

Running Head: FOOD RECOVERY PROGRAMS

Food Waste Reduction by the Implementation of Food Recovery Programs

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Abstract

Food accounts for the largest component in the country's solid waste stream and it is the smallest component of the waste that is recycled (EPA, 2010). Scott Kantor et al. (1997) suggest that to reduce food losses, an increase in consumer education, food recovery programs, and recycling technologies is necessary. Although not all food waste is suitable for human consumption, USDA and the Environmental Protection Agency (EPA) have devised a food hierarchy that provides different uses of food waste focusing on decreasing the amount of food waste that ends up in the landfill. Food scraps that cannot be salvaged to feed the hungry can be used to feed the soil, which can in turn feed the people. This circle serves as a model for sustainability. The objective of this paper is to provide an in-depth definition of food recovery designed to feed the hungry with information resourced from government documents as well as industry manuals. Food recovery for human consumption takes several forms: gleaning, wholesale produce salvage, perishable and prepared food rescue, and non-perishable food donations (Clardige, 2010). In addition, this paper further examines the issues linked with implementing a food recovery program such as food safety and the federal resources available to diminish those issues. Also mentioned are resources available to help implement a food recovery program such as Rock and Wrap It up. While food waste recovery programs are still relatively new programs, steadily growing in momentum, their importance and need has never been more than it is today.

Introduction

Food Waste

According to the United States Department of Agriculture (USDA) Economic Research Services (ERS) 96 billion pounds of food was lost in 1995 due to human use at these three marketing stages: retailers, consumers, and foodservice agencies (Kantor et al., 1997). Pre-consumer food waste is also generated from losses that occur at the farm and farm to retail level. Severe weather, crop disease, and predation can lead to pre-harvest food loss. Harvest losses can be attributed to mechanization practices and additional loss during storage can be due to insects, mold, deterioration, shrinkage, and spoilage (Kantor et al., 1997). Food waste produced during processing and wholesaling includes removal of inedible portions such as bones, blood, peels, pits; discards of substandard products; shrinkage in storage; poor handling or packaging failure; and transportation losses (Kantor et al., 1997). Food accounts for the largest component in the country's solid waste stream and it is the smallest component of the waste that is recycled (EPA, 2010). Scott Kantor et al. (1997) suggest that to reduce food losses, an increase in consumer education, food recovery programs, and recycling technologies is necessary. As per Scott Kantor et al. (1997), in recent years a growing concern about hunger, environmental costs, resource conservation, and economic costs has lead to an increased awareness about food loss. Public awareness of food loss has lead to efforts to recover safe and nutritious food to help feed Americans.

Although not all food waste is suitable for human consumption, USDA and the Environmental Protection Agency (EPA) have devised a food hierarchy that provides different uses of food waste focusing on decreasing the amount of food waste that ends up in the landfill. The hierarchy comprises of source reduction, feeding hungry people, feeding animals, utilization

of food waste for industrial uses, and composting (EPA, 2010). Food scraps that cannot be salvaged to feed the hungry can be used to feed the soil, which can in turn feed the people. This circle serves as a model for sustainability. The objective of this paper is to provide an in-depth definition of food recovery designed to feed the hungry with information resourced from government documents as well as industry manuals. In addition, this paper will further examine the issues linked with implementing a food recovery program and the resources available to diminish those issues.

Research

Food Recovery Methods

Food recovered to feed people is generally post consumer waste (e.g., leftover food or plate scrapings) (EPA, 2010). The EPA estimates that if a mere five percent of all food waste is recovered every day four million additional Americans could be fed each day. Feeding America, formerly known as Second Harvest, a national food bank reported that almost 21 million Americans rely on charitable food donations, but food banks often run out of food before they can serve all the families in the need of assistance (Hunger, 1997). As such, it is important to analyze the different ways in which food waste can be recovered. Food recovery for human consumption takes several forms: gleaning, wholesale produce salvage, perishable and prepared food rescue, and non-perishable food donations (Clardige, 2010). First, USDA defines field gleaning as the collection of crops from farmers' fields that have already been mechanically harvested or on fields where it is not economically profitable to harvest (USDA, 2010). The grain is left on the field to decompose (Claridge, 2010). The Society of St. Andrews is a leading national field gleaner, functioning mainly with volunteers that work together to collect leftover

produce on fields and donate to those in need. In 2009 St. Andrews gleaned 15.7 million pounds of produce through their gleaning network (St.Andrews, 2009).

Second, wholesale produce salvage is a method of collecting large amounts of fresh fruits and vegetables from produce markets and retail outlets at the end of each day. It is the collection of produce marked as unsaleable due to substandard quality because of a bruise or age but that is otherwise perfect for consumption. *Waste not, want not*, a food recovery guide published by the USDA, presents a case about a retired produce wholesaler who watched 200 flats of ripe, red raspberries that had not sold that day crushed into a dumpster (USDA, 2010). As a result, Mickey Weiss, the retired produce wholesaler, started a volunteer program that salvaged the fruits and re-routed them to a local kitchen. The program has since then grown to provide food to emergency food kitchens, which supports the food waste recovery hierarchy. In addition, the program is providing fruits and vegetables to the needy and actually enhancing their diets. There have been no follow up studies to indicate whether this food was consumed, which would be necessary to close the gap between what was donated versus what was discarded.

Another method of food recovery is the rescue of perishable and prepared foods. Everyone has attended a meeting, symposium, or event that has leftover snacks at the end of the event. Often times, those leftovers end up in the trash and show up indirectly on the waste bill. The USDA estimates that with more than 300 pounds of food per person ending up in the waste stream, the disposal cost exceeds one billion dollars in local tax funds annually (USDA, 2010). Kantro et al., (1997) estimates that the cost of the food waste generated in corporations exceeds \$31 billion. A tipping fee is a fee paid by the trash hauler to the landfill in order to dump, or “tip” trash at a landfill. These fees are often calculated by the ton (Highfields, 2010). Here is a

specific example from the Vermont Highfields Center for Composting (2010) of cost savings that can be achieved by a foodservice establishment by reducing food waste

If you source separate 10 tons of food scraps per year (a small-mid size generator), you would save \$1,080 in tipping fees at the landfill (\$108/ ton). You might also be able to reduce either the frequency of your collection or the size of your dumpster, but as a conservative estimate we will assume you can not. For 10 tons of food scraps per year, you would be generating roughly 385 pounds of scraps per week, just shy of two totes. Your weekly collection and hauling fees would amount to \$9 and your weekly tipping fees would amount to \$6.70. Your total weekly costs would equal \$15.70. Over the year you would pay \$350.35 for your composting services while reducing your annual trash costs by \$1,080, for an overall savings of \$729.65. Additionally, a value that cannot be quantified in this equation is the public perception and recognition of your business in this program. As a participant your business will receive a variety of promotional programs, such as “WE COMPOST!” window stickers, recognition in local newspapers through ads and press releases, certificates of participation and more. These efforts to share the measures you are taking to be a responsible local business pay off – customers care whether you care (Highfields, 2010).

In order to reduce the amount of food waste picked up each week and to feed additional mouths, organizations such as food runners and the national food rescue network offer free pick-ups for companies interested in participating. The free pick-up is often set according to the donor’s schedule and can be daily, weekly, or on-call basis. The rescue organizations employ trained food handlers to ensure that all health department codes are met and the transport of the food is safe. In addition, most rescue organizations will publicize a list of their donors as an incentive, allowing the donor to stand out in their field as a sustainable and environmentally conscious employer (USDA, 2010). Often times, the food rescue organizations will provide the donor with packaging as well. Once the food is picked up, it is either distributed to a feeding site or re-processed before redistribution. By donating excess food, companies gain benefits including: monetary benefits which would otherwise be spent on trash collection and disposal fees; provide wholesome food to needy families and community; help communities and

businesses meet state and local waste reduction goals; create an improved public image for the business; and help sustain local industries and jobs (USDA, 2010).

The final food recovery method is collecting non-perishable food donations. Although this method focuses solely on collecting processed food with long shelf lives, this method has also been utilized when feeding the needy. For instance, the National Hunger Clearinghouse works under contract with the USDA with a mission to fight hunger across America.

Overall, gleaning, wholesale produce salvage, perishable and prepared food rescue, and non-perishable food donations are all examples of current food recovery methods. In addition to providing an increased amount of food to feed the hungry, food recovery methods allow food banks to provide their clients with a meal with added nutrients and variety by adding fruits and vegetables and whole-grains products. No factual numbers have yet been published to confirm that the clients of food banks are consuming a diet rich in nutrients.

Federal Assistance

Despite the fact that food recovery is beneficial and a selfless act, it comes with added cost. It is expensive to set up recovery operations, costs can arise from locating food donors and providing them with the means necessary to make food donations, transportation costs, storing and packaging donated food costs, labor costs, and training costs for ensuring that volunteers are trained for safe food handling and preparation methods (Kantor et al., 1997). To encourage businesses to participate in food recovery, the federal government provides assistance to businesses.

The leader for these efforts has been the United States Department of Agriculture. Instead of starting new federal funded programs, the USDA has focused on providing assistance to existing food recovery and gleaning efforts. Food donations from the private sector are not

always guaranteed and in order to ensure that the emergency food kitchens have a consistent source of food, the USDA provides guidance to state agencies that administer the Emergency Food Assistance Program (TEFAP). The guidance provided includes well-defined instructions on how to use TEFAP administrative funds to support the processing, transportation, and packaging of foods donated through food recovery and gleaning projects. For example, the state of California allocates the TEFAP funds to different food kitchens across the state. Redwood Empire Food Bank (REFB) is one of the many organizations that receive funds from TEFAP. REFB is a large non-profit organization that distributes food throughout Sonoma County. In 2009, REFB received \$34,024 in funds from the state of California. According to REFB, they serve 78,000 people every month with donated food and food purchased using the funds from the government. Although annual reports printed by the non-profit organizations confirm funds received from the federal government were used to purchase government commodities, no actual data was found to confirm that the clients consumed the foods purchased. If additional research was done to confirm what the clients were consuming, the gap between the foods donated, the foods purchased and the foods consumed can be closed. According to the USDA Food and Nutrition Service, 653 million pounds of food was distributed through food pantries, emergency kitchens, and other emergency food providers in the fiscal year 2009 through emergency food assistance programs (USDA, 2010).

Resources

Aside from federal assistance provided to established food recovery programs, there are ample resources available to businesses that want to participate in setting up a food recovery program at their work place. EPA offers a food recovery challenge for businesses and provides online tools that companies can use to conduct a baseline food waste assessment, create a food

recovery plan, and report annual progress using the Waste Wise ReTRAC system; the program encourages businesses to undertake at least three food waste reduction and recovery activities (EPA, 2010). In addition, Cal Recycle offers a food waste recovery guide which provides interested businesses with information about program characteristics including costs, economics, and benefits; how local governments can get involved; funding mechanism; and tips for replication (Platt, 2002). Many organizations have successful food recovery stories including Rock and Wrap It Up (RWU), which is one such success story. Rock and Wrap It Up is a non-profit, think-tank that collaborates with agencies across the nation to collect and donate leftover food from concerts, sporting events, hotels, corporate meetings, political rallies, and school cafeterias (EPA, 2010). RWU functions by entering into contractual agreements with organizations ensuring that any leftover food is donated to a local soup kitchen also affiliated with RWU. As per Syd Mendelbaum, CEO of Rock and Wrap It Up, agencies are mandated to have refrigeration, communication, transportation, and a health permit prior to affiliating themselves with the program. RWU is a paragon for food recovery programs, it enables businesses to donate excess food without any added cost. The volunteers affiliated with the program help save labor costs by picking up the excess food, they also set up pick times to accommodate the donors. By allowing another agency affiliated with RWU to pick up excess foods, organizations often end up saving disposal costs. Since its inception in 1991, RWU has donated to over 43,000 shelters and places of need, collected more than 250 million pounds of food, and fed more than 500 million people (RockandWrapItUp, 2010).

Food Safety Issues

In theory, implementing a food recovery program should be easy with the abundance of resources available to assist in setting up a program and with ample successful programs to replicate. However, another reason that often deters companies from donating their excess food is food safety. Many potential food donors are afraid of participating in food recovery efforts because they fear that they would be held liable if anyone fell ill from eating their donated foods. However, food safety concerns are addressed by the Bill Emerson Good Samaritan Food Donation Act signed by President Bill Clinton in 1996, which protects companies from many such liabilities. The Bill promotes food recovery by limiting the liability of food donors to instances of gross negligence or intentional misconduct (See Appendix A for details of the Act). The act also establishes nationwide definitions ensuring that donated food meets all quality and labeling standards of federal, state, and local laws and regulations (Kantor et al., 1997).

Many companies fear that with implementing a food recovery program, they will have to bear the added cost of training their employees in the Hazard Analysis Critical Control Point system (HACCP), defined as “a management system in which food safety is addressed through the analysis and control of biological, chemical, and physical hazards from raw material production, procurement and handling, to manufacturing, distribution and consumption of the finished product” (FDA, 2010). However, organizations often cater their meals from an outside vendor and all caterers are required to have their workers SafServ certified. In addition, volunteers from the food recovery kitchens are often SafServ certified or have had some type of food handling training, which should put to rest any food safety concerns that arise in the mind of the donor.

Conclusion

The discussion of food waste recovery is one of importance because of the ironic parallel that coexists in the field: millions of pounds of food is wasted each year while millions of people go hungry due to lack of food each year. Such a parallel, in today's socially aware world and conscious society should not exist, especially when the waste can be easily recovered and utilized to feed the hungry. Identifying and utilizing food recovery methods such as gleaning, wholesale produce salvage, perishable and prepared food rescue, and non-perishable food donations, are all important steps and methods that are necessary to addressing the current hungry-human population need. To address these needs, collaborations between government, non-profit, and private organizations are beginning to create effective channels through which food waste recovery is becoming a viable option in feeding the hungry. Agencies such as the United States Department of Agriculture (USDA), exemplify the support that is necessary from a consciously aware government. In addition, people such as Mickey Weiss, the retired produce wholesaler, exemplify the giving human nature that is necessary from a consciously aware population.

With the presence of federal funding sources and government regulation that limits the liability associated with donating foods, participation in a food waste recovery program should be considered as an identifying characteristic of any good and socially-aware organization. With the current overall and food-specific push towards sustainability in our society, it would almost be hazardous and considered irresponsible to let so much food go to waste. While the cost of setting up a food recovery program for an organization might be of some concern, with federal assistance programs and resources, not to mention the overall good that such a program will do for the community; it is a cost that every organization should willingly factor into their budgets.

While food waste recovery programs are still relatively new programs, steadily growing in momentum, their importance and need has never been more than it is today. As the hungry population in the United States grows at an alarmingly rate due to the economic downturn, it is vital for organizations of all types to open their doors and allow their wasted food to be recovered; so that a very basic human need can be met.

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Appendix

A: The Bill Emerson Good Samaritan Food Donation Act

PUBLIC LAW 104–210—OCT. 1, 1996 110 STAT. 3011

Public Law 104–210

104th Congress

An Act

To encourage the donation of food and grocery products to nonprofit organizations for distribution to needy individuals by giving the Model Good Samaritan Food Donation Act the full force and effect of law.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. CONVERSION TO PERMANENT LAW OF MODEL GOOD SAMARITAN FOOD DONATION ACT AND TRANSFER OF THAT ACT TO CHILD NUTRITION ACT OF 1966.

(a) CONVERSION TO PERMANENT LAW.—Title IV of the National and Community Service Act of 1990 is amended—

(1) by striking the title heading and sections 401 and 403 (42 U.S.C. 12671 and 12673); and

(2) in section 402 (42 U.S.C. 12672)—

(A) in the section heading, by striking “MODEL” and inserting “BILL EMERSON”;

(B) in subsection (a), by striking “Good Samaritan” and inserting “Bill Emerson Good Samaritan”;

(C) in subsection (b)(7), to read as follows:

“(7) GROSS NEGLIGENCE.—The term ‘gross negligence’ means voluntary and conscious conduct (including a failure to act) by a person who, at the time of the conduct, knew that the conduct was likely to be harmful to the health or well-being of another person.”;

(D) by striking subsection (c) and inserting the following:

“(c) LIABILITY FOR DAMAGES FROM DONATED FOOD AND GROCERY PRODUCTS.—

“(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.

“(3) EXCEPTION.—Paragraphs (1) and (2) shall not apply to an injury to or death of an ultimate user or recipient of the food or grocery product that results from an act or omission

Oct. 1, 1996

[H.R. 2428]

110 STAT. 3012 PUBLIC LAW 104–210—OCT. 1, 1996

LEGISLATIVE HISTORY—H.R. 2428:

HOUSE REPORTS: No. 104–661 (Comm. on Economic and Educational Opportunities).

CONGRESSIONAL RECORD, Vol. 142 (1996):

July 12, considered and passed House.

Aug. 2, considered and passed Senate, amended.

Sept. 5, House concurred in Senate amendments.

WEEKLY COMPILATION OF PRESIDENTIAL DOCUMENTS, Vol. 32 (1996):

Oct. 1, Presidential statement.

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of the person, gleaner, or nonprofit organization, as applicable, constituting gross negligence or intentional misconduct.’’; and

(E) in subsection (f), by adding at the end the following:

‘‘Nothing in this section shall be construed to supercede State or local health regulations.’’.

(b) TRANSFER TO CHILD NUTRITION ACT OF 1966.—Section 402 of the National and Community Service Act of 1990 (42 U.S.C. 12672) (as amended by subsection (a))—

(1) is transferred from the National and Community Service Act of 1990 to the Child Nutrition Act of 1966;

(2) is redesignated as section 22 of the Child Nutrition Act of 1966; and

(3) is added at the end of such Act.

(c) CONFORMING AMENDMENT.—The table of contents for the National and Community Service Act of 1990 is amended by striking the items relating to title IV.

Approved October 1, 1996.

42 USC 1791.