Article

A Environment and Planning

Environment and Planning A: Economy and Space
2018, Vol. 50(2) 350–369

DOI: 10.1177/0308518X17742154
journals.sagepub.com/home/epn
SAGE

Bailing out the food banks? Hunger relief, food waste, and crisis in Central Appalachia

Joshua Lohnes and Bradley Wilson
West Virginia University, USA

Abstract
In 2015, West Virginia's flagship food bank confronted a financial crisis that threatened to cut off the supply of emergency food to some 600 agencies serving 300,000 people a month. Focusing on this crisis, we explore the evolution of charitable food networks across the United States with a particular focus on the role of food banking within agro-industrial supply chains. Drawing on a three year institutional ethnography of West Virginia's food banking economy, we analyze the transition from producer to buyer driven supply chains in a network that is dependent on charitable giving and affective labor to process surplus foods and revalue obsolete corporate inventories. We argue that food banks and their affiliate agencies have become key institutions within a vast food destruction network increasingly serving the needs of large food firms. While food banks and their affiliate agencies provide tax relief for food corporations and offer a highly efficient vent for state subsidized and corporate food waste, they are primarily funded by community-based organizations who are themselves stretched thin by economic crises within their own locales. The entrenchment and evolution of the food waste qua hunger relief circuit is producing new tensions in a network that is conflicted over whom they are ultimately working for, and sheds light on the paradox of hunger relief in the 21st-century.

Keywords
Food bank, destruction network, hunger, food waste, commodity chains

Introduction

In March 2015, West Virginia's largest food bank made a staggering announcement: "We're out of cash," said the Executive Director in an interview with ABC News (2015), "it's gotten to the point where we're extended out as far as we can go." The Mountaineer Food Bank was facing a budget deficit of $250,000 and reserves could only cover expenses for one more month before it would have to close its doors. The news sent shockwaves through the charitably funded emergency food network in West Virginia and beyond.

Corresponding author:
Joshua Lohnes, Candidate Geography, West Virginia University, Geography Program, 330 Brooks Hall, Morgantown, WV 26505-6300, USA.
Email: jlohnes@mix.wvu.edu

Food pantries, soup kitchens, backpack programs, and shelters depend on the free or cheap food provided by the food bank to serve some 300,000 people per month, or roughly 16% of West Virginia's population. In an effort to manage the crisis, the board was forced to lay off 17 of its 27 full time staff members including the executive director and launch a statewide fundraising campaign to save the food bank.

With the help of private foundations, angel donors and volunteer labor (nine of the staff continued to work unpaid), the food bank began to meet its commitments again. Finances recovered and by November 2015, the Mountaineer Food Bank network distributed more food in a single month than ever before. Yet, the resurgence of the food bank masks deeper questions about why the crisis happened in the first place. The near bankruptcy was described as an institutional failure attributed to financial mismanagement of the previous leadership, the elevated costs associated with managing a 300,000-square mile territory, and a computer system crash following heavy rains and a power outage in summer 2014 that erased all the data on partner agencies, logistics and budgeting.

While these explanations offered some immediate answers, deeper structural concerns about the food banking economy remained unexamined in the charitable rush of donors and volunteers to repair it. Given that food banks in West Virginia and elsewhere around the world are depicted as lifelines for vulnerable households confronting unemployment, low wages, and insufficient entitlements, we felt that this potentially broken line warranted a longer chain of explanation. Why did this West Virginia food bank almost fail? What makes these now critical institutions particularly vulnerable? What can it tell us about the moral and political economy of hunger relief in the 21st century?

We answer these questions through our three-year study of West Virginia's emergency food networks, including the state's two regional food banks and 600 local emergency food agencies (EFAs). We argue that the Mountaineer Food Bank crisis was a particularly spectacular iteration of a more general crisis precipitated by a transition in food banking supply chains to adapt to the evolution from manufacturing (producer driven) toward retail (buyer-driven) control over charitable food supplies (Clapp and Fuchs, 2009; Gereffi, 1994; Konefal et al., 2005). Building on Henderson's (2004) paper on value in food banking circuits, we reflect on the logistical restructuring that accompanies the revaluation of food commodities over time. Food bank labor and the wider charitable impulse associated with hunger relief efforts offer convenient spaces of decommodification that reinscribe value into surplus foods. Regional food banks and their network of EFAs depend upon the affective, emotional, and caring labor of volunteers and low paid staff who give of their time, creativity and energy to this revaluation process. We embed Henderson's theoretical frame with Herod et al.'s (2014) concept of a global destruction network (GDN). We hone in on the many different people and processes engaged in the transaction toward food's penultimate lifecycle from obsolete inventory (e.g. waste) into charity. Scaling out from the internal moral and political economies of revaluation that take place within a single food bank warehouse, our analysis includes a network of actors and activities across space at the scale of an entire state, West Virginia.

Methods

We draw on a three-year institutional ethnography (Billo and Mountz, 2016) to build our argument. The methodology unfolded in conjunction with the development of WV FOODLINK, a public geography project aimed at fostering food access planning dialogues across the state. Through this process, we developed close working relationships with the state's two regional food banks and dozens of local food charities who helped us understand the work that they do in relationship to food insecurity in their communities. Participant observation in food pantries, soup kitchens and mobile food pantries across the state along with engagement in county level emergency food coalition meetings provided us with many different perspectives on the politics of access to emergency food resources.

We conducted over 100 semi-structured interviews with key informants in West Virginia's charitable food economy and beyond, including federal and state bureaucrats working on USDA commodity procurement, Feeding America (FA) employees engaged in corporate food sourcing partnerships and food industry representatives selling food to the US government. We surveyed and mapped the 600 EFAs affiliated with the state's food banks to understand the impact of their programs across the state. A 95% response rate provided information about the number of people served by each EFA, their staffing and volunteer resources, yearly operational budgets, funding sources, food sourcing strategies and storage capacities. Geocoding each location, we built a geographic information system to analyze the work of these EFAs in relationship to one another. The food banks also provided us with information about the amount and types of food sourced and then redistributed across their network.

Literature review

Food banks distribute food to people who do not have sufficient incomes to pay for it. Largely sustained through private charitable funds, food banks are a key institutional node in the neoliberal restructuring of the welfare state and its responsibility to citizens struggling with the vagaries of capitalist society. Food banks first emerged as a charitable strategy to distribute surplus food to the working poor, unemployed, aged, disabled, homeless, and other food insecure people in Canada and the United States in the 1970s (Poppendieck, 1998; Riches, 1986). Per Poppendieck (1998) food banks and campaigns to donate food served as a moral safety valve for a society disturbed by welfare cuts in the 1980s and the rise of food insecurity caused by economic restructuring. The vast majority of research on food banking therefore explored the relationship between food charities and the privatization of responsibility for welfare. Daponte and Bade's (2006) review of the history of food banking in the United States reveals the complicity of the food and farming industry in that process. Recounting the early days of food banking development, they write:

> The Reagan administration believed it had found the optimal solution to hunger. [Commodity redistributions] pleased farmers by stabilizing prices and appeased (and distracted) the anti-hunger community. By providing for operational support to the private food assistance networks, the program also pleased the food industry, which in addition to donating food out of goodwill, found that it could use the network as an outlet for disposing of food for which it might otherwise have had to pay salvage costs. (p. 677)

Food banking remains an important case study for understanding the institutional rollback and rollout of neoliberalism (Peck and Tickell, 2002; Poppendieck, 1998; Riches, 2002). Research on food banks in North America has explored the symbiosis between public and private hunger relief efforts (Daponte and Bade, 2006; Edwards, 2012), the role of corporate food donations (Tarasuk and Eakin, 2005) and the neoliberal ideologies driving financial backers and volunteers undergirding the aggregation and redistribution of donated foods (Carson, 2014; Poppendieck, 1998; Tarasuk and Eakin, 2003). Yet food banking is no longer exclusively a North American institutional form. Emboldened by the successful rollout of food banking in the global North, food banking went global in the late 2000s and today food banks operate in some 30 countries from Ecuador to Egypt, South Africa to South Korea

(Warshawsky, 2010, 2011). Warshawsky argues that the globalization of food banking illustrates their role as para-statal institutions governing hunger through food distribution to vulnerable households across their territories.

Research into food banking as a neoliberal strategy has been vital to understanding the limits of private charity in addressing hunger and the problematic power relations associated with non-state actors providing welfare. There is wide consensus among critical scholars that food banking produces a set of discourses, values and socially necessary representations that serve to depoliticize the issue of hunger and structural inequalities altogether. However, there is still a gap in the literature connecting this depoliticization with the shifting political economy of free, excess, or surplus foods. Reflecting on forty years of change in the food banking economy, we argue that although food banks are widely recognized for their role in emergency food distribution in the context of capitalist crises, their political economic role in permanently revaluing food waste in conventional global food networks has been largely overlooked. Henderson (2004) demonstrated that food bank labor and the wider charitable impulse associated with hunger relief efforts enabled capitalist circuits to reinscribe value into surplus foods. In the decade since he leveled this critique the evolving role of food banks in revaluing food waste has not received the attention we believe it deserves. Lindenbaum (2016) has recently framed food banks as ''re-gifting depots'' that pass on leftovers from tax breaks, agricultural subsidies and reduced disposal costs to poor food consumers, but he does not set these value relations within the context of the agro-industrial-retail supply chains that drive this process forward across space.

To advance a deeper understanding of the political economy of food banking we interpret surplus food revaluation through what Herod et al. (2014) define as a GDN. GDNs are a commodity chain formation ''where products are disassembled and their constituent parts are extracted for processing and re-use'' (p. 427). The GDN framework focuses on the labor of ''waste workers'' (p. 428) who are involved in the material recovery of discarded commodities and their intimate relationship to value relations in GPNs. Food banks and their EFAs do precisely this kind of work converting devalued foods from manufacturers, retailers and state warehouses for redistribution and consumption. They do so in a state of permanent austerity, subsidizing insufficient operational budgets with the labor of volunteers and donors who maintain this network in place.

Reframing the food banking economy as a GDN, offers insights into the way in which commodity afterlives (devaluation) can also become a positivity (through revaluation) extending the circuit of value and capitalist accumulation. Reprocessing unsaleable food creates opportunities to further legitimize the capitalist food regime (by caring for the poor) and increase capital accumulation by large agro-food actors through reduced tax burdens, artificial price points, waste disposal costs, and positive brand impact. Food waste, unlike e-waste or scrap metal, is a highly perishable commodity and the urgency to transform it into something salvageable is intimately linked to a complex charitable infrastructure that extends across differentiated urban and rural spaces and transforms social relations in different places. By focusing on the revaluation of industrial food waste through charitable labor, we highlight how the ''shit end of capitalism'' (Gregson and Crang, 2010: 1029) reconfigure emergency food networks, deepening the contradictions and vulnerabilities associated with neoliberalism and the depoliticization of hunger.

Emergency food networks repurpose food waste through charitable goodwill. Here, we wish to make explicit what is often implicit in the food banking economy, that a large proportion of food distributed is overproduced, obsolete inventory, or simply waste. Foods that threatened to flood and disrupt agriculture markets, that were not sold in conventional retail outlets, that were nearing or past expiration, or that were damaged at some production or distribution stage are ‘‘donated’’ to feed the hungry. These foods have little or no value in the conventional marketplace – they have no willing seller or buyer and may not always meet food safety requirements. Indeed, the obsolescence of these products is precisely what facilitates the ease of their donation and distribution through so-called charitable or non-capitalist channels. As we describe below there are a series of laws and incentives governing this food waste, rules constructed over time to benefit the food industry.

Yet there are also moral norms ensuring that these distribution channels remain open, namely the perception that repurposing discarded foods to address household food insecurity is an unquestionable social good. The concept of diverting food waste to the hungry has gained renewed traction as popular books and documentary films foment a public outcry over the massive amounts of food dumped in municipal landfills (Bloom, 2010; Stuart, 2009). Decay induced methane gases and climate altering food miles now recenter charitable food networks as environmental solutions to climate change. This interest coincides with a flurry of grassroots food recovery programs that attempt to connect food otherwise destined for the bin to social service agencies. Recent scholarship has also aligned with some of these same concerns seeking to understand the production of food waste (Mena et al., 2011; Parfitt et al., 2010) and its negative ecological footprint (Buzby and Hyman, 2012; Cuéllar and Webber, 2010; Venkat, 2011). The consolidation of environmental and hunger relief discourse into the corporate social responsibility platforms of many food businesses reinforces beliefs that food charities perform a positive social function (Warshawsky, 2015).

Unpacking the food banking economy

In the late 1970s, a group of organizations emerged across the United States to manage food gleaning programs, its volunteer workforce and the monetary gifts generated by people concerned about hunger. This emergent form of hunger relief was largely uncoordinated, driven primarily by individuals who organized EFAs into feeding networks and regional coalitions that raised funds to distribute donated foods. By the 1980s, federal commodities distributed through The Emergency Food Assistance Program (TEFAP) flooded these nascent anti-hunger agencies with large amounts of food but very little support for logistics, infrastructure or additional staffing capacity.

The drive to bring a sense of stability to what were otherwise extremely volatile organizations led to what Poppendieck (1998) described as the ‘‘societal institutionalization’’ of food charity. As the lynchpin of this process, regional food banks created more stable conditions for their EFAs by offering steady food supplies and by setting expectations, rules and cost share fees to maintain these activities in place. Food banks provided staff to build fundraising capacity and construct a common narrative through which EFAs could represent hunger in both narrative and statistical form. This representation was critical to continue attracting donors and volunteers to the cause of connecting surplus food to the hungry. Today, 46.6 million people access a food charity every month (Winefield et al., 2014) entering a vast and highly regulated gift economy that this paper seeks to untangle through the West Virginia case study.

The past forty years of charitable hunger relief in the United States is a story of its entrenchment in the country’s foodscape, but also one of progressive alignment with food industry goals. There are now 200 FA food banks distributing 3 billion pounds of food every year across the United States from both public and private sources. We offer a brief history of this institutionalization to bring context to the transition toward retail driven charitable food supply chains and the symbiosis between public and private food sources in that shift.

Public food sources

The retrenchment of state welfare that began under the Reagan administration led to household food insecurity in the context of food gluts.[1] The political response to the paradox of want amidst plenty was the creation and formalization of TEFAP as a USDA nutrition program. TEFAP was legislated in 1981 to donate surplus commodities held by the Commodity Credit Corporation (CCC), a state-owned enterprise created in the wake of the great depression[2] "for the purpose of stabilizing, supporting and protecting farm income and prices" (Commodity Credit Corporation Charter Act, 2012). As a pass-through government financing institution, the CCC has no employees and carries out its mission through USDA personnel, in this case the Agricultural Marketing Service (AMS). The first 3 years of TEFAP saw 2.5 billion pounds of food delivered to EFAs through the nascent food bank industry. In 1983, political pressure from an emergency food network lacking the financial resources to manage the influx of public foods culminated in a $50 million annual appropriation to subsidize TEFAP administrative costs at the state level (US Government Accountability Office [GAO], 1987).

Designed as a temporary program, the permanent state of hunger across the country led to the depletion of commodity inventories by 1988. Congress was again pressured to direct $120 million toward the annual *purchase* of farm goods in addition to the $50 million to manage logistics. Besides a hiatus between 1994 and 1996 in which a commodity glut meant no monies were allocated to TEFAP purchases, the program stabilized into a steady $190 million appropriation every year through 2008.

TEFAP also regularly distributes "bonus foods", excess inventory purchased by AMS to stabilize gluts from targeted industries and offload conjunctural food excesses. In FY 2014 for example AMS purchased $33,098,705 worth of dried, canned and juiced cranberries after requests made by the U.S. Cranberry Marketing Committee struggling with low prices. Food banks across the country then received an influx of cranberry products to deliver to their EFAs. Extra-economic factors also play a role. Following the annexation of Crimea for example, the embargo on Russia led to a rise in frozen chicken donated through TEFAP. These so called "bonus" commodities arrive on an ad hoc basis and do not include administrative support for the labor and infrastructure necessary to move millions of pounds of extra food around to EFAs.

The 2014 Farm bill continued this same trend. The administrative appropriation to manage the logistics of distributing public food remains a meager $50 million while funds for the purchase of commodities increased by 35% through 2018 and possibly beyond (U.S. Congress, 2014a). Food banks are highly dependent on TEFAP to provide a steady supply of nutritious foods to people across their service areas, yet the funding that they receive through their state offices to manage this work represents only 12 to 27 percent of their operating budget (Cabilli et al., 2013). The remainder must be raised by cost-sharing with their EFAs and from third-party sources. In essence, the federal government funds food banks just enough to compel them to search for additional funds from private funding networks.

Private food sources

Realizing that food banks could be a vent for excess inventories, the food industry supported a surplus foods broker composed of food banks and their corporate partners. The coalition was incorporated in 1979 as a 501c3 named Second Harvest. In 1984, the organization moved its headquarters from its Phoenix roots to Chicago to be closer to key food industry headquarters. As a sign of the organization's growing influence over food banks across the country it changed its name to America's Second Harvest in the 1990s. In 2000,

Table 1. Feeding America's Corporate Partnership Network.

Food Processing	Food Retail	Finance	Other
Bimbo Bakeries	Albertson's	All State	Abbot Laboratories
Campbell's	Big Lots	Ameriprise Financial	American Idol
Cargill	BJ's	Anschutz Family Foundation	Arm & Hammer
Coca Cola	C&S	Anthem Foundation	Bristol Myers Squibb
ConAgra Foods	Food Lion	Bank of America	Caterpillar
Dannon	Kroger	JP Morgan	Clorox Company
Dean Foods	Publix	Linda & Keith Monda	Doris Christopher
Flowers Foods	Sam's Club	Morgan Stanley	Macy's
General Mills	Supervalu	Nationwide	Monsanto
Kellogg's	Sysco	PWC Charitable Foundation	Nielsen
Kraft	Target	Safeway Foundation	Proctor & Gamble
Mars	UNFI	The David Tepper Foundation	The Cheesecake Factory
Mondelez International	US foods	The Howard Buffett Foundation	The Pampered Chef
Nestle	Walgreens	The Jilot Family	Unilever
PepsiCo	Walmart	The Kresge Foundation	Valero
Perdue	Winn Dixie	The Lincy Foundation	CVS
Smuckers	*Partners contribute to at least one of six key operation areas. These include product donations, philanthropy, disaster relief, cause marketing, in-kind contributions and employee engagement:*		
Tyson			
White Wave			

Source: http://www.feedingamerica.org/our-response/about-us/partners a merger with Foodchain, another national food recovery non-profit, consolidated the organization's imprint on the charitable food landscape. In 2008, it changed its name again to FA, moving away from the idea of providing seconds or scraps to "more fully engage the public in the fight against hunger" (Feeding America, 2008).

Today, the FA board of directors includes representatives from some of the country's largest food banks, along with executives from Walmart, Kroger, ConAgra Foods and General Mills. A complete list of FA's food and funding partners is listed in table 1.

Food industry agglomeration under this charitable umbrella did not happen in a vacuum; rather it was paralleled by the construction of a legal framework that incentivized food businesses to donate their obsolete inventory to charity (Van Zuinden, 2012). An early obstacle to donating food was the fear of legal liability. Each of the 50 states had passed Good Samaritan acts in the 1970s and 80s to absolve food donors in some capacity, but the lack of uniformity prevented Second Harvest from acting in concert across the country. Christina Vladimiroff, then CEO of Second Harvest, testified before congress in 1996: "Our experience is clear, there are companies that want to donate food and grocery products, but are fearful of contributing because of the varying state laws regarding their liability for what would otherwise be a generous act of donation" (U.S. Congress, 1996).

President Clinton signed the Bill Emerson Good Samaritan Food Donation Act into law shortly thereafter providing uniform protection for food donors, and the security for them to take full advantage of charitable tax incentives set in place since 1976. Tax deductions were temporarily extended even further in the wake of Hurricane Katrina in 2005 and successfully lobbied for renewal in 2008, 2010 and 2012. The Fighting Hunger Incentive Act of 2014 (U.S. Congress, 2014b) aimed to make these deductions permanent. The bill passed the house but failed in the senate after a presidential veto threat because it "would reduce revenues, thus increasing federal budget deficits, by about $1.9 billion over the 2014–2024 period" (Congressional Budget Office, 2014). The political battle over legislation to permanently amend the tax code for corporations that donate food to charities was permanently secured through the Protecting Americans from Tax Hikes (PATH) Act (U.S. Congress, 2015).

The discourse that prefigures all this legislative energy is centered on the excessive amounts of food wasted along supply chains each year, and the desire to connect this waste to hunger relief organizations. Bob Aiken, the former FA CEO in a statement supporting the enhanced tax incentives stated: "We know that 70 million pounds of food that is safe for consumption ends up in landfills every year, and we also know that our network of food banks is now providing food to 46 million people each [year] – so this is food that is much-needed by those we serve" (Feeding America, 2014). The continued push for expanding tax incentives to private food donors raises further questions about the extent to which the "hunger industrial complex" (Fisher, 2017) has captured anti-hunger advocacy efforts and whether such laws provide a greater benefit to the food industry or the hungry. As we discuss below this is a contentious subject among those working within charitable food networks in West Virginia.

The Post-2008 food banking order. Feeding America and food retailer integration

USDA and FA supply chains generated more food donations in the past decade than ever before. In the two years following the financial crisis the amount of TEFAP allocations skyrocketed to nearly $700 million (Cabilli et al., 2013) without any proportional increase in administrative funding, leaving food banks once again in a position where they had to raise money from private donors to distribute a public good. Private donations are on the rise too. FA claims it processes 3.3 billion pounds of donated food a year through its network (Winefield et al., 2014). This number is up 33% since 2005 (O'Brien and Aldeen, 2006) and last year alone saw a 14% rise in retail donations.

The food donation increase spiked during a critical juncture in the operational framework of the US food industry in 2008. On the farm production side, the USDA was keen to support commodity prices during a time of weakening consumer demand. On the food production and retail end transitions to a just-in-time supply chain model meant that manufacturers no longer had as much excess to donate and retailers were now the entities over purchasing and looking to offload product. Retailers began integrating their supply chains into donated food circuits and food banks received more and more food to distribute, albeit foods that required more labor to sort than ever before. Furthermore, trucking routes had to be reorganized to pick up food from an increasing number of suppliers. A food bank director in West Virginia recounted the abrupt transition in food sourcing as follows:

> In 2007 [food] donations were *way* down, they were very low. Very little for us to bid on, to get donations through [manufacturers] and stuff. It really concerned me at that time. I saw product change. One year you get all salad dressing, then cereal, it was constantly changing like that. Then in 2008 they [FA] said we are partnering with retailers. In June we had 5 Sam's stores in our service area [. . .] in October were doing 30 some Krogers. Then in May 2009 we picked up at 17 Walmarts, and in June 2009 we picked up 18 more Walmarts [. . .] That's when that started, our whole face changed.

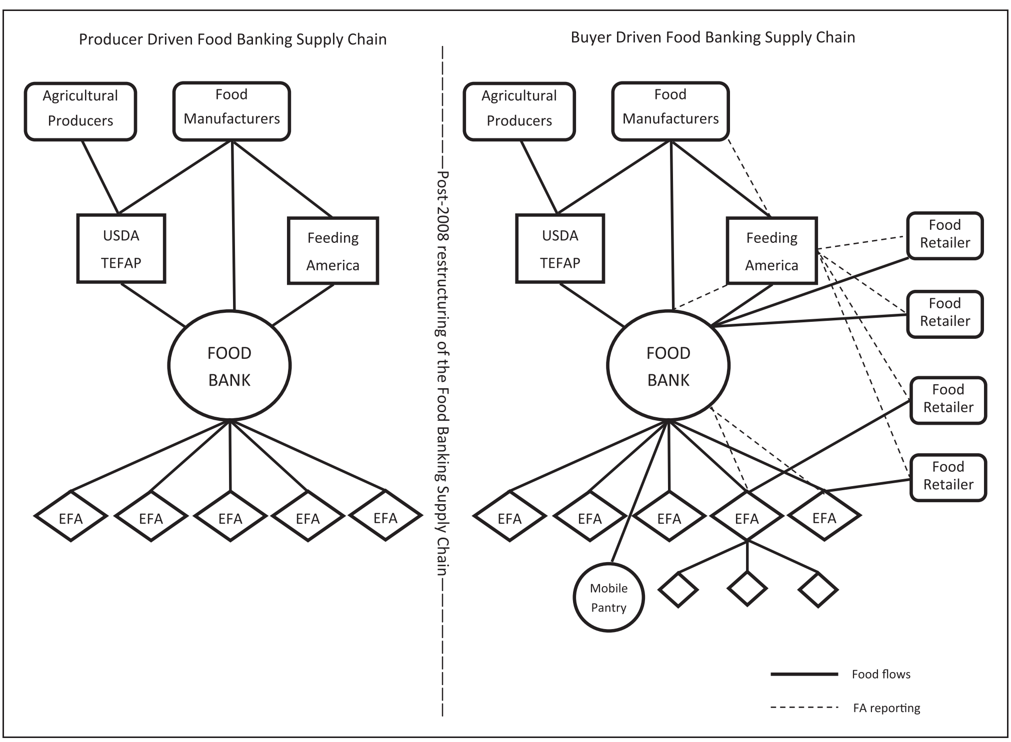

Figure 1. The reorganization of product sourcing in food banking supply chains after 2008.

Figure 1 visualizes the strain put on emergency food networks as they reorganized their supply chains to accommodate the shifting geography of surplus food donations. While retailers had been tangentially involved in supplying food since the early days of food banking, it was not until 2008 that these became fully integrated into the FA accounting system. Prior, food banks sourced primarily from federal commodities and food manufacturers in their service areas. After 2008, the addition of national retailers created a logistical quandary for many food banks especially rural ones with large territories within which to collect and deliver retail food donations.

As a response, food banks are encouraging EFAs to pick up foods directly from their local retail partners[3] (Feeding America, 2016). So-called ''agency enabled pickups'' are now part of the modus operandi pushed by FA through grant proposals and best-practices documentation. The new governance structure devolves responsibility by training an enabled agency on safe food handling practices and inventory management and most importantly on ensuring that each donated food item is reported accurately and on time so that credit for the gift is receipted to the appropriate parties. Rural food banks already squeezed by sparse operational funds are now required to manage smaller de facto food banks many of which redistribute gleaned foods to other charities in their vicinity.

Across the FA network charities continue to invest in a logistics infrastructure to expand their capacity to accept donations of fruits, vegetables, dairy, meats and other highly perishable items to accommodate retail donors. In some places, this restructuring has been successful. In West Virginia, uneven retail geographies and EFAs' differentiated capacity to accommodate retail pick-ups was highly disruptive. Added to a context of declining charitable giving, the precarious balance of previously established cost share structures was shaken.

West Virginia case study

West Virginia currently has the country's highest unemployment rate at 6.9% and the $41,195 median household income is the second lowest. Nineteen thousand layoffs in 2015 alone further exacerbated a 19.4% food hardship rate (FRAC, 2016), meaning at least once over a twelve-month period nearly a fifth of households could not cover food costs. Food charities are under tremendous pressure to provide hunger relief but paradoxically the food banking economy in West Virginia is itself strained under the weight of institutional restructuring outlined above. Underfunded and overwhelmed, the network is struggling to stay afloat let alone intensify recovery efforts and expand distribution to meet the needs of those left behind by capital flight.

The amount of food flowing through the state's food banks has doubled to 15 million pounds over the past decade and over 70% of agencies report less than a quarter sourced from local donors, a development which makes the canned food drive seem almost anachronistic. The state's two food banks are constantly recruiting new EFAs to meet distribution targets imposed by FA in each county. A staggering 120 new EFAs began operating since 2008 to redistribute food waste to the hungry, yet they still cannot process all this food. As a response to limits imposed by traditional brick and mortar EFAs, food banks rely heavily on their mobile food pantries to dispose of the excess, especially highly perishable products. These on demand deliveries allow food banks to quickly process a truckload in places where EFA capacity is not large enough to absorb it.

Mirroring uneven capitalist development, a community's capacity to be charitable affects financial and volunteer labor flows into emergency food programs. Wealthier counties in the state usually attract more money and volunteers regardless of the number of households needing food assistance there. Inversely, some counties with very high food insecurity rates only have one or two food charities. EFA food processing capacity is thus highly variable, a fractured geography that complicates the work of revaluing the millions of pounds of donated foods flowing through charitable circuits each month. Uneven development affects food bank service areas as well. Rural food banks have much wider territories but a much smaller donor base than their more spatially concentrated urban counterparts. This makes rural food banking especially vulnerable to conjunctural changes that dictate how much funding is coming through each year. In the state's southern coalfields for example, the 6000 miners laid off since 2011 produces a crisis that percolates through other sectors of those local economies. As paychecks are lost, alms and gifts dry up even as more demands are placed on food charities for those now out of work.

It costs \$3.5 million dollars to operate the state's two food banks on an annual basis. TEFAP administrative support covers a mere 20% of this budget. USDA commodities are still distributed free of charge because many EFAs operate without a budget, dependent solely on volunteer labor. However, the squeeze is prompting the two food bank directors to begin considering a cost share on TEFAP distributions, a development that would further strain EFAs working to provide this form of hunger relief in their communities. West Virginia food banks have always relied on cost sharing. EFAs order food from the bank online or by phone and pay a processing and delivery fee for that service. A decade ago, they charged around 10 cents a pound, a figure that has risen to 19 cents. Each rate hike is contentious as it forces the burden on local communities that already feel under resourced in comparison to what they perceive as well funded regional food banks. We estimate the total cost to EFAs in West Virginia who *purchase* this food waste to be nearly \$1 million dollars per year. Again, these are costs borne by community-based organizations, churches and charitable individuals, not the corporate retailers and national nonprofits that claim to be doing the work of food waste reduction and hunger relief. Cost-sharing still does not fully balance operational budgets. Food banks bridge the gap through their own funding appeals or grant writing. The latter is labor intensive and conditional on meeting "measurable deliverables" which often distract from their core objectives.

\$6 million dollars is raised every year by EFAs to keep their operations afloat, a figure that does not reflect in-kind donations such as mileage, nor the value of volunteer labor. The monetary figure is in fact just the tip of the iceberg of an economy of care (Razavi and Staab, 2012) that operates especially on gifts, reciprocity and affect (Dickinson, 2017). The median yearly operating budget for an EFA in West Virginia is \$15,000, money that goes toward the costs of processing and delivering food donations but also toward supplementary food purchases, electric, gas, water, rent bills and staff salaries. EFAs are highly creative in coming up with strategies to raise money through mailings, special event fundraisers, thrift stores or other parallel revenue generating activities. At least 7000 volunteers are mobilized across West Virginia to pick-up, sort, distribute, record and report the millions of pounds of food given away to poor households every month. This equates to hundreds of thousands of labor hours to revalue surplus food as hunger relief. These "waste workers" contribute toward different parts of the network. Private vehicles are used to collect food from food bank drop off sites or from retailers. Some assist in the food bank warehouse, others work in an office setting on marketing campaigns or ensuring that accounting is done correctly to maintain compliance with TEFAP and FA reporting standards.

Such a vast operation could not be maintained on volunteer goodwill alone. 40% of EFAs employ at least one paid staff member. Food banks are the largest employers in the supply chain, staffed by truckers and manual laborers, program managers, accountants, development officers, agency, food sourcing and logistics coordinators. Employees have unique skills and networks tuned to their food revaluation tasks. Yet salaries are often far below the rates paid for comparable work in other industries and because paychecks must be fundraised employment is constantly precarious. Despite uncompetitive wages and low job security, many paid employees we interviewed mentioned the cause of hunger relief as a motivating incentive.

> I go on mobile pantries to revitalize myself, because that's my only chance to interact with the people that I'm working for. We do one every weekend and I get out when I can. On most mobiles we serve around 300 households, but sometimes that's gone as high as 800. Last time I was out, I unloaded for four hours and the line never got smaller. You run on the assumption that they are not going to be there unless they need it.

Employee turnover at both food banks in the state is still quite high and staff often pick up responsibilities that extend beyond their original job descriptions. As one employee highlights, the workload evades the logic of a traditional workplace:

> Only those working in food banking really understand the type of work that we're doing every day. There is no good way to communicate all that I do; it just doesn't make much sense!

While the religious or humanitarian impulse to help the poor and hungry is a strong motivator, paid staff tend to question the efficacy of their work. "We are just feeding the line, not shortening the line" was one answer to a question about the impacts of food banking on reducing hunger in the state. Moreover, with consistently high food insecurity rates and more and more surplus food flowing through the network each year, many feel like they are running on a treadmill. The increased quantity of foods distributed has brought a sense of achievement to some, but others also question the quality of the food itself, especially from retailers:

> With the shift to the retail program we have to go to that store, pick up and categorize everything that gets donated. [...] High demand items are often not donated and even if agencies don't want it we have to figure out how to transform it into something. Of course, we'd much rather give out good food, but we're constrained to working with whatever gets donated.

EFAs who distribute directly to households are even more skeptical of the food donated by retail partners across the network. One local volunteer was quite blunt: "I'm not picking up that trash; it would be indecent of me to give that away if I'm not willing to eat it myself." Still others criticized the detailed accounting requirements that accompanied the process. A part-time soup kitchen director said: "I just want to get this food out to my people. I don't have time for all this paperwork." This push back often creates frustrations and conflict between the food bank and EFAs, especially if the latter do not take time to report their donations accurately.

> We have a contractual obligation with Feeding America and we pass those on to the agencies. It reflects poorly on us if they don't report, we need more training for agencies to make them understand why numbers are important. If agencies don't report a Walmart pick up it looks like that store didn't give any food away, their corporate [office] can't get the tax write off [...]. If you don't report this free food, [retail stores] will stop giving it to you, and we will have to switch to an agency that is willing to report.

The accounting and governance concerns are not simply managerial. EFAs consistently express a sense of moral outrage at the increasing discipline required of them to carry out benevolent hunger relief work, implicitly reframed as a food waste accounting regime tied to tax benefits and cause marketing. "There sure are a lot of rules and regulations involved in giving away food," said one salaried EFA director disgruntled with contractual obligations that limited her capacity to further her organizational goals. Another volunteer soup kitchen and shelter director criticized those he perceived as setting the rules upstream at the regional food bank: "I don't know what these positions pay but they must be well worth fighting for, they're saying they will cut me off if I don't comply".

The agency enabled retail program rollout also created conflicts. Empowering EFAs to source food directly from retailers exacerbated pre-existing resource allocation tensions. Those with sufficient capacity (storage, refrigeration, vehicles, volunteer base, regular opening hours, etc.), a proven history of compliance and faithful bookkeeping were deputized to pick up and redistribute as often as three to four times a week. Thus, established EFAs were given contracts to pick up excess retail inventories while smaller ones were left out. Retailers on the frontiers of a food bank's territory were transferred to quickly reduce transportation costs while those in proximity to the central warehouse, or easily accessible through regular trucking routes, were kept in the food bank's internal sourcing system. Quickly redrawing food sourcing lines created a new and often incomprehensible geography for local EFA directors who feel left out of the retail donation program. "Where's my Walmart? Why can't I pick up donations from the Walmart I shop at?" yelled one pantry director at an EFA training meeting.

The tensions highlighted in our case study illustrate the contradictory relationship between a low-paid or volunteer labor force and the power of corporate retailers over hunger relief networks. The strain shows no sign of relaxing. The fiscal survival of food banks in West Virginia is contingent on aligning themselves ever more closely with the FA brand and its governance structure. Along with access to vast amounts of private food donations, FA provides exclusive (yet competitive) funding opportunities to its food bank affiliates. The relationship however also obligates food banks to integrate their operating structures with FA and couple their regional advocacy activities with national goals.

Banking on charity: Putting food waste and hunger to work

FA attracts partners to their coalition because they have formalized and streamlined a system for food businesses to track donations through charitable labor and simplify the otherwise complex accounting involved in claiming a tax deduction. FA in turn guides food bank management by putting in place best practices, regulations, and procedures that must be followed to remain a compliant affiliate and continue receiving corporate food donations. By operating through one entity, donors receive a single tax-deductible receipt rather than hundreds of thousands of receipts from various food banks and EFAs around the country. In contrast, those laboring across charitable food networks have a lot of accounting to do to report back up the chain to FA. A system of contractual obligations, audits, compliance, and performance benchmarks with its 200 food bank partners filters down to the 58,000 EFAs serving food insecure households across the country.

FA also defines the standards used to measure the success or failure of hunger relief efforts through the Pounds per Person in Poverty (PPIP) metric, recently renamed Meals per Person in Need (MPIN) to garner more affect among donors. Food banks are obligated to demonstrate that they have delivered at least 40 pounds per person identified as needing emergency food assistance based on the "Map the Meal Gap" project, an econometric model developed by FA to calculate hunger at the county level. This measure can be a hurdle in areas where EFAs are not processing enough food, requiring food banks to supplement with mobile food pantries to avoid probation. The metric is regularly adjusted,[4] a fluctuation that can quickly force a logistical restructuring for food banks to meet new targets, and potentially alienate EFAs who do not comprehend the reasoning behind food flow changes.

The definition of standards within a national accounting system serve the goals and reporting requirements of FA's corporate food partners.

> Everything we receive is receipted to corporate Walmart & Kroger by store date and product category. We have to receipt to Feeding America, they give credit back to the stores. If we receipt for 80lbs and they gave 100lbs they get mad at us.

Retailers recuperate a significant amount of the costs from their surplus food inventories by using food banks as disposal sites. Charitably funded food recovery programs are not only a zero-cost solution to their waste problem, but also a profitable way to reduce the financial risks associated with producing or ordering too much food, and generating customer good will.

> We have to distribute 25 pallets/day just to keep up [with the constant supply]. Monday is a holiday but we will still pick up. We run all year long, except black Friday because we just can't accommodate [retail waste] then. Agencies are soaking food up because it's never been available like this before. Perishables, fruits, vegetables, meat wasn't out there before. Now with the retail program, most stores just donate. It's something they can do, their company pushes it.

In an industry known for pursuing any cost cutting measure, liquidating food waste in this way is viewed as a win-win solution. Not only does cause marketing varnish corporate images, it also keeps food prices up at the store shelf, especially perishables, prices that many accessing these same charitable foods cannot afford. Rather than paying to dispose of unsaleable inventories, food banks now pick up the waste and the costs of redistributing it. This is not an insignificant amount of money. A 2013 study by Kroger supermarkets claimed that 25,000 tons of donated perishable foods resulted in a modest savings of $1.5 million in fees otherwise paid to landfills (Marmer, 2014). This calculation only accounted for the costs of *waste disposal* of produce for one company. Accounting for the $2 billion tax deductions processed by FA as well, retailers have found a way to cash in on converting their food waste into hunger relief. To do so however requires food banks and EFAs to pick up the costs. As the director of one EFA stated bluntly, "you know, free food is never really free."

Per their IRS 990 documentation, FA assets have mushroomed over the past decade from $25 million in 2007 to $95 million in 2016. They have grown into the third largest charity in the United States and their directors earn generous compensation packages to manage the food waste qua hunger relief circuit. FA is now a major sponsor of the Food Research Action Council (FRAC) the national anti-hunger policy coalition based in Washington DC that sets national advocacy and legislative agendas every year. FA thus frames hunger related issues in the United States and enrolls its corporate partners to fund advocacy efforts. Yet, even as they convince food businesses to donate their excess inventories and require food banks to account for these gifts, neither FA nor food businesses are required to provide funding for operational costs to the organizations that process their waste. On the contrary, food banks pay a yearly membership fee to FA for the privilege of accessing food, training and branding resources. FA food banks compete amongst themselves for donor driven grant proposals from their corporate partners. These often involve enhancing operations to align with a specific company's goals. The Walmart foundation for example funds capacity building for EFA retail pickups and SNAP enrollment programs, while the meat processing company Tyson funds food banks to develop innovations in animal protein sourcing. These programmatic grants are labor intensive and again conditional on meeting certain objectives that often distract food bank staff from developing their own initiatives: ‘‘I have to start a nutrition education program to pay for my agency outreach coordinator’’.

In a recent conversation, a West Virginia food bank director related how she came back from the most recent FA conference ‘‘scared to death’’ at the food sourcing changes projected over the coming years. The effects of reworking food supply chains around online businesses like Amazon Pantry and Walmart Grocery will be significant.

> It’s already impacting my Walmart donations as they are figuring out how to go online. You don’t want to stop at the store, go on Amazon prime, get your groceries. Donations from Walmart dropped by 125,000 pounds this year, Sam’s club increased theirs by 60,000 so we didn’t feel as much but Kroger too is being encouraged not to put as much out. They are projecting a 20 to 25 % reduction, that’s bad for us!

Beyond potentially disrupting the food desert framework that tends to shape food access debates, food retail restructuring into ‘‘the cloud’’ will continue to impact people’s ability to access food. The charitable food network is rarely considered in supply chain changes, expected to adapt as a polymorphous organism at the service of a market based food system that unscrupulously segments consumers along lines of disposable income. Despite the veneer of economic recovery, the number of people accessing charities as a food sourcing strategy across the country is rising and will likely continue to do so as other welfare programs are being considered for steep cuts to balance the federal budget. If emergency food networks are indeed the last line of defense against hunger in the United States, what will happen the next time deep crisis and recession hits, consumer-spending drops, monetary donations are reduced and local communities are left once again to carry the burden of hunger relief from the ‘‘scraps that fall from the master’s table?’’ Who will bail out the food banks and foot the bill to subsidize the waste workers picking food off the floor? A prescient question that comes from a place that is still experiencing the tremors of the previous economic disaster.

Bailing out the food bank

This brings us back to the Mountaineer food bank crisis that opened our paper. Local fundraisers, volunteers and unpaid workers ultimately ensured the organization’s recovery. As West Virginia residents came to the rescue of their flagship food bank however, few stopped to consider who should bear the material costs of ‘‘bailing out the bank.’’ What we want to stress here is that the food banking economy is not only a neoliberal strategy for providing hunger relief, it has also evolved into an appendage of agro-industrial and retail supply chains, one that partially resolves its crises of overproduction and waste. By focusing on the food banking economy’s role in revaluing food waste, we see its great utility as a GDN linked to broader patters of overproduction and under-consumption associated with capitalist uneven development. Labelling the work of emergency food workers as ‘‘waste labor’’ is in no way meant to deride community efforts seeking to resolve food access disparities. In fact, we are continually humbled by the deep sacrifices being made to repair a highly dysfunctional food system. It is however meant to provoke and question the co-optation of this humanitarian impulse at the service of entrenched corporate interests. Which crisis are volunteers and funders working to solve? Should they be the ones working and paying to solve it?

Collecting, sorting and distributing foods that farmers could not sell through conventional markets, that manufacturers overproduced, or that were no longer apt for retail shelves is labor intensive and financially burdensome. Those undergirding this food delivery system may often be inundated with food but lacking the resources to properly process and distribute it. As they work to disperse the waste across space, it ''disappears'', yet the industrial reserve army remains. Herod et al. (2014) understand GDNs as ''indelibly imbricated with, and an indispensable Other to, GPNs, for the work of most GDNs is fairly pointless if they are not producing raw materials for GPNs'' (p. 426). The GDN facilitated by the food banking economy reproduces low cost labor for global GPNs. Working families across the world are now regularly accessing charitable foods through an expanding global food banking rollout. The idea that extremely low wages along agricultural, food processing and food retail supply chains are partially facilitated by the waste generated by that same labor should give us plenty to think about in regards to the biopolitics of food provisioning and the management of precarious life in the 21st-century (Nally, 2011).

The food banking economy that emerged in the context of emergency food provisioning in the 1980s cemented into the socio-political landscape as a normative form of social welfare. Although numerous scholars have demonstrated that these organizational formations seriously hamper political claims for the right to food (Riches and Silvasti, 2014), food banks and EFAs are still perceived as providing a solution to hunger. Many within the ranks of the food banking economy recognize that the institution is flawed but are hopeful for reform that brings higher quality foods. One area of growing interest has focused on healthy eating. Reflecting the concerns of the local food movement and anti-obesity campaigning, food bank staff, EFAs and volunteers now search for opportunities to integrate fresh produce and alternative food supply chains into the food bank networks as health-conscious donors increasingly tie their funding for the purchase of higher quality foods or health education initiatives (Feeding America, 2015).

The moral economy of food waste revaluation however is increasingly implicated in a hunger relief imperative that is itself fraught. As feeding lines continue to grow, many donating money and labor to this network are beginning to question their commitment in light of injustices they perceive in the wider food system. The difficulty many EFAs have recruiting a new generation of volunteers is a case in point. At the core of our concern here is the way that food banks are being leveraged for a combination of neoliberal hunger and waste reduction strategies that depoliticize the root cause of both issues altogether. In some respects, the tensions that come from overburdening community-based volunteers and donors suggests potential fissures in the facade of this food destruction network. The fact that the amount of donated food is increasing year upon year suggests that these breaches may widen. Some EFAs expressed pleasure with the expanded access to retail donations for their clients of course, but others question the fraught nature of it. These latent tensions may become even more disruptive in the future.

Conclusion

Unlike the processes of valuation associated with GPNs resulting in a finished food commodity for retail sale, the waste foods that end up in food bank circuits are (1) in the process of devaluation (i.e. having not realized a profit with conventional retail markets) and/or, (2) must be kept out of the circuit of value and cannot be sold in conventional retail markets because they are owned by the state (i.e. USDA food commodities held in the national inventory). Food banks and EFAs that recover, warehouse, sort and distribute emergency food work for very low wages or as unpaid volunteers. They reinscribe value into food commodities rejected from traditional production and distribution circuits. They do this for those who cannot fully access those circuits. While food banks and their local partners ostensibly get the food for free, corporate food consortiums enjoy cause marketing benefits, tax incentives and higher retail prices for disposing their obsolete inventories without bearing the costs of disposal. Food producers (from farmers to processors) on the other hand increase sales by supplying products paid for by the USDA through non-conventional markets; namely the AMS and public tax dollars appropriated through the Farm Bill.

Viewed from the perspective of a global food destruction network, charitable food organizations are a critical component of food industry supply chains. Partially subsidized through the federal TEFAP program, these public–private entities help resolve the problem of food devaluation by serving as overproduction safety valves through which food waste is transformed into something of value through those working to resolve the crisis of surplus labor. That many of the country's largest corporations are complicit in extracting this value from wasted labor and wasted food is not trivial. The double negative of valueless unemployable, or underemployed clients and valueless foods equates to the "positive" values of corporate tax breaks, farmer subsidies and artificial price points through the work of transforming waste into a valuable charitable good.

We have argued that the current crisis in West Virginia is tightly coupled with the evolving moral and political economy of food banking writ large. As concerns about food waste governance grow in the United States, corporate retailers have doubled down on food banking as vents for their excess inventories. The articulation of the food banking economy with food waste reduction efforts has led to dramatic changes to hunger relief networks, particularly in regards to retail restructuring accommodations. In West Virginia alone, donated discards from private sources more than doubled from 3,700,000 pounds in 2004 to 8,212,000 pounds in 2014. However, this increased flow of excess food inventories has not been matched by a commensurate increase in funding from those same food donors to cover the costs of distributing it all. Efforts to squeeze more efficiency out of an already highly austere institution are creating tensions throughout the charitable food network.

We have demonstrated how the unfunded mandate has led to a new fiscal and managerial order that disrupts existing moral and material values and places stress on low-paid staff, volunteers and donors in poor rural states with high food insecurity rates like West Virginia. The evolution of the food banking economy here and elsewhere is not only generating tensions over how our society should address the problem of hunger, inequality and precarity generated by capitalist uneven development, it is also creating tensions over the moral values associated with the "free food" circulating through this shadow hunger economy. Will food banks be able to mobilize charitable volunteers and donors over the long term as their hunger relief mission becomes more articulated with a corporate food waste reduction mission? Are food waste reduction and hunger relief morally compatible win-win outcomes?

In an effort to cut costs, West Virginia food banks are working to consolidate EFAs where there are deemed to be too many, and recruit new ones where there are not deemed to be enough. In so doing they seek to reduce the management burden of small agencies that do not process enough food, and expand the geographic scope of retail pick-ups and deliveries, empowering EFAs to do the bidding instead. Many of these local organizations are now evolving into de-facto mini-food banks, processing "free" food for distribution to other EFAs in their counties. In these cases, there is a further devolution of accounting and transparency responsibility that is reshaping the way traditional food charities operate. It remains to be seen whether West Virginia's food banking economy can cope with this scalar restructuring over the long haul as a new mode of governance driven largely by FA intersects with the charitable networks run largely by churches and other local groups. In the meantime, more research into food banking economies in different geographic contexts would be necessary to understand the long-term consequences of neoliberal hunger relief and retail food waste reduction strategies.

Acknowledgements

First and foremost, we would like to thank the WV FOODLINK team and the students affiliated with the WVU Food Justice Lab for their tireless work to support transformative change in the Appalachian food system. We are honored to be a part of their excellent work. We would also like to thank Dan Warshawsky, Julian Agyeman, Adam Diamond, Maria Perez, Karen Culcasi, Cynthia Gorman and Jenna Mosely for their support and insightful comments on earlier drafts of this manuscript. Last but certainly not least, many thanks to the staff and volunteers across West Virginia's emergency food assistance network who shared their time and passion for combating hunger. All errors are the responsibility of the authors alone.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

Notes

1. In the late 1970s and early 1980s, the federal government purchased and stockpiled 560 million pounds of cheese and butter to stabilize milk markets and protect dairy farmers. TEFAP finds its origins in the release of these federal foods to states who then leaned on food banks to deliver the commodities into local communities.
2. Poppendieck (2014) provides a comprehensive overview of the federal government's response to the paradox of agricultural surpluses amidst household food insecurity in the 1930s. Institutions created in the wake of this intervention laid a foundation enabling the rollout of the TEFAP program 50 years later.
3. This is a national practice. Some FA food banks are 100% agency enabled meaning that they do not process any retail donations, leaving those to local food charities to pick up and redistribute instead. Such food banks must have the capacity to employ a robust food sourcing staff to maintain linkages and oversight between retailers and local agencies. In West Virginia retail food sourcing remains a mix of food bank and local agency pickups due to the highly uneven retail and charitable landscape across the state.
4. MMG data is updated yearly based on census data, and the amount of food required to meet MPIN targets is adjusted based on a yearly average of food receipts across the entire FA network. Therefore, if overall food donations increase across the country, more food must be delivered across a single food bank territory the following year. As large ‘‘food rich’’ urban food banks receive more food, ‘‘food poor’ rural food banks are contractually obligated to keep up with the national median or become non-compliant.

References

ABC News (2015) Mountaineer food bank facing cash crisis. Available at: www.wchstv.com/news/features/eyewitness-news/stories/Mountaineer-Food-Bank-Facing-Cash-Crisis-100726.shtml#.VoLvr_krJhF (accessed 30 November 2015).

Billo E and Mountz A (2016) For institutional ethnography: Geographical approaches to institutions and the everyday. *Progress in Human Geography* 40(2): 199–220.

Bloom J (2010) *American Wasteland: How America Throws Away Nearly Half of its Food (and What We Can Do About It)*. Cambridge, MA: Da Capo Press.

Buzby J and Hyman J (2012) Total and per capita value of food loss in the United States. *Food Policy* 37(5): 561–570.

Cabili C, Eslami E and Briefel R (2013) White Paper on The Emergency Food Assistance Program (TEFAP): Final Report. Alexandria, VA: US Department of Agriculture Food and Nutrition Service, Office of Policy Support.

Carson E (2014) Canadian food banks and the depolitization of food insecurity at the individual and community levels. *Canadian Review of Social Policy* 70: 7–21.

Clapp J and Fuchs D (2009) *Corporate Power in Global Agrifood Governance*. Cambridge, MA: MIT Press.

Cuéllar A and Webber M (2010) Wasted food, wasted energy: The embedded energy in food waste in the United States. *Environmental Science and Technology* 44(16): 6464–6469.

Daponte B and Bade S (2006) How the private food assistance network evolved: Interactions between public and private responses to hunger. *Non Profit and Voluntary Sector Quarterly* 35(4): 668–690.

Dickinson M (2017) Free to serve? Emergency food and volunteer labor in the urban U.S. *Gastronomica: The Journal of Critical Food Studies* 17(2): 16–25.

Edwards ME (2012) Food insecurity in Western US states: Increasing collaboration between state agencies and nonprofit organizations. *Food, Culture and Society* 15(1): 93–112.

Feeding America (2008) Press release: America's second harvest changes name to Feeding America. Available at: www.feedingamerica.org/hunger-in-america/news-and-updates/press-room/press-releases/americas-second-harvest-changes-name-to-feeding-america.html (accessed 4 April 2015).

Feeding America (2014) Feeding America calls for senate passage of the America gives more act. Available at: www.feedingamerica.org/hunger-in-america/news-and-updates/press-room/press-releases/feeding-america-calls-for-senate-passage-of-America-Gives-More-Act.html (accessed 4 April 2015).

Feeding America (2015) Feeding America's foods to encourage background. Available at: http://hungerandhealth.feedingamerica.org/wp-content/uploads/legacy/mp/files/tool_and_resources/files/f2e-background-detail.v1.pdf (accessed 19 October 2017).

Feeding America (2016) New business feeds the need. Available at: www.feedingamerica.org/hunger-blog/new-business-feeds-the-need.html (accessed 18 October 2017).

Fisher A (2017) *Big Hunger: The Unholy Alliance between Corporate America and Anti-Hunger Groups*. Cambridge, MA: MIT Press.

Food Research and Action Center (2016) How hungry is America? Available at: http://frac.org/wp-content/uploads/food-hardship-2016-1.pdf (accessed 3 March 2016).

Gereffi G (1994) The Organization of Buyer-Driven Global Commodity Chains: How U.S. Retailers Shape Overseas Production Networks. In: Gereffi G and Korzeniewicz M (eds) *Commodity Chains and Global Capitalism*. Westport, CT: Praeger.

Government Accountability Office (1986) *Surplus Commodities: Temporary Emergency Food Assistance Program's Operation and Continuance*. RCED-88-11: Published 19 October 1987. Washington, D.C. Available at: http://www.gao.gov/products/RCED-88-11 (accessed 19 September 2017).

Gregson N and Crang M (2010) Materiality and waste: Inorganic vitality in a networked world. *Environment and Planning A* 42: 1026–1032.

Henderson G (2004) 'Free' food, the local production of worth, and the circuit of decommodification. *Environment and Planning D* 22: 485–512.

Herod A, Pickren G, Rainnie A, et al. (2014) Global destruction networks, labor and waste. *Journal of Economic Geography* 14(2): 421–441.
Konefal J, Mascarenhas M and Hatanaka M (2005) Governance in the global agro-food system: Backlighting the role of transnational supermarket chains. *Agriculture and Human Values* 22(3): 291–302.
Lindenbaum J (2016) Countermovement, neoliberal platoon, or re-gifting depot? Understanding decommodification in US food banks. *Antipode* 48(2): 375–392.
Marmer L (2014) Kroger tackles sustainability one lonely orange at a time. *PR News*. Available at: www.prnewsonline.com/topics/corporate-responsibility/2014/10/06/case-study-kroger-tackles-sustainability-one-lonely-orange-at-a-time/ (accessed 4 April 2015).
Mena C, Adenso-Diaz B and Yurt O (2011) The causes of food waste in the supplier–retailer interface: Evidences from the UK and Spain. *Resources, Conservation and Recycling* 55(6): 648–658.
Nally D (2011) The biopolitics of food provisioning. *Transactions of the Institute of British Geographers* 36(1): 37–53.
O'Brien DL and Aldeen HT (2006) *Hunger in America*. Report: America's Second Harvest.
Parfitt J, Barthel M and Macnaughton S (2010) Food waste within food supply chains: Quantification and potential for change to 2050. *Philosophical Transactions of the Royal Society of London. Series B, Biological Sciences* (365): 3065–3081.
Peck J and Tickell A (2002) Neoliberalizing space. *Antipode* 34(3): 380–404.
Poppendieck J (1998) *Sweet Charity? Emergency Food and the End of Entitlement*. New York: Penguin Books.
Poppendieck J (2014) *Breadlines Knee Deep in Wheat: Food Assistance in the Great Depression*. Berkeley, CA: UC Press.
Razavi S and Staab S (2012) *Global Variations in the Political and Social Economy of Care*. Routledge: Worlds Apart.
Riches G (1986) *Food Banks and the Welfare Crisis*. Ottawa, ON: Love Printing Services Ltd.
Riches G (2002) Food banks and food security: Welfare reform, human rights and social policy-lessons from Canada. *Social Policy and Administration* 36(6): 648–663.
Riches G and Silvasti T (2014) *First World Hunger Revisited: Food Charity or the Right to Food?* 2nd ed. New York, NY: Palgrave Macmillan.
Stuart T (2009) *Waste: Uncovering the Global Food Scandal*. New York: W.W. Norton & Company.
Tarasuk V and Eakin J (2003) Charitable food assistance as symbolic gesture: An ethnographic study of food banks in Ontario. *Social Science and Medicine* 56(7): 1505–1515.
Tarasuk V and Eakin J (2005) Food assistance through "surplus" food: Insights from an ethnographic study of food bank work. *Agriculture and Human Values* 22(2): 177–186.
U.S. Congress. (1996) *Bill Emerson Good Samaritan Food Donation Act. (H.R.104-661)*.
U.S. Congress (2014a) *Agricultural Act of 2014* (H.R. 2642).
U.S. Congressional Budget Office (2014) 104th Congress. *Fighting Hunger Incentive Act* of 2014.H.R. 4719.
U.S. Congress (2014b) 113th Congress. *Fighting Hunger Incentive Act* of 2014. (H.R. 4719).
U.S. Congress (2015) 114th Congress. *Consolidated Appropriations Act, 2016*. (H.R. 2029).
Van Zuiden S (2012) The good food fight for good samaritans: The history of alleviating liability and equalizing tax incentives for food donors. *Drake Journal of Agricultural Law* 17(1): 237–262.
Venkat K (2011) Climate change and economic impacts of food waste in the United States. *International Journal of Food System Dynamics* 2(4): 431–446.
Warshawsky D (2010) New power relations served here: The growth of food banking in Chicago. *Geoforum* 41(5): 763–775.
Warshawsky D (2011) FoodBank Johannesburg, state, and civil society organizations in post-apartheid Johannesburg. *Journal of Southern African Studies* 37(4): 809–829.
Warshawsky D (2015) Food waste, sustainability, and the corporate sector: Case study of a US food company. *The Geographical Journal* 182(4): 384–394.
Weinfield N, Mills G, Borger C, et al. (2014) Hunger in America Report: Feeding America.