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Recover, Redistribute, and Reduce: Food Waste in the Stanford Community

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As a result of monumental developments in farm technology during the Industrial Revolution, and lasting improvements in agricultural production techniques from the Green Revolution of the mid-20th century, Americans currently live within a culture of food abundance. A food system of surplus creates a colossal amount of food waste; the United States Environmental Protection Agency reports that Americans generated 33 million tons of food waste in 2010. Wasted food depletes US natural resources and contributes to greenhouse gas emissions through the production of methane from food decomposition in landfills. This paper investigates barriers to food waste reduction and uses the community in and around Stanford University as a case study. The term "in and around Stanford University" encompasses operations of the school such as dining halls, campus events, group houses, and on-campus eateries. It also includes individuals who live near or work at Stanford, and those who participate in waste reduction in conjunction with Stanford students, such as volunteers at the Free Farm in San Francisco. Additionally, this paper discusses the connection between food waste and food insecurity. I interviewed eight Stanford affiliates who actively aim to reduce food waste at or near Stanford University on a regular basis. An analysis of the interviews reveals significant cultural, social, and structural obstacles to ongoing food waste reduction efforts in the Stanford community. Based on my research, I conclude with recommendations for how to combat food waste at Stanford University, from which other academic institutions across the nation could benefit as well.

Philosopher John Locke wrote in 1690 that if people allowed food in their possession to perish, they should lose the right to own it (as cited in Stuart, 2009, p. 5). Locke asserted here that food should be respected and cherished. In a similar vein, many parents routinely ask their children to "clean their plates," or finish all of their meal, by reminding them that there are people starving in another country. While it is logically and logistically unsound to

imagine that an unfinished meal could be shipped off to another country to help feed hungry people there, the parents' sentiment urges children to remember that there are always people who go without food (Bloom, 2010, p. 34). In fact, in 2011, approximately one in seven households in the United States was food insecure, meaning those households had "limited or uncertain access to adequate food," according to the United States Department of Agriculture (2011, p. i). One in seven households translates to 14.9 percent of United States households, or 50.1 million Americans who struggled with hunger in 2011 (USDA, 2011, p. v). At the same time, 40 percent of food in the United States currently goes uneaten (Hall, Guo, Dore, & Chow, 2009, p. 2). This means that the average American wastes over 200 pounds of edible food each year (Face the Facts USA, 2012, p.1).

Food waste occurs in most communities, and the Stanford community is no exception. According to Stanford Project on Hunger (SPOON) measurements, one Stanford dining hall alone wastes over 1,000 pounds of food weekly ("Reduce," 2012). Other major sources of food waste on Stanford's campus include Tresidder Memorial Union dining center, group houses, and campus events.

Research Question

This paper investigates one main question: what are the main factors that limit the food waste reduction efforts of food waste activists in and around the Stanford community?

This paper employs "food waste activist" to define an individual who is worried or alarmed by the amount of food waste he or she encounters daily. This individual makes a conscious effort to redirect edible food that would ordinarily be wasted to other populations who could benefit from the food. The term "food waste activist" encompasses several groups of people, ranging from "freegans", or those who reclaim and consume food that has been discarded, to local "heroes" who collect food and redistribute it on their own (Partridge, 2011, p. 7). The definition also includes members of more organized efforts, such as the Stanford student volunteer group SPOON.

Significance

As previously mentioned, there is a clear link between food waste and hunger. Wasted food in an environment of relative abundance such as the United States can be viewed as an opportunity for hunger relief, since hunger plagues millions of adults and children in America every day.

Beyond the moral imperative that some see to respect food and help those in need, food waste also has implications for the

American economy. According to Buzby and Hyman (2012), Americans waste the equivalent of 165 billion dollars each year by throwing out food (p. 561). For the average U.S. family of four, this translates to annual losses of approximately $1,350 to $2,275 (Bloom, 2010, p. 187). Given that the United States is recovering from a recession, food waste is highly relevant to discussions of excess in a time of financial insecurity. Lastly, the environmental consequences of food waste are enormous. When evaluating how food waste affects the environment, one must consider water usage, consumption of fossil fuels, and emissions from decomposing food. Wasted food represents the waste of a quarter of the United States' freshwater supply, and currently food waste is the largest component of landfills (Gunders, 2012, p. 4). Once wasted food reaches landfills, it releases methane, a greenhouse gas 21 times more powerful than carbon dioxide (National Resources Defense Council, 2012). If Stanford wishes to work toward true campus sustainability, the matter of food waste at Stanford should be seriously considered.

Literature Review

Books on food waste written by experts on the topic offer a helpful overview of the scope of the problem. In *American Wasteland: How America Throws Away Nearly Half of Its Food*, Bloom (2010) portrays food waste as morally reprehensible. He argues that Americans could save money and natural resources by reducing their food waste. Stuart (2009) places the United States' food waste in the context of global food waste, arguing that people should only buy what they can eat so that less food is produced overall, which would save money that countries could redirect toward feeding hungry populations. In an effort to understand freegan culture, I have also looked at several sources that focus on scavenging and gleaning activities. Partridge (2011) suggests that the practice of freeganism can be regarded as a new method for sustainable consumption rather than an "eco-protest" avenue. In evaluating the types of barriers food waste activists face, Lindeman (2012) argues that freegans are unfairly perceived to be part of a "fringe" society because they cross the barrier (recognized by most Americans) between food, which is acceptable to eat, and trash, which is considered unacceptable to eat (80). Like Lindeman, Ferrell (2006) also associates scrounging with social boundary transgression, but emphasizes that urban scrounging in itself becomes an avenue for economic independence (p. 186).

Additionally, I reviewed works on social movements to attempt to locate food waste activism in social movement theory. *Social Movements: Readings on Their Emergence, Mobilization, and Dynamics* from McAdam and Snow (1997) defines a social

movement as a form of collective action toward social change (p. xviii). In *Readings on Social Movements: Origins, Dynamics, and Outcomes*, McAdam and Snow (2010) further explain collective action, calling it "joint action in pursuit of a common objective" (p. 7). Many food reduction efforts stem from informal networks of people and unwritten "understandings" about whom to notify about excess food. *The Fight Over Food* focuses specifically on food movements, citing agency as the defining component of food activism. In the book, Wright and Middendorf (2008) characterize agency as "the ability of humans to act purposively, of their own volition, and to some extent independently of the constraining aspects of structure, including the predominant customs and norms of culture" (p. 15). Within this definition, actions against "the predominant customs and norms of culture" proved significant in my research, as the discussion section will reveal. *The Fight Over Food* describes activism surrounding many contemporary food issues, including food deserts, local agriculture, and Slow Food. However, the book fails to mention activism in terms of the food rescue movement, the focus of this paper.

Data and Methods

By identifying what challenges food waste activists face in their efforts to reduce the amount of food waste that occurs at or around Stanford, it may be possible to begin to alleviate such challenges and dramatically reduce wasted food in the Stanford community. I chose to research and conduct interviews about the obstacles that food waste activists face in order to ascertain the differences in mindsets between food waste activists and those who do not prioritize food waste as a concern.

The interviewees consisted of activists who are concerned with food waste and who take action to combat the issue. The tacit control group consisted of people in the Stanford community who are inactive in food waste reduction. For the purposes of this research paper, the data I collected was strictly qualitative. I conducted eight interviews, and the interviewees hailed from a variety of occupational and educational backgrounds, but all are connected to food waste reduction in the Stanford community. A few of the interviews were the result of snowball sampling. Please refer to Table 1 for a description of the interviewees.

Name	Connection to Stanford University	Role in Food Waste Reduction
Interviewee A	Campus food service employee	Donates prepared leftovers to friends and needy individuals
Interviewee B	Employee	Distributes excess food from group houses to larger Stanford community
Interviewee C	Undergraduate student	Dumpster diver
Kyle Craft	Undergraduate student	Student Leader of SPOON
Steven Michael Crane	Human Biology Department Course Associate	Dumpster diver; moderator of Stanford's Free Food email list serve
Nicole Gaetjens	Graduate student	SPOON Coordinator
Matthew Rothe	Fellow at Hasso Plattner Institute of Design	Formerly Sustainable Food Program Manager for Stanford Dining; FEED Labs Leader
Tree Rubenstein	Guest lecturer for EARTHSYS 105: Food and Community	Operates "Free Farm Stand" weekly in San Francisco's Mission District

TABLE I. Descriptions of interviewees.

Analysis

In the beginning stages of research, I hypothesized that the main barriers to food waste reduction would be related to logistical concerns and infrastructure or organizational problems. Through talking with interviewees, however, I found that cultural constructions and beliefs surrounding excess food, stigma attached to the act of collecting wasted food, and liability fears are the most significant obstacles food waste activists encounter in their efforts to recover wasted food.

Cultural Barriers

One of the major hindrances of food waste reduction is the cultural attitude toward food in America. Here, I employ "cultural" to refer to longstanding behaviors and notions about food. As Jonathan Bloom explains in *American Wasteland,* Americans began by growing their own food, toiling hard to produce a harvest. New technology from the Industrial Revolution, such as the development of metal farm machinery and the rise of canning, brought lasting innovation to food production techniques and permanently altered farming methods in the United States. Later, after the Great Depression and two world wars, it was a relief for Americans to be able to buy cheaper food in excess, particularly after World War II rationing (2010, p. 80). Despite the fact that Americans now experience a culture of abundance in terms of food, many people hoard or purchase more food than they will eat because "having surplus, even in excess of what is ever likely to be needed, can be reassuring" (Stuart, 2009, p. 78). One interviewee, Tree Rubenstein, points to Americans' economic conditioning as a factor that conflates the problem of food waste. He explains:

> We live in a society that teaches that there's scarcity and that we all have to fight for a piece of the pie. A large part of what I'm doing is educational or trying to inspire people to understand how much abundance there is in our society (T. Rubenstein, personal communication, November 28, 2012).

Each week, Tree (as he prefers to be called) distributes extra produce and baked goods that he has gathered in the Bay Area at the "Free Farm Stand" in San Francisco. He frequents farmer's markets at closing time, gathering unsold fruits and vegetables. In the past, the activist has collected extra bread from a bakery in close proximity to the Stanford campus. Most recently, Tree gave away kale, collard greens, chard, persimmons, lettuce seedlings, and peppers at his Free Farm Stand (Rubenstein, 2012a). He specifically targets low-income families who might otherwise have difficulty purchasing nutritious food, but anyone is welcome to take food from the weekly stand. Since he began the Free Farm Stand in 2009, Tree has distributed 42,091 pounds of local produce that would have otherwise gone to waste (Rubenstein, 2012b).

Food waste specialist Jonathan Bloom writes, "Food waste isn't considered problematic because, for the most part, it isn't considered at all" (2010, p. xvi). Most consumers devote little thought to food that gets thrown away, and it is this cultural indifference that perpetuates food waste. Matthew Rothe, formerly Stanford Dining's Sustainable Food Program Manager, commented that in the United States, "people just waste food and the system absorbs it." He elaborated by explaining, "It's the way the system is set up. People throw away food and it disappears"

(M. Rothe, personal communication, November 9, 2012). Rothe shares that from a business perspective, managers in the food industry are hesitant to admit to food waste because food waste equates to being inefficient with resources. Interviewee Steven Michael Crane, a dumpster diver, adds:

> Stores themselves haven't taken the onus on themselves to redistribute waste, which is probably understandable from a business perspective because if you are donating your food… nothing tangibly good comes to the store because of that, except for maybe goodwill from the public (S.M. Crane, personal communication, November 17, 2012).

Crane's statement underscores Rothe's observation that there is a lack of incentive, behaviorally or economically speaking, to acknowledge or reduce food waste.

From a cultural stance, a competitive view of food production may be unavoidable, but Americans may be looking at food from the wrong angle of economics. While it may be impossible for Americans to shift away from the idea that there is only a limited supply of food, the potential benefits that arise from eliminating food waste still make sense. The "goodwill from the public" mentioned above by Crane is key. SPOON Coordinator Nicole Gaetjens recognizes that many people use economic terms when discussing food, and she argues that the "cost benefit and potential benefit to others" of rescued food is just as valuable as a monetary incentive (N. Gaetjens, personal communication, November 30, 2012). Corporations that mass-produce edible goods may argue that the time spent reducing food waste is costly. Yet Matthew Rothe states simply, "Reducing food waste reduces cost" (M. Rothe, personal communication, November 9, 2012). During the three years Rothe worked as Sustainable Food Program Manager, Stanford Dining went "trayless" in order to encourage students to serve themselves less food, portion sizes were more controlled through individual servings pre-prepared by dining hall employees, and dining halls reduced their impact overall through strategic purchasing initiatives. To achieve such feats, Rothe examined Stanford Dining waste at the pre-consumer stage and the post-consumer stage.

If traditional economic strategies must be employed in discussions of food waste, Americans should be aware that the average family of four loses over $2000 in wasted food each year (Bloom, 2010, p. 24). That opportunity cost alone should persuade the average individual to concern himself with food waste, but basic economic principles are no match for longstanding cultural attitudes toward food. It is not surprising, then, that social norms surrounding excess food severely limited interviewees' efforts to reduce food waste.

Social Barriers

Social taboos surrounding the collection of extra food have been a significant difficulty for the food waste activists with whom I spoke. Both of the dumpster divers, or "freegans," that I interviewed frequently challenge "proper" and "improper" ways of obtaining food. One freegan, Interviewee C, described a situation in which he asked a caterer if he might pack up leftover food at the end of a Stanford campus event. In response to his inquiries about what would happen to the extra food, an event coordinator told him, "You're not welcome at these events unless you act normal" (personal communication, November 11, 2012). The fact that the coordinator implied that Interviewee C was acting "abnormal" for wanting to take away leftover food suggests that it is considered socially unacceptable to pack up surplus food for later use. Bloom acknowledges a widely-held assumption that if people ask for leftovers, it means they need them (2010, p. 143). This may mean that many people hesitate to claim extra food for fear of appearing food insecure. Steven Michael Crane comments, "There seems like there's this pressure that you're supposed to just throw food away rather than salvage it…it's almost the "classier" thing to throw it away" (S.M. Crane, personal communication, November 17, 2012). Nicole Gaetjens adds a deeper, student-specific layer to the image issue, suggesting that many Stanford students are not amenable to food reclamation activities because they do not want to appear poor to their peers. She points out that since nearly every Stanford student is on some kind of meal plan at Stanford, most students assume that everyone's basic needs are taken care of. Social unease surrounding the reclamation of excess food suggests that taking extra food is associated with accepting charity, and perhaps some do not wish to appear to need help.

Food waste activists—especially dumpster divers—face an additional perception that food harvesting belongs to an alternative aspect of society that is unappealing. Extra food in the eyes of many is seen as trash. Lindeman (2012) suggests that in the act of scrounging, freegans demonstrate an "ideological acceptance of eating trash" that breaks a barrier that most are unwilling to shatter (p. 81). Interviewee C points out the societal associations of garbage when he states, "I grew up with the attitude that garbage was untouchable...being a garbage man was a really low-status thing. So once food was in the trash, you could not pull it back out and use it for anything…There's a lot of social malaise around it" (personal communication, November 11, 2012). Ferrell (2006) posits that this "social malaise" surrounds rescued food because "urban scavenging undermines the existing order of things" (p. 185). In particular, dumpster-diving can be interpreted as subversive if viewed as an effort to live independently of the

economy. Ben Partridge, who engaged in an intensive study of dumpster-diving for King's College London, reports that "eating out of the bin itself is sometimes described as the ultimate boycott: the refusal to buy at all" (2011, p. 14). He adds:

> By subsisting only or partially on surplus food and actively choosing to spend a large portion of their time doing unpaid work gleaning food from bins, some freegans are resisting the commodification of their own labour and avoid the necessity of working to pay for food. (Partridge, 2011, p. 29)

Interviewee C agrees that a large part of the appeal of dumpster diving is that he does not pay for his food. He estimates that he spends less than ten dollars a year on food, choosing instead to rely on food gleaned from dumpsters. However, his reason for dumpster diving is holistic and also relates to his relationship to the environment. He expounds, "You know, for every food dollar you spend, it's that much more water pollution, and energy, and everything that's going into creating that food and bringing it out" (personal communication, November 11, 2012). Fellow dumpster-diver Steven Michael Crane agrees, asserting that it is "easy to take for granted the food that is at Stanford and to see past the energy and the labor and the work that it took to bring it there" (S.M. Crane, personal communication, November 17, 2012). Nearly every interviewee commented that he or she notices that inordinate amounts of "good food" and "fine, edible food" go to waste in the Stanford community (T. Rubenstein, 2012; S.M. Crane, 2012). According to food waste expert Dr. Timothy Jones from the University of Arizona, in 2005, "fourteen percent of household garbage was perfectly good food that was in its original packaging and not out of date" (as cited in Singer and Mason, 2006, p. 269). Figure 1 shows an image of the food waste Steven Michael Crane and I encountered when I accompanied him on an excursion to a dumpster of a grocery store near the Stanford campus.

FIGURE 1. Dumpster image.

Through a simple remark, Crane proposes that redirecting edible, excess food can help alleviate hunger. He says, "Straightforwardly—logically—hunger is not enough food, food waste is too much food, and so if you could just connect the two then they could solve each other's problems" (S.M. Crane, 2012). Every consumer directly controls his or her own waste, and the potential for food insecurity change through the utilization of food waste is enormous. While dumpster divers' behavior may be interpreted as unusual by many, it is society's grip on conformity and concerns with appearances that obscure the "necessary civil service of recycling" in which food waste activists participate (Lindeman, 2012, p. 81).

Liability Barriers

The final major obstacle food waste activists encounter in food recovery efforts is the general public's lack of education about liability issues regarding surplus food. The dumpster-diving interviewees shared that they avoid grocery store employees on a

dive excursion because store managers do not want to "look bad" or be held liable if someone falls ill from eating dumpster food. The desire among dumpster divers to avoid confrontation with store employees creates an "us versus them" mentality. Interviewee C knows of a grocery store near Stanford that deliberately slashes through food and packaging with a knife to discourage dumpster divers. Another store pours bleach over the dumpster contents (Interviewee C, personal communication, November 11, 2012). Depending on the locale, dumpster diving can be legally questionable, but many other forms of food recovery are safe and lawsuit-free. The Bill Emerson Good Samaritan Food Donation Act of 1996 was signed into law by President Clinton (Cohen, 2007, p. 470). The law protects those who donate or glean food, and it covers individuals as well as nonprofit organizations. The specific terms of liability from donated food read as follows:

> (1) LIABILITY OF PERSON OR GLEANER. –A person or gleaner shall not be subject to civil or criminal liability arising from the nature, age, packaging, or condition of apparently wholesome food or an apparently fit grocery product that the person or gleaner donates in good faith to a nonprofit organization for ultimate distribution to needy individuals.
> (2) LIABILITY OF NONPROFIT ORGANIZATION. —A nonprofit organization shall not be subject to civil or criminal liability arising from the nature, age, packaging, or condition of apparently wholesome food or an apparently fit grocery product that the nonprofit organization received as a donation in good faith from a person or gleaner for ultimate distribution to needy individuals. (Bill Emerson Good Samaritan Food Donation Act, 1996)

Learning about the 1996 Good Samaritan Food Donation Act is a crucial component of volunteer orientation for new members of Stanford Project on Hunger (SPOON). Stanford SPOON gathers extra food on Stanford's campus and sends it to the InnVision Shelter Network in San Jose. During the 2011-2012 school year, SPOON rescued nearly 12,500 pounds of food from dining halls, the Stanford Faculty Club, and Tresidder Memorial Union. Table 2 offers an excerpt from a recent SPOON data sheet on the types and amount of food collected.

Date	Eatery/Event	Food	Weight (lbs)
4-Oct	Ricker	fish	4
		chicken mole	5.5
		Mexican beans	14.5
		pasta	13
		shrimp and chicken	12
		paella	5.5
		roasted parsnips	5.5
14-Oct	Ricker	turkey wraps	4.5
		veggie wraps	2.5
15-Oct	Faculty Club	soup	11
		pizza and potatoes	4.5
		pasta	7
		chowder	7
		vegetables	10
		beef	2.5
		rice	4
15-Oct	Tresidder	potatoes and bell peppers	5
		veggies	2
		rice with egg and vegetables	13.5
		stir fry tofu	15
		pizza	4
		chow mein	11.5
		fried rice	6
		chicken with black bean sauce	17

TABLE 2. SPOON data on recovered food.

SPOON undoubtedly makes a significant impact through its donations, but persuading campus affiliates to part with excess food is often a struggle for volunteers. Often times, the students are more educated about liability concerns than the food providers. Says former SPOON Director Kyle Craft, "Trust is a big issue because [dining halls are] also worried about liability issues. Although they are protected, the intuition is that they would be liable" (K. Craft, personal communication, November 3, 2012). The hesitancy to repurpose food is not unique to dining halls. One group house chef, Interviewee A, shares that due to strict sanitation guidelines enforced by her supervisor, she is only allowed to reheat food once (personal communication, October 24, 2012).

Additionally, all Stanford Kitchen Managers are trained to follow a strict 2-day rule governing food disposal, meaning leftovers cannot linger in a Stanford self-operated house longer than 2 days. Interviewee A estimates that she throws out 40% of the food she prepares (personal communication, October 24, 2012). Interviewee B alleviates the food waste problems of group houses by distributing the leftover food from group residences to needy members of the Stanford community. However, she refuses to hand out food to people who wish to know the origin of the donation. She strives to keep the donors anonymous "so no one gets in trouble." If the food she hands out to community members can be traced back to a certain Stanford-affiliated house, she fears people might try to sue Stanford University claiming sickness (personal communication, October 31, 2012). The Bill Emerson Good Samaritan Food Donation Act protects food donors against liability, but it is apparent that not everyone is aware of the law, nor that it extends to individuals as well as to organizations.

Proposed Actions

I am able to offer some recommendations for Stanford to follow in order to combat the food waste problems that I have identified. Changes are possible in several different areas. Since many people hold negative associations with trash, Stanford SPOON could organize awareness events to try to transform student mentality about waste. Nicole Gaetjens of SPOON urges her friends to see waste as a resource instead of a problem (N. Gaetjens, personal communication, November 30, 2012). If rescuing food could be framed as a method of "being resourceful," food recovery activities could enhance someone's image instead of detract from it. From his years of experience working in Stanford Dining establishments, Matthew Rothe believes that pressure from peers is indeed a strong way to influence student consumption patterns. To achieve such influence, SPOON and other campus food justice student groups, such as the Stanford Food Project, could post signs in high-traffic areas such as dining halls and campus compost bins, juxtaposing hunger facts and food waste facts. Photographs of fresh produce sitting in dumpsters could be a particularly effective form of signage. Information about the 1996 Good Samaritan Food Donation Act would be valuable to disseminate as well, perhaps to campus groups who commonly hold dinner meetings or weekly lunch lectures.

Beyond awareness and educational initiatives, a part of Stanford's New Student Orientation could include sustainable living tips. If saving food can be positioned to incoming students as an element embedded in Stanford's culture, then food waste reduction efforts are more likely to be adopted. Some simple

behaviors in which students can engage include carrying a few reusable containers with them in their backpacks for spontaneous food storage and bringing extra food from campus events back to their dormitories for hungry residents to consume. Students living in group houses who notice an accumulation of leftovers in their communal refrigerators can invite friends over to consume the surplus food. This system would work especially well if coordinated with the varied dining schedules on campus; some students have meals served in their houses on Fridays or Sundays while others do not.

Preliminary research revealed that many of the food waste reduction efforts in the Stanford community are performed through informal arrangements, such as Interviewee B's appearances at certain back doors of group houses to collect extra food or Tree's "understanding" with local farmer's market vendors that he will redistribute unsold produce. These informal arrangements are an example of what Katz calls "community-supported activism" (2006, p. 296). Regarding this kind of activism, Tree explains, "The important part is people forming networks—connections—and by word of mouth…People now know that I'm around and if they have some extra food they'll contact me" (T. Rubenstein, personal communication, November 28, 2012).

Using existing Stanford connections to integrate food waste activism into campus life is an extremely powerful way to reduce Stanford's annual amount of wasted food. For instance, food waste could be positioned as a design challenge for undergraduate Product Design classes, the Stanford Design Initiative, and the Stanford Design for America chapter in order to spark thinking about creative food systems solutions. Food classes at Stanford, such as "Earth Systems 105: Food and Community" could incorporate into the curriculum volunteer opportunities such as SPOON pick-ups or working at Tree's Free Farm Stand. Moreover, since all Stanford students majoring in Human Biology are obligated to find an internship as part of their program requirements, food rescue organizations should be added to the list of possible placements. If these internship placements required sponsors, the Stanford Center on Poverty and Inequality and the Urban Studies department could be recruited. Furthermore, Stanford Residential Education could establish a "green living" student staff position for each on-campus residence. Similar to the writing tutor position in most freshman dorms, such a coordinator could monitor food waste in every residence on campus. This paid staff position could be named "Sustainability Educator." To develop this kind of position, Residential Education could partner with Stanford's Green Living Council since the GLC has already

begun to establish analogous volunteer student positions for the campus as a whole.

Lastly, there are several structural changes Stanford could enact as well. While community networking is the most promising avenue to reduce food waste at Stanford, the university can also alter some of its policies. For any social movement, Wright and Middendorf declare that "agency invariably runs up against obstacles of structure, yet it is important to recognize that humans, in the exercise of agency, are in a continual process of reshaping those structures to varying degrees" (2008, p. 15). Concerned Stanford students and faculty should urge Stanford administrators to require the donation of extra food from campus events. Stanford hosts countless catered events and could require caterers to contact SPOON or the Free Food student email list at the conclusion of the event. Finally, Student Activities and Leadership (SAL) should insist that a student organization pledge to donate surplus food from a planned campus event before SAL will approve the event.

Conclusion

In January of 2012, the European Parliament adopted a resolution to reduce food waste by 50 percent by 2020 (Gunders, 2012, p. 5). The United States would do well to follow this example, and change can begin at Stanford. At the closing of the 2011-2012 edition of the *Sustainability at Stanford* handbook, published by the Stanford Office of Sustainability, a quote from the Dean of Earth Sciences reads, "Stanford should be the leader in sustainability in everything we do…We will ensure that sustainability is a top and lasting priority for the university" (Stanford Office of Sustainability, 2012, p. 195). Food waste represents a waste of energy and water and an increase in pollution and greenhouse gas emissions. If Stanford University truly wishes to lead by example and make sustainability a "top and lasting priority," then the institution will strongly consider the recommendations outlined in this paper.

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