### Worcester Polytechnic Institute DigitalCommons@WPI

**Great Problems Seminar Posters** 

**Great Problems Seminar** 

2011

#### Food Reclaimation: To Minimize Food Waste and Provide Inexpensive Goods

Ibraeim Bukhamsin Worcester Polytechnic Institute

Joshua Hinckley

Kelly Kalbacher

Dave Pounds

Follow this and additional works at: http://digitalcommons.wpi.edu/gps-posters

#### Recommended Citation

Bukhamsin, Ibraeim; Hinckley, Joshua; Kalbacher, Kelly; and Pounds, Dave, "Food Reclaimation: To Minimize Food Waste and Provide Inexpensive Goods" (2011). *Great Problems Seminar Posters*. Book 74. http://digitalcommons.wpi.edu/gps-posters/74

This Text is brought to you for free and open access by the Great Problems Seminar at DigitalCommons@WPI. It has been accepted for inclusion in Great Problems Seminar Posters by an authorized administrator of DigitalCommons@WPI.



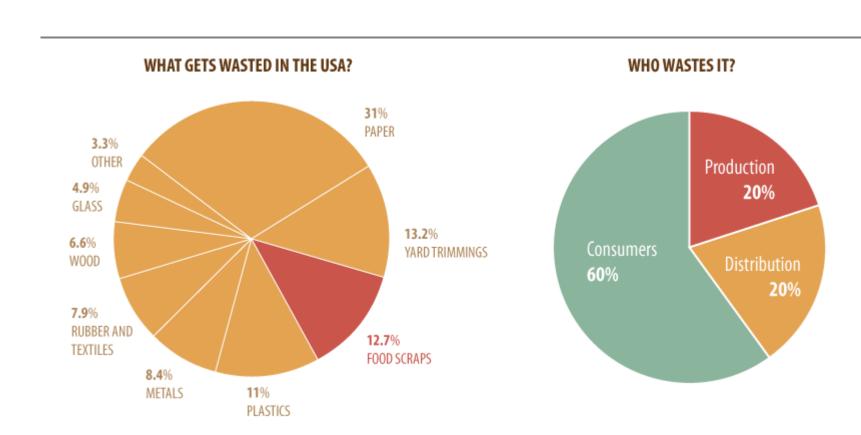
# Food Reclamation

To minimize food waste and provide inexpensive goods

Ibraeim Bukhamsin, Joshua Hinckley, Kelly Kalbacher, Dave Pounds, George Williamson

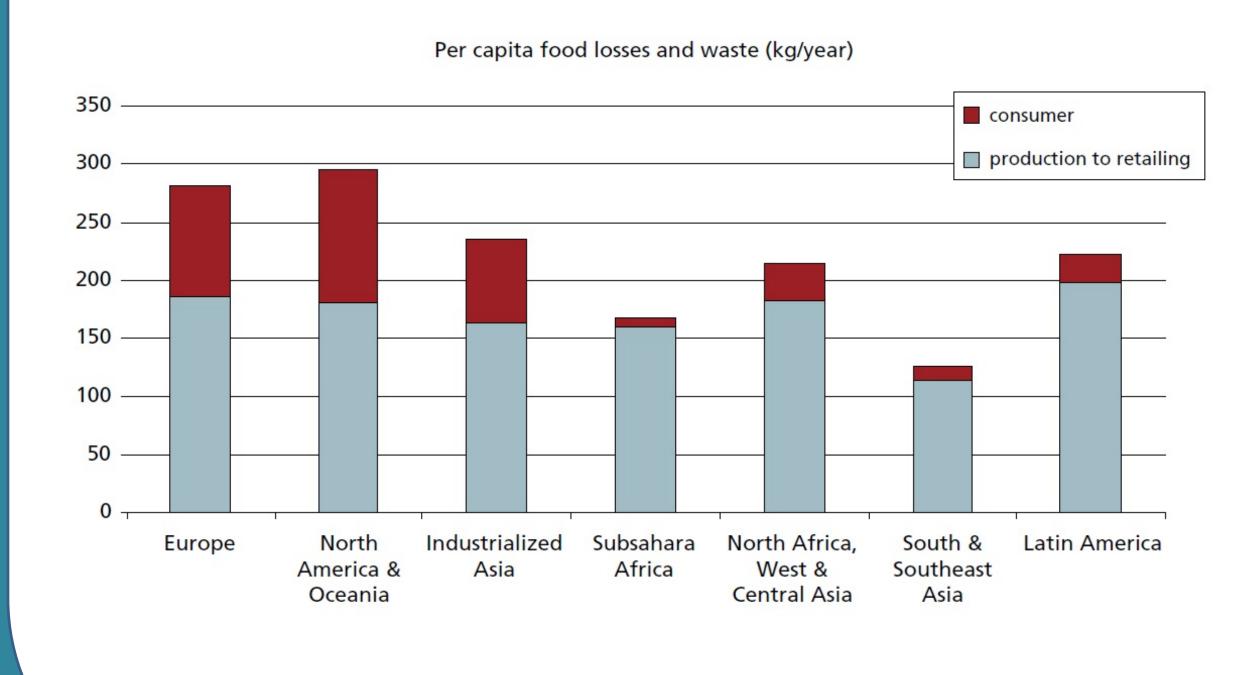
### Problem

- -Food waste contributes to about 12% of the total waste in the U.S
- -40% of it happens during production and distribution stages
- -This accounts for \$31 billion worth of food wasted.
- -In supermarkets 75% of waste is organic on average



# Background

- -Food Waste is a major problem in the U.S.
- -Supermarkets dispose of produce even for slight defects
- -Solutions like composting are more expensive than regular disposal



Unwanted produce



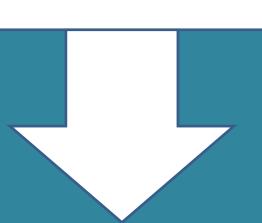




Screening process







Reprocessed & repackaged





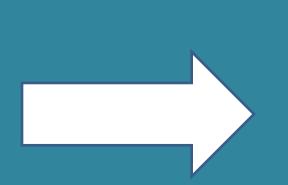
# Mechanism

- -Food Reprocessing plants
- -These are factories that would be able to reprocess and repackage produce since it is the easiest to preserve and can also be taken from local farms
- -Using a strict screening process we would be able to use only the produce deemed safe to use.

# Project Goals

- -Create a safe alternative to dumping food waste
- -Provide Inexpensive preserved produce to those who need it
- -Minimize food waste







## Assessment

- -Keeping track of prices and demand for the original goods
  - -Tracking our products sales
  - -Tracking markets participation

### References

Hu, X., Wang, Z., Huang, M., & Zeng, A. Z. (2009). A computer-enabled solution procedure for food wholesalers' distribution decision in cities with a circular transportation infrastructure. *Computers & Operations Research*, 36(7), 2201-2209.

Mary K. Muth, Shawn A. Karns, Samara Joy Nielsen, Jean C. Buzby, and Hodan Farah Well. (2011).

Consumer-level food loss estimates and their use in the ERS loss-adjusted food availability data. No.

Powell, L. M., Slater, S., Mirtcheva, D., Bao, Y., & Chaloupka, F. J. (2007). Food store availability and neighborhood characteristics in the united states. *Preventive Medicine*, *44*(3), 189-195. doi:10.1016/j.ypmed.2006.08.008

United States. Food Safety and Inspection Service. (2003). FSIS safety and security guidelines for the transportation and distribution of meat, poultry, and egg products
Weinreb, L., Wehler, C., Perloff, J., Scott, R., Hosmer, D., Sagor, L., & Gundersen, C. (2002). Hunger: Its impact on Children's health and mental health. *Pediatrics*, 110(4), e41-e41. doi:10.1542/peds.110.4.e41