Risk and Resilience: Disaster Preparedness in the Bay Area Food System

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The economic cost of a Bay Area extreme storm is valued at $10 billion.

350,000 people and $46 billion in regional structures are in a 100-year floodplain.
The Bay Area has **38,000** food businesses.
The majority of Bay Area food system businesses are in food service.
1. How is the Bay Area food system at risk from a severe storm?

2. How can we build food system resilience to reduce impact and interruption?
Location

Access

Preparedness
Risk
Risk

- Vulnerability Factors
- Counties and Cities
- Sectors
- Food Insecurity
9% of food businesses are in a 100-year floodplain.
22% of Marin businesses are in a floodplain exposure zone compared to 0.1% of Sonoma businesses.
87% of businesses are at high or very high relative risk from lack of access.
97% are at high or very high relative risk from predicted lack of preparedness.
Lack of preparedness is the greatest single contributor to risk.
Risk is relatively **evenly distributed** across counties.

**Marin** has the highest county risk score.

Agricultural **production** has the highest sector risk score.
City businesses are at lower risk than the regional average.
Food Insecurity

1.4 million Bay Area residents live in food insecure areas as defined by USDA low-income and low-access (LI-LA) measures.
Businesses in low-income and low-access areas are no different from the regional average.
● Few food system businesses are at risk from exposure to direct flooding during a severe storm.

● Many are small businesses, likely lacking preparedness plans.

● Businesses in cities are, on average, at lower risk than businesses in rural areas.

● The relationship between food insecure areas and risk requires additional research.
Interventions

Zoning Incentives for Location

Transportation Corridor Protection - 101 & 80

Small Business Preparedness Program

3,000 (9%) businesses

14,000 (37%)

30,000 (80%)
Small Business Preparedness Program

- Business preparedness plan development
- Resource access
- Risk assessment
- Regulation clarity

+ Disaster continuity insurance plan subsidy grant program
- Preparedness plan eligibility requirements

5% total risk reduction
1. Collect data.

- Conduct a supply chain resilience study.
- Research the relationship between food security and risk.
Integrating Food into Regional Resilience

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   - Conduct a supply chain resilience study.
   - Research the relationship between food security and risk.

2. Address food-specific resilience needs.
   - Implement a small business preparedness training and cost-assistance program.
   - Advance local production and diversified sourcing.
# Integrating Food into Regional Resilience

## 1. Collect data.
- Conduct a supply chain resilience study.
- Research the relationship between food security and risk.

## 2. Address food-specific resilience needs.
- Implement a small business preparedness training and cost-assistance program.
- Advance local production and diversified sourcing.

## 3. Advance whole-community resilience.
- Address regional housing and labor challenges.
- Continue to strengthen resilience of power, water, and communications systems.
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Contact Information

To follow up, please contact Sibella Kraus at SAGE (sibella@sagecenter.org) and Beth Leuin (eleuin@berkeley.edu).
Vulnerability Factor Distributions

Location

Access

Preparedness

Vulnerability Score

Vulnerability Score

Vulnerability Score

Frequency

Frequency

Frequency
Total Risk Score Distribution
Policy Effectiveness and Feasibility

- Training
- Zoning
- Training + Insurance
- Insurance
- Transportation

Risk Reduction vs. Feasibility graph