Proposal for a Community “Solidarity” Refrigerator that Would Both Feed the Hungry and Lessen Food Waste

Tag Words: Food Insecurity, Hungry, Food waste, Good Samaritan Law

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Summary: Approximately 40% of the food produced in America is wasted with much of this waste produced by homeowners and restaurants. A “solidarity” refrigerator in Spain enables restaurants and residents to bring leftover food to a community refrigerator instead of throwing it out. Individuals in need of food can then take the food. Starting a “solidarity” refrigerator in communities throughout the US would keep waste out of the landfill and feed the hungry.

Video Link: https://youtu.be/W17zlw3yARk

The Issue: America Throws out 40% of their Food and People are Going Hungry?
Approximately 40% of the food produced in America is wasted due to producing more than the population demands, inefficient packaging, inappropriate labeling (sell by, best by, use by dates), processing and shipping practices, and consumer overbuying. These practices exist without any remorse for wasting edible food while millions of individuals in our country are food insecure. The number of people experiencing food insecurity and health problems associated with consuming cheap, highly processed foods high in sugar, fat, and calories, has dramatically increased over the last 10 years, and yet our country continues to waste tons of food. Food stamps, food banks, food pantries, and soup kitchens are recognized programs that help provide food to the food insecure, but do little to redirect the food being thrown out to those that need it.

40% of the Food Produced in America is Wasted
Food is wasted at all tiers of the food production chain. From growing crops in farms to the cooked food at the table, the efficiency of harnessing the energy we are producing is highly inadequate. A quantification of the losses in food production showed that 40% of food produced in America is wasted in the process of reaching our tables as reported in by the NRDC (1). The food we find on our tables go through several procedures from the time it is harvested to the time it is prepared. It is harvested from farms, picked and sorted for quality and aesthetic appeal, processed, packaged, transported, retailed, and cooked.

Farms generally tend to plan and grow more than what is demanded by the market, and with good reason. They have to plan for losses due to pests, unexpected weather conditions, as well as economic fluctuations. Farms with edible produce are often left unharvested because the produce does not meet size, shape, color etc. standards set by the retailers. Farms are often also not harvested due to simple economics, like demand shortages or lower profit margins. Approximately 7% food goes unharvested due to these logistics despite it being edible (2). Post-harvest losses are not as large (2% of the food supply), but still significant when the magnitude of our food supply is taken into consideration. Additionally, food is lost during the packaging process which also tends to shorten the shelf life of the produce. About 5% of the total food supply is lost during the processing and packaging process due to issues with storage availability, transportation, time taken between harvesting and getting the food to a consumer
Additionally, a good portion of food is susceptible to spoilage either in transit or due to increased amounts of time spent on shelves. Retailers are the producers of the greatest amounts of wastage in this pipeline. The problem here lies in the business tactics of retailers. These retailers measure the efficiency of stores by the amounts of waste they produce. Retail corporations indicate that proper amounts of waste is interpreted as a reflection of their shelves being fully stocked, which according to them increases the chance of their customers buying the products. In 2008, an estimated 43 billion pounds of food was wasted by retailers, despite it being potentially edible, approximately 5% of the total food supply (4). In 2008, restaurants and households together wasted 23% of the food supply. This is food that was edible but simply not eaten. Maintaining a large amount of inventory is essential to provide the wide range of options restaurants offer nowadays. However, this ends up resulting in larger quantities wasted due to diminishing quality over time or the products being left unused past their expiration date and then thrown away.

Energy is another factor that is used and essentially wasted in the food production process. Approximately 10% of the energy used in the US is used to process food (5). If we are wasting approximately half of our food supply, it means that we are wasting half the energy resources we could have used somewhere else. There are solutions that can be undertaken at every step of the food manufacturing process to reduce waste. There needs to be more public awareness and incentives to become more cautious about the food that is consumed and wasted.

**Households: Majority Wasters of Food**

Households are the biggest wasters of food, wasting approximately 25% of the food and beverages they purchase and 44% of the total food wasted (6). There are various factors that play into American families wasting so much food, all of which need to be targeted separately simply by spreading awareness. America is a consumer society, and this is evident through the food purchasing and handling habits of Americans. We tend to buy everything in large quantities, and for good reason: it is offered to us for cheaper. We store large quantities of our food supplies so that everything is available to us at any time we need it. This is due to the lack of planning in what is actually needed and undervaluing the food. We buy in large quantities and discard half of it because the food is available to us for cheap and having excess gives us more utility than planning and buying in conservative fashion (7). We serve huge portions of food in comparison to other countries, at home and at restaurants, and not everyone necessarily finishes these portions (8). This is also due to the fact that excess amounts of food are available to us.

The American population in also cognizant of “best by” or “sell by” dates as if they indicated the safety of the food. However, these dates are not regulated (except for baby food) and are simply indications of quality, like food texture, appearance, etc. and do not reflect the safety of the products (9). Most food products are safe to eat for long periods after their expiration date. This adds to the consumers wasting food. Because we buy large quantities of food, some of the products are not used by the time they reach their “best by” or “sell by” dates and are hence thrown away by the consumers because they do not fully understand what these dates indicate (10).

**Educating the Public**
One of the main things that need to be done is spread general awareness about how much food is being wasted. The general public needs to organize their requirements and buy food accordingly, they need to stop shopping in excess, and they need to be more wary of the food (cooked and uncooked) they are throwing away. Steps can be taken towards educating the public about understanding the product labelling systems. Most products only have ‘best by’ or ‘sell by’ dates on them, which simply indicate the peak quality timing of the products. These dates are not an indication of safety. ‘Use by’ dates are used by certain manufacturers to indicate food safety. Hence, most foods are safe and edible well past their “expiration dates”. The UK government hence revised their guidelines to make these dates invisible to the general public. The retailers must keep track of these dates in a different manner but they are allowed to sell products after their ‘best by’ dates. This will save an estimated $12 million a year (11). Households also need to be made more conscious of the large quantities of food they might be serving, or cooking and storing. A lot of times this food spoils or ends up in the trash because it is excess despite being edible.

**Food Security**

Why are we as a nation throwing out almost half of the food we produce when some people don’t have enough of/ or access to nutritious food? The USDA refers to the lack of access, at times, to enough food for an active, healthy life for all household members; limited or uncertain availability of nutritionally adequate foods as “Food Insecurity” (12). Food insecure households are not necessarily food insecure all of the time. Poverty, unemployment and low income are amongst the highest contributors of food insecurity, and these economic factors have been on an increase since 2008. Unemployment rates increased from a typical 5% pre-recession to a peak 10% post-recession when all people looking for jobs were considered. With 24 million people underemployed in any given month (13), it’s no surprise that this led to a rise in the number of low income households with approximately 15% living under the poverty line in 2013 up from 12% in 2009 (14). This is also reflected in the number of people participating in SNAP programs; 47.6 million in 2013, up from 33.4 million in 2009 (15). The average monthly SNAP benefits amount to $125.35 per person (16), while the average monthly cost for food for an individual is $293.90, twice what is allocated by the food stamps program (17).

**Health Concerns Due to Unavailability of Nutritious Foods**

Not being able to afford food incontestably leads to malnutrition. People tend to move towards cheaper options, which generally tend to be unwholesome and unhealthy. Low-income neighborhoods are typically populated with smaller convenience stores and fast food chains and lack full-service grocery stores and farmers’ markets (18). This limits residents, especially those without reliable transportation, to shop at small neighborhood convenience and corner stores, where fresh produce and more nutritious foods are limited, if available at all, and unhealthier packaged highly processed foods are generally abundant (19).

It was found that higher income neighborhood residents that have the better access to supermarkets tend to have healthier diets and reduced risk for obesity while residents of lower income neighborhoods are at a greater risk of obesity (20). When available, healthy food is often more expensive, whereas refined grains, added sugars, and fats are generally inexpensive and readily available in low-income communities. Households with limited resources often stretch their food budgets by purchasing cheap, energy-dense foods that are filling, maximizing calories
acquired per dollar spent. While less expensive, energy-dense foods typically have lower nutritional quality and, because of overconsumption of calories, have been linked to obesity. When available, healthy food, especially fresh produce, is often of poorer quality in lower income neighborhoods, which diminishes the appeal of these items to buyers. Low-income communities have greater availability of fast food restaurants, especially near schools. These restaurants serve many energy-dense, nutrient-poor foods at relatively low prices. Fast food consumption is associated with a diet high in calories and low in nutrients, and frequent consumption of such foods leads to weight gain.

Recovering Edible Food from the Waste Stream – Feeding People, Not Landfills

Recovering Produce
At the harvest level: actions have been taken by the government to reward the farmers for being more conservative with the foods they leave unharvested. California, along with Arizona, Oregon, and Colorado have passed bills that reward farmers for donating their extra harvest while compensating them for the costs of planting and harvesting this extra crop. An extra tax credit, on top of the credit awarded for donations, is awarded to farmers for not plowing under the produce that would not be profitable to harvest. The farmers are encouraged to harvest all of their produce and donate the portion that would not sell or yield any profits anyway. The farmers are provided with tax deductions that reward them for the donations by aiming to cover the costs for harvesting that extra cost. The Crop Donation Tax Credit, SB 1541, which renewed the Oregon Crop donation tax credit and increased the tax credit from 15% to 25% to help farmers cover more of the costs of their produce provides an example of such a law. The produce is donated to food programs that provide it to people in need and in return the farmers are awarded with an extra tax credit (216). Moreover, organizations like Hidden Harvest are in place to give more incentive to farmers to donate their extra crop. Hidden Harvest hires low-income farmers to harvest fields and recover produce that would have been otherwise plowed under. This produce is then donated to different California food programs, and the owner of the farm awarded credit for donations (22). Hidden Harvest has been reported to have harvested 11 million pounds of food since its birth in 2001 and 1.2 million pounds in 2011 alone. It reports to be reaching 50,000 people every month (23). The government could fund more programs like this all over the country to give incentives to farmers in the whole country to stop plowing under nutritious, edible fresh produce. Local markets for produce also need to be promoted more to cut losses of food during transport. The government could further subsidize the use of food that is not aesthetically pleasing as raw materials for processed food products. There as various steps like these that can be taken at the farm level to cut back on these loses.

Recovering Food from Retailers
Steps could also be taken towards reducing food wastage from retailers. Retailers could be effectively penalized by the amount of waste they produce by increasing the costs of food waste disposal. Realizing the costs incurred (a. they paid for the ingredients, b. for the labor to prepare/stock the food, and c. for its disposal) may be a sufficient incentive for being more conscious of how much supply they keep. Some grocery stores have “salvage shelves” where they sell discontinued products or foods past their ‘best by’ dates but still edible. Berkeley Bowl, a store in California, estimates it sells off its “bargain shelf, $1500 a day worth of food that is aesthetically damaged or nearly expired (24). Big retailers could also donate or sell such food
products to salvage stores. Salvage stores, which have been around for many years, seem to be surging in the food markets recently. They could also receive tax deductions for donating the food to a food pantry, food bank or soup kitchen with non-profit 501c-3 status. In fact, Internal Revenue Code (IRC Section 170(e)(3)) allows C corporations an enhanced deduction for qualified contributions of food inventory to qualified organizations.

**Recovering Food from Restaurants and Other Food Establishments**

Donations of bakery items and other prepared or unused food to local food pantries and soup kitchens is being done (25) but is often times limited because there is no one to transport it and its easier and perhaps more cost effective (donor would need to pay for someone to transport it and the vehicle to transport it in) just to throw it out. Initiatives like New York’s City Harvest, have been very successful in recovering food waste from restaurants. City Harvest, the world’s first food rescue organization, incorporated as a non-profit in 1982 with its mission to “end hunger in communities throughout New York through food rescue and distribution, education, and other practical, innovative solutions” (http://www.cityharvest.org/). The organization was started by citizens that wanted to help their fellow New Yorkers who needed food and recognized that the edible food being thrown out by restaurants at the end of each day could be used to feed them. They got together to pick up and transport the leftover food and brought it to where it was needed most. This organization has grown tremendously and now is responsible for transporting ~130,000 pounds of rescued food per day to over 500 community food programs in NY. They aim to collect and deliver nutrient-rich foods from all food groups, including grains, vegetables, fruits, grains, dairy, and protein foods (meat, fish, poultry, eggs, legumes, nuts, seeds, and soy products) and oils, those recommended in the new 2015-2020 US Dietary Guidelines (26).

City Harvest accepts fresh food, refrigerated and frozen food, dried food, food in boxes, cans, and bottles and donated food that has been prepared by a regulated or licensed food business, such as a restaurant, grocery store, caterer, bakery, farmer, wholesaler, or manufacturer. They do not accept products containing alcohol, food that has been previously served or heated a second time, or otherwise does not meet food safety standards. They ensure that the food has been protected from contamination and stored at the appropriate temperature within acceptable time frames (27). City Harvest aims to deliver the donated prepared food in refrigerated trucks to the recipient agency within four hours of pick up. Focus, organization, infrastructure, and significant funding are required to accomplish all of the above.

**Solidarity Fridges**

A markedly downscaled version of City Harvest’s elaborate structure and processes that result in rescued food feeding residents, is the “Solidarity” or community refrigerators project initiated by Alvaro Saiz in Galdakao, Spain. Here, leftover but edible foods from restaurants, homes and food retailers were brought to common household refrigerators that were placed in highly transited streets in close proximity to restaurants and supermarkets. This reduced the distance donors had to travel to restock the community refrigerators. In the first seven weeks of the installation and operation of the community refrigerators, 450 to 650 pounds of food was provided to needy residents that would have ended up in the waste stream. This successful effort to cut down food waste in Europe led many countries as far as South America to contact Saiz seeking advice on how to set up community refrigerators in their countries. In the United States, a similar program was initiated by UC Davis’ graduate students Bertone, Yen and Ali Hill named free.go, where
they placed a commercial refrigerator with a glass door outside their house protected by a wooden box surrounding the entire refrigerator. Costs were incurred by the graduate students themselves, and they were in charge of the refrigerator’s maintenance. However, the program was unfortunately shut down by the County’s health officials due to unregulated food exchange and its possible health risks.

One of the reasons the Spanish initiative continues to function is because they have specific regulations as to what products they allowed in the refrigerators, and a strict policy food donors need to follow, including labels indicating the date the food was stored and description of its contents, mainly to warn consumers if any ingredient was an allergen. Prepared, cooked food was thrown out after 2 days if not taken.

**Good Samaritan Law**

Many restaurants and other private entities refrain from donating food to any non-profits or to people directly is because of perceived liability issues. However, Bill Emerson’s proposal to protect individuals from any liabilities for donating food was passed as a law in 1996. Under this law, any individual or non-profit organization is protected for donating food with a good intent except in cases of “gross negligence”. According to the law, gross negligence is defined as the 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.” Therefore, the law protects those with the good intent of donating food whereas those with malintent must be proven guilty in the case of harm done by donated groceries (28). The Bill Emerson Good Samaritan Law has since been amended and is now referred to as the ‘‘Federal Food Donation Act of 2008’’ with the purpose “to encourage executive agencies and contractors of executive agencies, to the maximum extent practicable and safe, to donate excess, apparently wholesome food to feed food-insecure people in the United States”. Many states have their own “Good Samaritan” food donation law, such as the “Food Bank Good Samaritan Act,” of New Jersey which was enacted in 1982 but amended in 2012 to extend (give immunity to) and encourage colleges and universities located in the State to donate food (29).

**Community Action: Community Refrigerator Project Proposal**

Redirecting edible food from the waste stream to people that could use the food is a solution to both the food waste and food insecurity problem in the US. As of 2015, this is now a government initiative that calls for a 50-percent reduction in food waste by 2030 while developing “new partnerships with charitable organizations, faith-based organizations, the private sector and local, state and tribal governments to reduce food loss and waste in order to improve overall food security and conserve our nation’s natural resources” (30). Since much of the waste is produced by homeowners and restaurants, it is logical to develop a mechanism by which this waste can be diverted to feed the food insecure. We are proposing to initiate a community refrigerator program locally, starting out small to work out the details.

**Solidarity Refrigerator as a Faith-Based Initiative**

The community refrigerator project seeks to set up solidarity refrigerators in communities located in urban and residential areas. One way to start setting up community refrigerators would be to contact local churches in towns suffering from high levels of food insecurity and educating them about the community refrigerators initiative and how they could set up their own refrigerator to allow the religious business owners and heads of household help the less fortunate. The
relationship the church has with local business owners will encourage the participation of the local business and households and the various programs the church has to help the food insecure will make it easier to educate the public of the existence and use of the refrigerators, and will allow us to reach more people we would have through any other method of advertising.

We approached local Christian ministries and churches, and the Catholic Archdioceses in Newark, New Jersey and presented the community refrigerator initiative for consideration. A meeting with the Archdiocese of Newark was scheduled to take place sometime in December to discuss the possibility of getting them interested in setting up a community refrigerator in Newark. The meeting was canceled and rescheduled to January 2016.

On January 9 2016, Bryan Castillo, a student working on the Solidarity Refrigerator project, met with the Archdiocese members of Newark, NJ. The project was presented describing the many benefits and estimated costs. We offered to assist them in the initiating the community refrigerator project and educating the public in the proper use of the community refrigerators. After some review, they said they would be unable to afford setting up a refrigerator in any Newark parish because they said that the churches in the area were currently in such debt that they were at risk of closing down some churches. They were particularly concerned about the estimated costs of maintenance presented. Although they thought the solidarity refrigerator was a good idea, the costs were too much of a burden for the church.

**Partnering with a Non-Profit**

The community refrigerator project would best be affiliated with a non-profit organization whose mission is perhaps to provide food to those that need it, and/or increase the accessibility of healthy food, and/or recover edible food from the waste stream, and/or to reduce the amount of food waste. The non-profit would take the responsibility for organizing and running the program. In addition to organizing volunteers, the non-profit would be capable of engaging partners that would be able to provide economic and legal assistance.

Being that the School of Environmental and Biological Sciences at Rutgers University is located in New Brunswick NJ, we decided to reach out to both the Rutgers Against Hunger Initiative and The New Brunswick Community Food Alliance (NBCFA). As stated on their website, NBCFA “brings together people from the community with concerns about the quality, availability, and accessibility of healthy food choices in New Brunswick, N.J. to share ideas and take action”. One of their goals is to explore methods and provide recommendations to ensure that healthy, safe, affordable and culturally appropriate food is readily available to every New Brunswick resident. So we thought the Solidarity refrigerator project might be something they, perhaps in partnership with Rutgers Against Hunger, would take on. We sent the following message in Jan 2016 to NBCFA via their website contact site http://www.nbfoodalliance.org/contact/ and to Rutgers Against Hunger at kidrissi@oldqueens.rutgers.edu:

“Redirecting edible food from the waste stream to people that could use the food is a solution to both the food waste and food insecurity problem in the US. Since much of the waste is produced by homeowners and restaurants, it is logical to develop a mechanism by which this waste can be diverted to feed the food insecure. In Spain, they began a “solidarity” refrigerator that enables restaurants and residents to bring leftover food to a community refrigerator instead of throwing it out. Individuals in need of food can then take the food. Starting a “solidarity” refrigerator in New
Brunswick could prevent large amounts of edible food from going to waste and at the same time provide nutritious food to community residents in need. My student and I would be happy to discuss with your group the benefits and logistics of such a program.” Julie Fagan

On Jan 25, 2016, we also sent a similar letter (below) to The Food Trust (contact @thefoodtrust.org), a group headquartered in Philadelphia but that also works in New Jersey and other communities across the nation doing programs like the “Healthy Corner Stores Initiative”.

“Redirecting edible food from the waste stream to people that could use the food is a solution to both the food waste and food insecurity problem in the US. Since much of the waste is produced by homeowners and restaurants, it is logical to develop a mechanism by which this waste can be diverted to feed the food insecure. In Spain, they began a “solidarity” refrigerator that enables restaurants and residents to bring leftover food to a community refrigerator instead of throwing it out. Individuals in need of food can then take the food. Starting a “solidarity” refrigerator in certain communities and in areas considered to be "food deserts" could prevent large amounts of edible food from going to waste and at the same time provide nutritious food to community residents in need. I would be happy to discuss with your group the benefits and logistics of such a program.

Julie M. Fagan, Ph.D.
Associate Professor
School of Environmental and Biological Sciences
Rutgers University
New Brunswick, NJ 08903”

In preparation for such a meeting, we have put together some guidelines for installing community refrigerators.

**Providing Food for the Food Insecure**

In addition to requesting the assistance of businesses and residences, we will also contact other charitable agencies, especially the local churches due to their relationship with the locals and because they know how to contact the locals suffering from food insecurity through the many programs they have to provide help to the less fortunate.

Overtime, we hope to achieve sustainable supplies of food in the solidarity fridges at all times. We hope to achieve equilibrium where the amount of food that is put into the fridges matches the requirements of the community. We hope to provide enough for the community at all times so that no individuals feel the need to take much more than they need and everyone is allowed their fair claim to the donations.

**Objectives**

- **Food waste**: Individual households as well as restaurants will be given the opportunity of placing excess foods in the solidarity refrigerators that they would have otherwise thrown
This will help reduce the amounts of food that is wasted by retailers, restaurants, and households due to their tendency of prepare and/or purchase more than needed.

**World hunger:** The goal is to target hunger issues one community at a time, at the local level first. It is difficult to completely eliminate the problem of food insecurity and homelessness, but the community refrigerator program will at least provide some relief for many low income families and those, especially those that may be homeless who have no hope of having meals even once a day.

**Health issues:** Obesity and health issues relating to consuming non-nutritious food are becoming a profound problem in our society today. Making healthier food of different varieties available to those who cannot afford it otherwise will help us in the process of targeting this problem.

**Improve awareness:** Overall, we hope this project will make the citizens of the community more aware of the food insecurity problems that face some of their fellow community members. Additionally, households will become more cognizant of the food waste problem and become more conservative with the foods they buy. We hope to encourage planning meals ahead of time, only buying what is needed, and utilizing these foods in proportionate amounts through this process.

**Keys to Success**
- Establish relationships with local households, restaurants, and food programs.
- Launch fundraising and publicity programs to keep the program running.
- Establish regulations to maintain food safety.
- Establish effective monitoring systems to protect citizens from liabilities and controlling for increased consumption by the same party.

**Location**
The location of the community refrigerators is vital to promote the participation of the community members. Ideal locations will ensure that the refrigerators are regularly restocked and allow people (donors and recipients) to have quick access to the donated food.

**Food Donations**
Food for stocking refrigerators would be sourced by local residents and restaurants, as well as grocery stores that are looking for excess foods to go somewhere other than landfills. The food would be put in refrigerators placed at various spots across the city and will be accessible to the general public at times under the supervision of volunteers. Food establishments are better equipped and usually have more leftover unserved food than residents and will therefore be depended upon to stock the refrigerators. Local restaurants and supermarkets will be contacted letting them know about the community refrigerator program. A document based on City Harvest’s Food Safety & Liability Fact Sheet (27) and the excellent 1997 guidebook “Food Donation – A Restaurateur’s Guide” (31) outlining the guidelines for what food would be acceptable for donation would be provided.

Contacting local authorities and identifying any startup grants available for this project would help jump start the program. In order to further promote food donors to continue to donate food we will inquire the local authorities about donations, and whether or not the food donations obtained from businesses can be considered a charitable tax deduction. Perhaps a local nonprofit would take this project under their wing. Individuals or businesses that provide food could then
acquire the necessary paperwork to claim it as a charitable tax deduction. The nonprofit could then take charge of monitoring of the donations and assign volunteers that monitor the frig contents, cleaning, purging of older food and seeing that it gets appropriately dispatched as fertilizer. A website or an email system could be set up that would enable those that were giving the food to be able to provide information on the food donated (ie. amount, type, allergens).

**Refrigerators**
The refrigerators required to start this project would preferably be commercial refrigerators that meet local policies and that were energy efficient. Obtaining such as refrigerator, perhaps even a used one of a “scratch and dent” one as a donation would be sought. In order to reduce the electric utility costs of the refrigerators, solar energy could be used. SolarCity and VivintSolar could be contacted to discuss providing the refrigerators with solar panels that will provide the energy at low or no cost (potentially the company might give the solar panels as a donation to the community).

**Food Safety Measures**
In order to maintain proper functions of the fridge and to address sanitary and safety measures, several regulations would need to be put into place. To address food safety and sanitary conditions, donors would be required to label all foods with possible allergens and the date of donation. No raw fish, meat, or dairy would be allowed to prevent bacterial contamination. Prepared foods would be taken out of the fridges and donated for use as fertilizer after three days to eliminate health risks. Some oversight would be needed to make sure the food donations were in compliance with established guidelines.

**Food Security Measures**
In order to address security concerns, surveillance cameras would be placed in the area to monitor the refrigerators. The cameras will give the community a sense of security and will help monitor company and individual donations and the frequency of which food is removed from the refrigerators by individuals.

It would be expected that food establishments would be in the need to do something with their leftover, edible food at the end of their day. This may be late in the evening or into the wee hours of the morning. It would therefore be best that they had access to the community refrigerator. This may entail putting on a combination lock on the frig so that they can come donate anytime. Regular hours of operation of the community refrigerator should be established so that community residents wishing to donate food and those wishing to obtain food would not attempt to come outside those hours. In some communities, if may be found necessary to monitor more strictly what food goes in and what food is taken out. There are some individuals that may make it a practice of coming and taking everything. This could be prevented by housing the community refrigerator in a location adjacent to perhaps the non-profit or food bank that may have volunteers to log in and out the individuals that give and take food. Additionally, volunteers would then be able to scrutinize the food that community members wished to donate and decide whether to accept or reject it.

**Volunteers**
Volunteers will be in charge of monitoring the security footage and the maintenance of the refrigerator. The solidarity refrigerator project will create volunteering opportunities for high
school students that need to fulfill community service hours, as well as opportunities for community members to get involved. Refrigerators would be checked and items removed at least once a day by the volunteers, who will also make sure the food stored meets the guidelines for storage and content of foods allowed in the community refrigerator.

Start-up Costs

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<tr>
<td><strong>Total</strong></td>
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</tr>
</tbody>
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References

6. 69 Bloom, American Wasteland, 187. The author reports a 15 percent loss in homes, with potentially an additional 10 percent loss in liquid products.
10. Katherine M. Kosa et al., Consumer Knowledge and Use of Open Dates: Results of a Web-Based Survey, 70 J. of Food Protection 1213, 1218 (2007).
Dear Editor,

We may not consciously think about the amount of food we waste as individuals and as households on a daily basis. But these wastes have been found to be the largest contributors of edible food wasted of the total food production in the United States. We throw out about 40% of the food we produce and send it to the landfills every year. This is billions of pounds of food that could have been consumed and been an efficient source of energy for many. All of this edible food is being wasted while millions of people go hungry. There is an increased rate of food insecurity in the country, and this is especially evident in our local community. Although New Brunswick offers many food programs and agencies to help feed the hungry, like Elijah’s promise, Five Loaves food pantry, the society of St. Vincent Depaul food pantry, etc., we are still throwing away tons of food everyday especially with the high presence of local restaurants in the city.

It has been found that America, as a consumer society, tends to stock up on food in quantities that are simply not essential. These food products often stay on shelves past their shelf life dates and then are tossed out. We need to encourage our society as a whole to abolish this practice. We need to train them to plan their meals and budget their needs and only buy what is absolutely needed.

Additionally, we need to encourage the households and restaurants in the city to donate the food they would have instead thrown away. Donations of such kinds could help feed ones that cannot afford to feed themselves, while making use of the products that were being unfortunately wasted anyway. Programs like City Harvest in New York City and the solidarity fridges in Spain exemplify the efficiency of collecting such donations and using them to feed the hungry. We need to start this practice everywhere, by beginning locally. All the food programs and citizens in New Brunswick are hence called to support the proposal of implementing the solidarity fridge program locally.

Aashka Parikh
Appendix I: Food Donation – A Restaurateur’s Guide (31)


I, FOOD DONATION

Of the many methods employed to fight the problem of hunger in America, food recovery may be one of the best because it makes use of wholesome food that would otherwise be discarded. A June 1997 study by the US. Department of Agriculture (USDA) estimates that more than one-quarter of all food produced in the nation is wasted. The study, conducted by the USDA Economic Research Service, is the first of its kind in 20 years to examine and quantify food loss. The study found that, in 1995, about 96 billion pounds of food—or 27 percent of the 356 billion pounds of food available for human consumption in the United States—were lost at retail, consumer and foodservice levels. Fortunately, there are several ways to salvage edible food that is destined for landfills. The four most common forms of food recovery are gleaning remaining food from farm fields after crops have been harvested gathering perishable produce from retail, wholesale and other providers collecting processed, packaged foods with long shelf lives from many sources rescuing prepared foods from restaurants and other members of the hospitality industry. Restaurateurs who examine the food discarded in their own kitchens may find that they can employ all but the first of these methods to rescue food from their operations. With little effort, they can make a huge difference in the lives of children, the elderly, the homeless and even the working poor in their communities by doing something that is already second nature to most restaurant professionals—feeding people.

II, RECOVERING FOOD IN RESTAURANTS

Restaurants are good sources of leftover fresh, packaged and prepared foods that can be donated to hunger programs. The guidelines presented in this manual will help operators judge what foods are appropriate to donate and how to prepare them for donation. In general, donors should examine the overall condition of the items under consideration and discard anything that is possibly unsafe to eat. It is up to the recipient program to decide whether or not to accept food that has passed its code date, but the restaurant should provide some assurance that the items are still wholesome. Expired dry goods and sometimes expired frozen items that have never been thawed can be safe, but meats, dairy products and other refrigerated products that have passed their expiration dates may not be fully safe to donate, even though some programs may accept them under certain conditions. Rescuing fresh produce Restaurateurs should begin their search for donation items by looking at the food they have in storage, such as fresh produce that will spoil before it can be used. While no one would want to eat anything that is moldy, there are many occasions when perfectly edible fruits and vegetables are thrown out because they have passed the point of restaurant quality or freshness or are discovered to have bruises or to be soft so that the produce cannot be served to customers. There are also times when certain menu items may not sell as well, such as salads during an unexpected spell of cool weather. This may leave the restaurateur with three cases of eggs… unused lettuce in the cooler, a new shipment coming in the door and no space left to store it. In the past, kitchen staff would likely throw such items away, but awareness of food recovery enables this produce to be donated to those who need it most.
When donating produce, restaurateurs should keep refrigerated items cold (41 degrees Fahrenheit or below) at all times examine the items for any signs of decay, spoilage, mold or odors store food products separately to prevent cross contamination discard any cut items that have not been kept refrigerated. Rescuing other fresh and frozen foods Restaurants often have other fresh and frozen items on hand, such as meat, poultry, eggs and dairy products, that will spoil or reach their quality expiration dates before they can be consumed. Because these items are potentially hazardous high-protein foods, operators should use care when donating them, even though there are cases when some programs may accept these items after they have expired. When donating these potentially hazardous items, restaurateurs should never donate items that have been cooked, cooled and reheated keep items frozen or below 41 degrees Fahrenheit at all times examine the items for signs of decay, spoilage and odors check the expiration dates keep items in their original packaging and do not open mark thawed items so they will not be refrozen discard items that have been thawed and refrozen discard any opened packages or partially used products. Gleaning packaged food from shelves Restaurants also may have surplus canned and dry packaged foods that can be donated to food programs. Operators should check their shelves for items that are reaching or have passed their expiration dates and for products that are no longer used, such as a pasta shape that has been taken off the menu or canned sauces that have been replaced by freshly prepared ones. Flour, sugar, rice and other staples are always welcome; spices and specialty items, such as almonds or flavored coffee, help add variety. When donating canned and dry packaged foods, restaurateurs should examine packaging for tears, holes, dents and broken seals look for signs of infestation and spoilage remove any accumulated dust or debris from the exterior discard any opened packages, spoiled or partially used products. Donating prepared foods Because many charitable meal providers cannot afford professional kitchen staff or much more than the most basic ingredients, donating prepared dishes to food programs is one of the best ways restaurants and others in the hospitality industry can contribute to the fight against hunger. Donating leftover prepared items not only keeps the dishes from going to waste, but these foods help add diversity to often staple-based menus. Restaurant donations allow the industry to have not only a quantitative but a qualitative impact on the meals served in such programs, which can make the difference between feeling full and feeling satisfied. Dishes that can be quick-chilled and/or frozen and then easily readied for serving at the meal site, or that are prepared hot or cold and kept hot or cold for timely consumption, are appropriate for donation. The key to safe donation of prepared food is the proper management of the food's temperature, handling and storage times. When donating prepared foods, restaurateurs should avoid dishes containing potentially hazardous foods that have been heated, chilled and reheated, such as chicken that has been given a second or third life in a stew store dishes in shallow, one-use recyclable aluminum pans or clear-plastic food-grade bags package donations in smaller containers, such as shallow pans, rather than larger ones so that recipients can maintain the food's temperature and prepare only the amounts that will be consumed at one sitting destroyed within a safe period of time label and date all containers so that their contents can be identified and used or keep hot dishes to be consumed immediately at 140 degrees Fahrenheit or above refrigerate and/or freeze cold items that will not be immediately consumed-this procedure should not be followed for hot food never add warm leftovers to a container of chilled or frozen food keep donated food products separate to avoid cross contamination discard any food items that may have been handled by anyone except kitchen staff know what time a hot dish was prepared, the temperature and how long it took to cool to assure that foods are not kept in the danger zone of 41 degrees Fahrenheit to 140 degrees Fahrenheit for more than four hours. Food categories and donation guidelines Programs that
receive donations of prepared foods should provide restaurateurs with guidelines about what particular foods the agency will accept under what conditions. For example, the technical-assistance manual prepared by the national hunger organization Foodchain for its affiliates suggests food classifications of extreme caution, high caution, moderate caution and low caution and offers guidelines for handling each type. Extreme caution foods: Protein salads, including potato, chicken, egg and seafood; some gravies, sauces and dressings; shellfish and crustacea. Because of the volatility and precise temperature control required when handling these foods, they are generally considered unacceptable for donation. High-caution foods: Poultry and poultry products; beef, pork and other red meat; cooked rice or beans; tofu and other soy products; eggs; baked or boiled potatoes; dairy products. Food should be prepared before its expiration date and within four hours of consumption if held hot and one day if held cold. Put simply, leftovers must not be held in the temperature danger zone of 41 degrees to 140 degrees Fahrenheit for more than two hours total. Also, when cooling hot foods, they should be cooled to under 41 degrees Fahrenheit within four hours.

Moderate caution foods: Cold cuts (with preservatives), smoked or lightly cured meats, hard cheese, soups. Food should be picked up within three days of its expiration date and within six hours of preparation if hot and within 48 hours if cold. Leftovers should not be left in the temperature danger zone of 41 degrees to 140 degrees Fahrenheit for more than two hours. Also, they should be cooled to under 41 degrees Fahrenheit within four hours, refrigerated for no longer than 48 hours and should show no signs of spoilage. Low-caution foods: Fresh fruit, vegetables, grains, breads, flour, nuts, beans, pastries. Items should be checked for decay or spoilage. In addition to these guidelines, donors should adhere to any handling directions provided by recipient programs.