



Operation ROOF: Reaching Out On Farming

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Problem

Attaining fresh produce can be difficult in Worcester, MA.

Background

68% of Americans are overweight

Low income causes unhealthy food to be more readily available

Food often travels 1500 to 2500 miles to the consumer

Due to this, food is engineered for hardiness, rather than nutrition

50% of the produce we grow is lost in transport

Proposed Solution

Build a greenhouse on a residential building in Worcester, MA



Implementation

Build a 100 by 25 foot greenhouse on a large residential building.

The greenhouse must withstand 50 mph wind

Provide a surplus of light: more than 2000 foot-candles per plant

8 hours of sunlight/day

Use hydroponics instead of soil

Greenhouse serves as roof installation.



Results/Outcomes

Be able to provide food throughout the year

Project will pay for itself within 5 years

Higher quality food than imported produce

Lower cost than transported products

References

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Measurement of Success

Number of people fed by greenhouse will determine if it is a success

What proportion of food a family consumes is from the greenhouse.

If the greenhouse pays for itself, then it is a financial success