRs). Multiple organizations, vertical and horizontal relations, and extensive oversight characterize TSRs. The most important innovation is that both the standards-setting and conformity-assessment subsystems entail multiple levels of accreditation.⁵ Thus, what distinguishes TSRs from other forms of governance is their complex oversight mechanisms, involving multiple tiers of audits and oversights, which together (appear to) ensure the integrity and credibility of actors at all levels.

In brief, the shift toward governance potentially creates opportunities for greater democracy in that it spreads responsibility for governing among multiple actors. For example, many social movement organizations have embraced governance approaches, as they have begun to establish standards to further their causes. However, research by the MSU School on TPC and TSRs indicates that the structure and practices of such governance mechanisms may also constrain the democratization of food and agriculture. First, both TPC and TSRs are constructed on scientific norms and practices that seek to make governance technocratic and objective (Konefal and Hatanaka Forthcoming; Loconto and Busch 2010; Tanaka 2005). While sometimes the science-based requirements may level the playing field, in other cases they may marginalize those actors who cannot support their position using expert knowledge (Hatanaka 2010a). Second, in both TPC and TSRs, politics often take place backstage, where it is largely hidden from public view (Konefal and Hatanaka Forthcoming; Loconto and Busch 2010). The outcome is that standards and third-party certified products that seem apolitical and science-based are often

⁵ Accreditation is the process of ensuring that a given body or organization can competently carry out their tasks.

in fact also political. Thus, the MSU School illustrates that for governance approaches to generate opportunities for people to have more voice in decisions over the food they eat, politics need to shift to the front stage and mechanisms need to be included that ensure participation of laypeople and inclusion of nonscientific forms of knowledge.

SUPERMARKETS AND SUPPLY CHAIN MANAGEMENT

An emergent area of research for the MSU School is documenting and theorizing recent transformations in supply chains in both the U.S. and global agrifood systems (Busch 2007; Busch and Bain 2004; Konefal et al. 2007; Konefal and Busch 2010). Specifically, this research centers on the emergence of retailers as lead actors in the global agrifood system and the consequences this has had on food and its production and consumption. Consolidation and concentration of the retail sector, first in much of Europe, then in the United States, and most recently, in many less industrialized countries has positioned retailers as the lead actors in national agrifood systems. As documented by the MSU School and others, the consequences have been numerous, including a shift toward buyer-driven commodity chains, increased competition on quality, and a more significant role played by retailers in the development of standards and governance of food and agriculture.

Seeking to integrate these diverse but interlinked changes into a single theoretical framework, Busch (2007) has argued that much of the agrifood sector is transitioning from a neoclassical economic model to supply chain management. Whereas neoclassical economics may work for undifferentiated commodities, it tends not to work in instances where goods must exhibit specific qualities. Thus, as goods becoming increasingly differentiated, the result is that much of the agrifood sector is in the midst of a shift from markets to supply chain management. In brief, supply chain management is the coordination (not necessarily integration) of all actors in a supply chain to maximize efficiency and ensure quality. To do this, retailers and processors are using an array of governance mechanisms, such as standards, TPC, and TSRs, to regulate all aspects of supply chains. For example, in non-genetically modified corn and soy supply chains, nearly all production is via contract and part of an identity preservation program, which consists of a series of standards, audits, and tests that govern production from seed to retailer (Konefal and Busch 2010).

Similar to the shift toward governance, the MSU School finds the emergence of retailers as lead actors and the shift toward supply chain management to have

mixed results with respect to democratization in the food and agriculture sector. On the one hand, the development of retailer oligopolies has aided the politicization of consumption. Most notably, as retailers have become responsible for the safety and quality of food in the eyes of much of the public, they have become more vulnerable to consumer and social movement pressure (Busch and Bain 2004; Konefal and Mascarenhas 2005). On the other hand, consolidation of power in the hands of a small set of retailers constrains the democratization of food and agriculture in that it gives retailers disproportionate control over the food people eat and how it is produced. The results often include standards and TPC programs that favor the interests of retailers over other actors. For example, Bain (2010) observed that the Global Good Agricultural Practices (GlobalGAP) program often favors retailers and large producers, and minimally benefit labor, particularly part-time laborers.

Additionally, a retailer-led privatization of governance may produce a patchwork agrifood system, where there is a diversity of supply chains ranging from safe, just, and sustainable to unsafe, unjust, and unsustainable (Konefal and Busch 2010). In such an agrifood system, the 'right' to safe, just, and sustainable food is determined by class position, which is fundamentally undemocratic. Thus, the MSU School argues that the emergence of retailers as lead actors and the consequent restructuring of supply chains is simultaneously enabling and constraining of democracy in food and agriculture.

OVERVIEW OF THE SPECIAL EDITION

Each article in this issue exemplifies the theoretical utility and empirical range of research by the MSU School. Additionally, many articles extend the work of the MSU School in several directions, including the role of ethical analysis and the usefulness of performativity analysis in agrifood studies. A brief overview of the articles in the special edition is provided below.

Following this introduction is an interview with Dr. Lawrence Busch. In the interview, Dr. Busch comments on a range of topics. These include possibilities for democracy today, the effects of neoliberal restructuring on food and agriculture, the state of agricultural research and higher education, and the relevance of (rural) sociology.

In the first article, Tanaka and Juska provide an overview of the MSU School's research on actor-network theory (ANT) and commodity studies. Focusing on the concepts of networks, actors, and symmetry, they demonstrate how ANT enabled the MSU School to extend commodity studies to examine the relationship between technoscience and agricultural production. Additionally, Tanaka and Juska argue

that an actor-network approach continues to be of value in agrifood studies today, as it focuses attentions on the ways that humans and nonhumans intersect and negotiate in the production and consumption of food.

In the second article, Busch examines how ‘voluntary’ standards have transformed markets and laws over time. First, using the lens of standards, Busch examines how standards were originally used to standardize political economies, and, more recently, differentiate them. Busch then examines how standards have become increasingly important with the implementation of neoliberal policies, particularly as governing mechanisms. He notes that, in today’s neoliberal world, “standards are laws; the market is the state.” In concluding, he questions whether the party is over, arguing that several contradictions and fault lines characterize contemporary forms of neoliberalism.

In the next article, Whyte and Thompson examine the role of ethics in standards. Responding to Busch’s (Forthcoming) claim that philosophers do not address how everyday people justify standards, Whyte and Thompson argue that “ethics as an activity” can be an important tool for exploring possibilities for discussion of standards and their justifications and potential effects. In particular, they view ethical analysis as valuable in times of disagreement and controversies, as ethics can help delineate the potential effects of standards. Thus, they contend that sociological and ethical analyses of standards are complementary. In their note on an economy of qualities, Deaton, Busch, Samuels, and Thompson also examine the role of ethics and standards. They note that standards development is not just a scientific process, but is also a social one. As such, utilitarian arguments (most commonly in the form of cost-benefit analysis) and libertarian arguments concerning consumer rights are often used to justify or refute standards.

In the next three articles, the role of science in governance and the notion that science is often politics by other means are examined. Bringing together political economic and science and technology studies approaches, Stuart examines the outbreak of *E. coli* O157:H7 in California Leafy Greens in 2006 and the ensuing industry response. To restore the safety of California Greens, a public-private body called the California Leafy Greens Product Handlers Marketing Agreement (LGMA) was formed to develop food safety standards for the production of leafy greens. However, Stuart argues that powerful industry actors dominate LGMA, and that its public component is largely a façade. More important, she shows that while the standards are touted as ‘based on the best science,’ the scientific merit of the standards is quite questionable. Rather, she argues that the standards and science largely function to give the appearance of safe greens.

Building on Busch's work on science, the market, and the state, Hatanaka examines how the governance of food is increasingly transferred to one of the three Leviathans: science. Examining a third-party certified organic shrimp project, she contends that the outcome is a transfer of moral responsibility for food and agriculture from farmers and consumers to experts. For example, she observes that organic shrimp farmers often do not know why they have to use certain practices, and the people eating organic shrimp have little knowledge of the actual practices by which it is produced. Hatanaka's findings, thus, support Busch's (2003) claim that producers and consumers often have little voice in the governance of food and agriculture.

In the next article, Bain, Ransom, and Worosz examine the ways that private standards are legitimated by appeals to technoscientific norms and values. However, in all three of their case studies – tart cherries in Michigan, red meat in South Africa, and GlobalGAP in Chile – they show that science is used strategically by powerful actors to maintain or further social, political, and/or economic interests. Thus, in governance, they conclude that science is a political weapon often used to marginalize or discredit critics and oppositional positions.

Examining four different certifications for sustainable tea in Tanzania, Loconto brings together global value chain analysis and the notion of performativity to examine the degree to which different sets of standards are effective at enacting sustainability in supply chains. Such a theoretical framework conceptualizes supply chains as relational and focuses attention on the strategies used to discipline actors. She finds that standards are 'performed' more effectively in some supply chains, and in others they function more as a legitimation device. Thus, she concludes that an increasingly key site of politics in food and agriculture is competition between standards and certification systems.

Next, Konefal examines how recent transformations in food and agriculture are affecting environmental movement opportunities and strategies. Specifically, he argues that the increased power of large retailers and an emerging economy of qualities in food and agriculture are generating opportunities for market-based approaches by environmental movements. However, he also notes that market-based approaches come with tradeoffs, such as ceding corporate control over food and the privatization of food and agriculture governance.

Lastly, in his commentary, Bonanno discusses the linkages between governance and globalization. He notes that for much of history, the growth of capitalism and the growth of the state were linked. That is, as capitalism expanded so did the state, both in terms of accumulation and legitimation. However, Bonanno argues that the

crisis of Fordism and ensuing era of globalization decoupled economic growth and state governance. What emerged were two transformations: (1) global networks of production and the increasing transnationalization of corporations, and (2) neoliberal restructuring of the state, particularly with respect to the state's legitimation functions. In turn, this gave rise to governance, a key focus of the MSU School.

In concluding, we would like to thank everyone who has made this edition possible. Like all scientific endeavors, this special edition is truly a collective work. Foremost, we would like to thank Dr. Busch for his inspiration, guidance, and support. Speaking for his many students and colleagues, it has been an honor and privilege to work with him. Next, we would like to thank the contributors to this special edition, who worked diligently to make this volume possible. We would also like to thank the referees, many of whom completed reviews on short turnarounds. Lastly, we would like to thank the editors of the *Journal of Rural Social Sciences*, Douglas H. Constance and Gene L. Theodori, who patiently worked with us throughout the process of putting this special edition together.

AUTHOR BIOGRAPHIES

Jason Konefal is an assistant professor in the Department of Sociology at Sam Houston State University. His research examines agrifood political economies and social/environmental movement opportunities. Some of his recent publications have appeared in *Sociologia Ruralis* and the *Journal of Rural Studies*. (jtk007@shsu.edu)

Maki Hatanaka is an adjunct assistant professor in the Department of Sociology at Sam Houston State University. Her research focuses on the development of new forms of governance (e.g., private standards, certification, and accreditation) in food and agriculture, and the possibilities that they hold for improving the livelihoods of marginalized populations and furthering environmental sustainability. (mxh018@shsu.edu)

REFERENCES

- Bain, Carmen. 2010. "Structuring the Flexible and Feminized Labor Market: GLOBALGAP Standards for Agricultural Labor in Chile." *Signs* 35(2):343–70.
- Bain, Carmen, Brady Deaton, and Lawrence Busch. 2005. "Reshaping the Agri-food System: The Role of Standards, Standard Makers, and Third-party Certifiers." Pp. 71–83 in *Agricultural Governance*, edited by V. Higgins and G. Lawrence. Boston, MA: Routledge.

- Bain, Carmen and Maki Hatanaka. 2010. "The Practice of Third-party Certification: Enhancing Environmental Sustainability and Social Justice in the Global South?" Pp. 56–74 in *Calculating the Social: Standards and the Re-configuration of Governing*, edited by V. Higgins and W. Larner. Basingstoke, UK: Palgrave MacMillan.
- Barber, Benjamin. 1984. *Strong Democracy*. Berkeley, CA: University of California Press.
- Bingen, Jim and Andile Siyengo. 2002. "Standards and Corporate Reconstruction in the Michigan Dry Bean Industry." *Agriculture and Human Values* 19(4):311–23.
- Busch, Lawrence. 1999. "Beyond Politics: Rethinking the Future of Democracy." *Rural Sociology* 64(1):2–17.
- _____. 2000a. *The Eclipse of Morality: Science, State, and Market*. New York, NY: Aldine De Gruyter.
- _____. 2000b. "The Moral Economy of Grades and Standards." *Journal of Rural Studies* 16(3):273–83.
- _____. 2002. "The Homiletics of Risk." *Journal of Agricultural and Environmental Ethics* 15(1):17–29.
- _____. 2003. "Virgil, Vigilance, and Voice: Agrifood Ethics in an Age of Globalization." *Journal of Agricultural and Environmental Ethics* 16(5):459–77.
- _____. 2007. "Performing the Economy, Performing Science: From Neoclassical to Supply Chain Models in the Agrifood Sector." *Economy and Society* 36(3):437–66.
- _____. Forthcoming. *Standards: Recipes for Reality*. Cambridge, MA: MIT Press.
- Busch, Lawrence and Carmen Bain. 2004. "New! Improved? The Transformation of the Global Agrifood System." *Rural Sociology* 69(3):321–46.
- Busch, Lawrence and Jim Bingen. 2006. "Introduction: A New World Of Standards." Pp. 3–28 in *Agricultural Standards: The Shape of the Global Food and Fiber System*, edited by J. Bingen and L. Busch. Dordrecht, Netherlands: Springer.
- Busch, Lawrence and Arunas Juska. 1997. "Beyond Political Economy: Actor Networks and the Globalization of Agriculture." *Review of International Political Economy* 4(4):688–708.
- Busch, Lawrence, Elizabeth Ransom, Tonya McKee, Gerad Middendorf, and John Chesebro. 2006. "Paradoxes of Innovation: Standards and Technical Change in the Transformation of the U.S. Soybean Industry." Pp. 137–55 in *Agricultural*

- Standards: The Shape of the Global Food and Fiber System*, edited by J. Bingen and L. Busch. Dordrecht, Netherlands: Springer.
- Busch, Lawrence, and Keiko Tanaka. 1996. "Rites of Passage: Constructing Quality in a Commodity Subsector." *Science, Technology, & Human Values* 21(1):3–27.
- Busch, Lawrence, Deepa Thiagarajan, Maki Hatanaka, Carmen Bain, Luis G. Flores, and Mark Frahm. 2005. "The Relationship of Third-party Certification (TPC) to Sanitary/Phytosanitary (SPS) Measures and the International Agrifood Trade: Final Report" RAISE SPS Global Analytical Report #9. Retrieved on March 7, 2011 at <http://cs3.msu.edu/d/pubs/The%20Relationship%20of%20TPC%20to%20SPS%20Measures-Final%20Report%20+Annexes.pdf>.
- Callon, Michel. 1986. "Some Elements of a Sociology of Translation: Domestication of the Scallops and the Fishermen of St. Briec Bay." Pp. 196–229 in *Power, Action, and Belief: A New Sociology of Knowledge? Sociological Review Monograph*, edited by J. Law. London: Routledge.
- de Sousa, Ivan Sergio and Lawrence Busch. 1998. "Networks and Agricultural Development: The Case of Soybean Production and Consumption in Brazil." *Rural Sociology* 63(3):349–71.
- Hatanaka, Maki. 2010a. "Governing Sustainability: Examining Audits and Compliance in a Third-party Certified Organic Shrimp Farming Project in Rural Indonesia." *Local Environment* 15(3):233–44.
- _____. 2010b. "Certification, Partnership, and Morality in an Organic Shrimp Network: Rethinking Transnational Alternative Agrifood Networks." *World Development* 38(5):706–16.
- Hatanaka, Maki, Carmen Bain, and Lawrence Busch. 2005. "Third-party Certification in the Global Agrifood System: Causes and Consequences." *Food Policy* 30(3):354–69.
- _____. 2006. "Differentiated Standardization, Standardized Differentiation: The Complexity of the Global Agrifood System." Pp. 39–68 in *Between the Local and the Global: Confronting Complexity in the Contemporary Agri-food Sector*, edited by T. Marsden and J. Murdoch. London, UK: JAI Press.
- Hatanaka, Maki and Lawrence Busch. 2008. "Third-party Certification in the Global Agrifood System: An Objective and Socially Mediated Governance Mechanism." *Sociologia Ruralis* 48(1):73–91.
- Juska, Arunas and Lawrence Busch. 1994. "The Production of Knowledge and the Production of Commodities: The Case of Rapeseed Technoscience." *Rural Sociology* 59(4):581–97.

- Juska, Arunas, Lourdes Gouveia, Jackie Gabriel, and Susan Koneck. 2000. "Negotiating Bacteriological Meat Contamination Standards in the U.S.: The Case of E-coli O157: H7." *Sociologia Ruralis* 40(2):249–71.
- Konefal, Jason, Carmen Bain, Michael Mascarenhas, and Lawrence Busch. 2007. "Supermarkets and Supply Chains in North America." Pp. 268–91 in *Supermarkets and Agri-food Supply Chains*, edited by G. Lawrence and D. Burch. Northampton, MA: Edward Elgar.
- Konefal, Jason and Lawrence Busch. 2010. "Markets of Multitudes: How Biotechnologies are Standardising and Differentiating Corn and Soybeans." *Sociologia Ruralis* 50(4):409–27.
- Konefal, Jason and Maki Hatanaka. Forthcoming. "Enacting Third-party Certification: A Case Study of Science and Politics in Organic Shrimp Certification." *Journal of Rural Studies*.
- Konefal, Jason and Michael Mascarenhas. 2005. "The Shifting Political Economy of the Global Agrifood System: Consumption and the Treadmill of Production." *Berkeley Journal of Sociology* 49:76–96.
- Latour, Bruno. 1987. *Science in Action*. Cambridge, MA: Harvard University Press.
- Law, John. 1987. "Technology and Heterogeneous Engineering: The Case of Portuguese Expansion." Pp. 111–34 in *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*, edited by W. Bijker, T. P. Hughes, and T. J. Pinch. Cambridge, MA: MIT Press.
- Loconto, Allison and Lawrence Busch. 2010. "Standards, Techno-economic Networks, and Playing Fields: Performing the Global Market Economy." *Review of International Political Economy* 17(3):507–36.
- Middendorf, Gerad, and Lawrence Busch. 1997. "Inquiry for the Public Good: Democratic Participation in Agricultural Research." *Agriculture and Human Values* 14(1):45–57.
- Ransom, Elizabeth. 2006. "Defining a Good Steak: Global Constructions of What is Considered the Best Red Meat." Pp. 159–75 in *Agricultural Standards: The Shape of the Global Food and Fiber System*, edited by J. Bingen and L. Busch. Dordrecht, Netherlands: Springer.
- _____. 2007. "The Rise of Agricultural Animal Welfare Standards as Understood Through a Neo-institutional Lens." *International Journal of Sociology of Agriculture and Food* 15(3):26–44.
- Reardon, Thomas, Jean-Marie Codron, Lawrence Busch, James Bingen, and Craig Harris. 1999. "Global Change in Agrifood Grades and Standards: Agribusiness

- Strategic Responses in Developing Countries.” *International Food and Agribusiness Management* 2(3):421–35.
- Tanaka, Keiko. 2005. “Redefining the Moral Responsibilities for Food Safety: The Case of Red Meat in New Zealand.” *Rural Sociology* 70(4):470–90.
- Tanaka, Keiko and Lawrence Busch. 2003. “Standardization as a Means for Globalizing a Commodity: The Case of Rapeseed in China.” *Rural Sociology* 68 (1):25–45.
- Tanaka, Keiko, Arunas Juska, and Lawrence Busch. 1999. “Globalization of Agricultural Production and Research: The Case of the Rapeseed Subsector.” *Sociologia Ruralis* 39(1):54–77.