

# Investing in a Just, Sustainable, and Dynamic Tri-State Region Foodshed amid Climate Change & Natural Disasters



## Lessons Learned & Action Items from Partner Dialogues on Reshaping Notions of Food System Resilience & Disaster Preparedness

- Fostering Equity and Adaptation in a Post-Sandy World
- Stories and Community Responses
- Emerging Solutions and Political Realities

## Risk & Resiliency in New York's Regional Food System: Emerging Opportunities for Investments, Partnerships & Policy Reform to Protect the Foodshed

Community Food Funder's (CFF) examination of risk and resilience in New York's regional food system reveals a "foodshed" that is maximally vulnerable to climate change, while also a potentially powerful mitigation and adaptation tool against related risks. Within each of the stages of the farm-to-plate system, there are practices to emulate and others to quash that relate to CFF's food system focus areas. These funder opportunities for further exploration exist among the following categories: facilities and infrastructure investment (civic, public & virtual); organizational capacity and training; policy advocacy and research; and partnership facilitation.

### *Fostering Equity and Adaptation in a Post-Sandy World: The Headlands*

Regional farmland, particularly in fertile flood valleys, is increasingly flood prone from severe storms. Investing in biodynamic and other sustainable farm practices positions farms to be more resilient from and help mitigate climate risks. Affordable land security, incentivized climate-friendly farming, business training, and farmer-focused advocacy and partnerships are among identified means to such aims.

Facilities & Infrastructure: Financial assistance for climate-friendly farm production equipment, soil and crop development, affordable site housing, and other physical improvements.

Organizational Capacity & Training: Financial instruments to support resilient land security transactions (conservation easements, development value reducers, non-profit ownership, etc.); farmer disaster and flood resilience training.

Policy Advocacy & Research: Policy incentives for stewardship, affordable land security, local food product sourcing for public-funded community assistance and disaster response services; climate advocacy among farm trade organizations.

Partnership Facilitation: Peer-to-peer farmer exchanges; and conservation-agriculture, insurance-farmer, banking/private finance-farmer partnerships.

### *Stories & Community Responses: The Endpoints*

Reliable, safe community access to local, healthy food after a disaster is a resilience goal that empowers and protects otherwise vulnerable residents, farmers, and fishermen. It requires a community-controlled approach to infrastructure and capacity investment, pre-disaster planning, and partnership formation.

Facilities & Infrastructure: NGO stationary and mobile centers for food prep and delivery; small/portable cold storage for local farm/fishermen products; intermodal transportation planning; communication equipment and information-sharing platforms; pre-disaster site selections for food delivery/prep/distribution.

Organizational Capacity & Training: Community disaster readiness and "first-responder" self-sufficiency training; community culture sensitivity training; NGO business training and planning related to food services.

Policy Advocacy & Research: Policy incentives for local sourcing of post-disaster food provisions; state/local regulatory provisions enabling wider local food prep/distribution certifications after disasters; HUD CDBG-DR funding for disaster-related food distribution initiatives and infrastructure.

Partnership Facilitation: Partnerships among local NGOs, State/City, volunteer-based NGOs, local farmers and fishermen.

### *Emerging Solutions & Political Realities: The Connections Between*

Resilience in the connectors between farm and plate requires redundant yet nimble assets, creative transportation and supply-chain logistics, smart growth planning, farmer-distributor-market coordination, and strategic investments that spur innovation in fresh food output, storage, and distribution.

Facilities & Infrastructure: Food trucks/mobile infrastructure; disaster hardening of market and farmer assets; small/portable cold storage for local farm/fisher products; intermodal fresh food transportation planning; disaster resilient farmer-market communications and information-sharing platforms; pre-disaster planning for storage and distribution.

Organizational Capacity & Training: Farmer and greenmarket organization disaster readiness and "first-responder" self-sufficiency training; post-disaster bridge loan farmer/market gap financing; disaster resilience investment grants; pre-disaster supply chain logistics technical assistance and procurement.

Policy Advocacy & Research: Research regional freight/other distribution network opportunities; FEMA HMGP/HUD CDBG-DR funding for local sourcing post-disaster food provisions, farmer/market storage and asset resilience.

Partnership Facilitation: State/City-Farmer/Market, Upstate farmer-NYC Market/NGO disaster prevention and response coordination, and local farmer/fisherman-local NGO partnerships.

# FOSTERING EQUITY & ADAPTATION IN A POST-SANDY WORLD

MAY 28, 2013

## *Session in Brief*

Jimmy Daukus, Vice President of Programs at American Farmland Trust, and Jean-Paul Courtens, a bio-dynamic farmer, and Founder of Roxbury Farm in Columbia County, New York, reflected upon existing practices, challenges, and opportunities for protecting regional farming and related networks from climate change and natural disasters. Specific areas of focus included land use planning, farming techniques, farm operations and land management, and farm resilience investment strategies.

## ROXBURY FARM



## Speaker Background & Observations

### **Jean-Paul Courtens**

Founded Roxbury Farm in 1990. Located in Kinderhook, New York, the farm is situated on 335-acres and is a community supported agriculture (CSA) operation that harvests over 60 different types and crops along with grass fed pork, lamb, and beef for over 1000 shareholders representing over 1200 families in Columbia County, the Capital Region, Westchester County, and Manhattan.

The farm was purchased by a non-profit, Equity Trust, which purchased the land at a market rate but reduced its development value using conservation easements acquired by another non-profit and CSA-member fundraising. This allowed Equity Trust to sell buildings onsite to Roxbury for housing at agricultural value and lease the ground for farming through an affordable 99-year ground lease.

Roxbury employs biodynamic farming practices through which every aspect of the land (wetlands, forest, farmland), organisms, and practices are integrated to promote soil and plant health, sustainable cultural practices, farm biodiversity, and farmer quality of life. All farm produce is grown without synthetic or artificial fertilizers or pesticides and almost all crops are grown from onsite seeds. The land is fertilized with compost and green manure crops. Soil health, pest management, water absorption, and root strength is maintained using planned crops rotations, cover crop, and less aggressive tillage methods.

Operations are financed through shares sold for vegetables (10-17lbs weekly), fruit (2-4lbs.), and meats. Between June and November, Roxbury delivers once a week to six distribution sites in the Capital Region, five in Westchester, two in Harlem, two on Manhattan's Upper West Side, and at the farm.

### Resilience Related Observations:

- Biodynamic farming is ideal for protecting regional food systems amid climate change pressures because it focuses on achieving ecological, economic, and social resilience relative to farming operations.
- A significant food system resilience challenge is that prime farming lands in the Hudson Valley and similar areas are in floodplains. Elsewhere, glacial soils are rocky and less naturally fertile.
- Roxbury has not had a "normal" summer since 1999, experiencing large temperature and precipitation fluctuations. The 100-year flood plain, having not flooded since 1934, did so in 2009 and 2011.
- Farm diversity (genetic, species, and ecosystem), self-generating fertility, soil health, and farm worker quality of life are among the most important elements of assuring a farm is resilient.
- Tillage practices should be done to allow soil to withstand drought and flooding. E.g., plowing instead of tilling, "bulk density" for space to absorb water, low-impact practices to avoid compaction, etc.

## Jimmy Daukus

Directs the Agriculture & Environment Program at American Farmland Trust (AFT) and works with individual farmers, farming organizations, and policymakers. AFT's main mission is to 1) permanently protect and prevent the loss of farmland 2) promote smart farming practices that minimize adverse impacts to water quality and increases climate change resilience; and 3) "keep farmers on the land" through business practices, policies, and legal and financing structures to sustain affordable access to land.

AFT is conducting several efforts to increase climate change mitigation and adaptation efforts among farmers, including: 1) promoting farming practices that reduce greenhouse gas use, increase absorption, and incentivize adaptation; 2) advocating for integration of food system risk and logistics considerations into regional "smart growth" planning; 3) strengthening federal and state policies through joint advocacy efforts among agriculture and conservation groups and increased engagement of farming, ranching, and agriculture industry leadership; 4) researching "new tools" for addressing climate risk – "the counter to resiliency;" and 5) providing financial and land management/ownership business consultation to farmers.

### Resilience Related Observations:

- Agriculture leaders and related organizations lag behind individual farmers in acknowledging changing environmental dynamics and advocating for practices and policies related to climate change adaptation and mitigation. "In general it is not an issue" among sector stakeholder groups in terms of what to do.
- Farming organizations are politically sensitive to climate change related advocacy and express concerns about the cost and burden of increased regulation, notwithstanding observations of members.
- More reporting of changes and related costs can be a counterweight to climate advocacy reservations.
- Among the most important elements to increase farming climate change resilience: improving soil health; incentivizing land stewardship; securing affordable, long-term land use; and smart growth planning.

## Key Recommendations, Action Items & Partnership Opportunities

### *Awareness and adaptation investments need to accelerate among farmers.*

Jean-Claude: Farmers and policymakers need to "be bold" and supported by incentives that encourage more practices: eliminating feed lots and corn and soybean subsidies; encouraging biodynamic farming; increasing soil water infiltration, rewarding ecosystem services, reducing nitrogen inputs; and financing production elements (cooling, housing, packing, etc.) that can extend farming season and add productivity; support distribution channels between farm and city markets.

Jimmy: Incentivize stewardship in addition to output; financially support soil health; philanthropy and matching funding of research on production aspects that could augment resilient practices.

Attendee Comment: Link financial centers in City to all aspects from production to distribution that resilience related "added value" items.

### *Facilitate expanded policy advocacy among farming and conservation organizations.*

Jimmy: Capitalize on growing consensus on sustainable agriculture end goals by facilitating research and dialogues on specific practices and programs to meet those aims; facilitate peer-to-peer discussions and individual farmer testimony as leverage for motivating "farmer groups."

*Support policy research and development related to land security instruments. (e.g., conservation easements, leasing, non-profit trust ownership, deed restrictions, market development value reducers, affordability clauses, farm covenant enforcement)*

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## STORIES & COMMUNITY RESPONSES

JUNE 6, 2013



### Session in Brief

Four community leaders – Robyn Hillman-Harrigan, Rockaway Rescue Alliance's Shore Soup Project; Bre Lembitz and Sierra Spingarn, Occupy Sandy; and Niaz Dorry, Northwest Atlantic Marine Alliance – introduced stories of impact, response, and resolve from Hurricane Sandy to help hone investment and policy strategies for assuring an equitable, responsive, and resilient regional food infrastructure system amid growing climate and social equity risks.

### Speaker Background & Observations

#### Robyn Hillman-Harrigan

Founded and directs the Rockaway Rescue Alliance's *Shore Soup Project*, a community-based relief initiative that was created in the immediate aftermath of Hurricane Sandy in October of 2012 to prepare and directly deliver hot soup to Rockaway, Queens residents who lacked resources or means to reliably access food in the months following the disaster. In the first six months after Sandy, *Shore Soup* fed an average of 800 persons daily using a network of over 400 volunteers and farm fresh produce donated by GrowNYC and other farmers' organizations, farms, and individuals. In the years since, *Shore Soup* has become a permanent organization that is addressing ongoing challenges to accessing nutritious and affordable fresh food in the still-rebuilding and low-income Rockaway community through a free weekly meal delivery service; youth nutrition workshops; a pay-as-you-can mobile relief restaurant; and Shore Farm, a community urban garden.

Portions of the Rockaways suffered the wicked combination of being among the poorest communities in New York City and also among the most devastated by Sandy. Chronic pre-storm substandard housing, unemployment, limited mobility, and a lack of reliable access to affordable healthy food and other public services were exacerbated by storm damage that nearly a year later had all but two local supermarkets and bodegas still closed resulting in severe lack of food access for 100,000 persons.

*Shore Soup* began on a tricycle. Upon seeing hundreds of storm impacted residents in the immediate aftermath out on the streets looking for food, water, and shelter, Robyn began delivering bottled water and other provisions donated from people's homes using her tricycle cart. With the Red Cross and FEMA not fully mobilized in the first weeks, Robyn's and other citizen relief efforts were among the few in those first days. Over the ensuing weeks with the aid of social media, the operation expanded to a corner lot with camping gas stoves and then transformed Robyn's personal kitchen into a commercial-like operation at which donated food product was delivered twice a week, cooked into soup, and delivered door-to-door among damaged housing.

***Describe the importance of community facilities to provide access to food and barriers to and needs for establishing such facilities after a disaster.***

- The lack of easily accessible relief facilities remained an issue nearly a year after Sandy. After the storm, there were no pre-set locations or set-aside provisions to provide longer-term food access. "When you're in a community that already has a lack of resources, imagine how little resources there are in a disaster. We need to have resources in place in the community and have very visible community members that people know." Additionally, mobile infrastructure (food trucks) are important "go to and get to" relief. Further, stationary community-owned centers should be situated in multiple locations for vital walk-up service. Longer term, vulnerable communities like Far Rockaway need permanent centers to provide community and food access



services generally and after disasters. Finally, public policy needs to assure that insurance, health codes, and other legal requirements are compatible with enabling flexible food provision facilities and arrangements.

- In responding to disasters, the local food infrastructure system needs to enable more local-sourced fresh food from nearby farms and flexibility in siting and meal selection. Existing regulations for becoming an approved soup kitchen or food pantry are onerous and very limiting in terms of organizational partnering during periods of crisis. In addition, many uniform disaster meal provisions are not compatible with either cultural or dietary restrictions, which are basis for people refusing assistance. Proposed solution: coordinating delivery of local farm sourced foods to safeguarded community centers at which meals are prepared and delivered.

***What “chokepoints” exist for bringing community leaders and members together to improve communications, service access, and resource gathering within a local food system?***

- Lack of familiarity and understanding of community among prospective partners. Governmental and non-governmental partners are needed and provide important resources, expertise, and training capacity by which relief can be expeditiously provided and local organizations and individuals can be trained and enabled to manage future community needs. Nonetheless, it is crucial that such non-local partners/allies work in concert with local leaders and organizations and be trained on local needs, culture, and dynamics.
- Lack of partnerships with organizations with large established networks of volunteers. Securing long-term relationships with entities that pre-established core volunteer networks can help build activity capacity and technical know-how among smaller community organizations increase organizational capacity.

***What resources are needed to build strong community communications in responding to future crisis?***

Communication networks in advance of and after a disaster in an insulated community such as Rockaway need be built ahead of time based on the most visible and trusted individuals and institutions that residents know where to find and trust for the provision of assistance. That paired with permanent centralized facilities at which services can be provided is the most effective approach.

**Bre Lembitz & Sierra Spingarn**

Part of the initial group that formed Occupy Sandy, a grassroots disaster relief network that is working with communities impacted by Hurricane Sandy to provide rebuilding aid and on-the-ground assistance in coordinating relief workers, volunteer, and other resources for the benefit of communities most affected by Sandy. In the initial days after the storm, this group of individuals, many of whom were affiliated with Occupy Wall St. utilized the latter communications network and social media to marshal resources and provisions for delivery to New York neighborhoods that sustained severe damage and for which organized aid efforts were still limited. The group began working with local community individuals and organizations already on the group beginning to respond to post-disaster needs in Redhook, the Rockaways, Staten Island, Two Tent Bay, Coney Island, and other impacted neighborhoods.

Occupy Sandy worked with neighborhood groups to staff and stock relief kitchens. In all, Occupy Sandy volunteers were engaged at least 11 food hubs across impacted areas set up by local groups and two of its own hubs in Brooklyn, which prepared and delivered upwards of 8,000 meals daily with the help of nearly 200 volunteers per day over the course of the first six weeks after the storm.

***What “chokepoints” exist for bringing community leaders and members together to improve communications, service access, and resource gathering within a local food system?***

- Outside organizations cannot lead the effort. Local community leaders must frame needs and help structure networks for response.
- Sustaining a consistent volunteer force is difficult. Leadership roles and programming investment needs to be integrated into permanent local organizations and supplemented by partnerships with organizations that have established long-term volunteer networks.

### **What resources are needed for a foundation upon which communities can respond to crisis with sustained networks, outreach, and provision of resources?**

- Permanent facilities, owned by non-governmental community interests that are accessible and from which resources can be reliably distributed.
- With volunteer-based relief efforts, organizations need to coordinate with each other in order to recruit and employ a steady, continuous stream of volunteers throughout the duration of the recovery.
- Emergency food systems can and do rely on local community faith-based organizations that have facilities with a kitchen and community room. Although this is very useful and important, these faith-based facilities need to be supplemented with official community centers.

### **Niaz Dorry**

Serves as Coordinating Director of Northwest Atlantic Marine Alliance (NAMA), a fishermen-led organization that seeks to enhance and maintain healthy marine ecosystems and local fishing economies through decentralized networks of community-based fishermen, fishworkers, and allies. In particular, NAMA facilitates connections between consumers and fishermen; shapes policy supportive of small and medium scale, community-based fishers; and builds coalitions among like-minded fishermen and food and farming activists. Niaz has worked extensively with small-scale, traditional, and indigenous fishing communities in the U.S. and from around the globe, including communities rebuilding in the aftermath of the 2004 Indian Ocean tsunami, Hurricanes Irene, Katrina, Rita, and Sandy, and other disasters.

### ***What perspectives and lessons are available from coastal communities and fishermen organizing to rebuild their livelihoods after a disaster to become more resilient?***

- Sri Lanka, Indian Ocean Tsunami: “People forget that in those moments people need self-confidence and empowerment for resources that are out of their reach.” Amid slow outside relief and communities lacking their mobility and resources in the aftermath, enabling community organizations was critical – not with cooking but access to food, money, and materials.
- Hurricane Sandy: Small and medium-scale commercial fishing operations, lacking means to move and reliant on community infrastructure, must invest in preventative measures to shore up equipment and be ready to capitalize on local market food needs, including emergency food operations. Failure to adapt results in local fishermen having to sell to larger operations or pursue high-volume, low quality stocks.
- Hurricanes Katrina & Rita: Leverage shared disaster to overcome racial, class, and generational divides. After severe Gulf of Mexico storms, racial and language divides among fishermen communities often prevented cooperation to secure jointly needed resources. However, in the Vietnamese fishing community, shared time-honored tactics for overcoming limited resources was basis for renewed ties among new and older generations.
- Outer Banks, NC: Isolated communities have to train to be their own first responders after disasters and planners to become more resilient and safe from future threats. Fishing communities on the Outer Banks are accustomed to becoming an island when disasters inundate or destroys roads to the barrier island. Community interests are organizing (e.g., “Saltwater Connections”) to identify policy changes and practices needed to maximize self-sufficiency and expedite rebuilding when the area again is isolated. In so doing, local organizations should partner with outside groups who often lend fresh perspectives, expertise, and a shared need for finding solutions.



## Sources for Relevant Information

# EMERGING SOLUTIONS & POLITICAL REALITIES

JUNE 11, 2013

### Session in Brief

Three farm-to-plate system innovators – Dennis Derryck, President of Corbin Hill Food Project; Bev Eggleston, President of EcoFriendly Foods; and Michael Hurwitz, Greenmarkets Director at GrowNYC – discussed existing strategies for connecting locally-farmed, affordable fresh food to needy markets, lessons learned from Hurricanes Irene and Sandy, and the challenges and opportunities ahead to support and build a vibrant, reliable, and resilient regional food infrastructure system.



**CORBINHILL**  
FOOD PROJECT



## Speaker Background & Observations

### **Michael Hurwitz**

Directs GrowNYC's *Greenmarket* through which fresh food from small, regional farms and fishermen is distributed and sold throughout New York City and its communities lacking access to affordable, nutritious food products. Founded in 1976, *Greenmarket* is the nation's largest urban farmers market network.

*Greenmarket* distributes and sells millions of pounds of fresh produce and seafood, annually, from a network of over 230 farms and fishermen in New York and nearby points in New Jersey and Pennsylvania. Food distribution and sales are done using over 54 producer-only markets; a wholesale market where farmers rent spaces to directly sell product; and a local distribution service – *Greenmarket Co.* – through which farm products are fairly purchased, stored in a refrigerated facility, and sold and delivered wholesale to restaurants, retailers, institutions, and GrowNYC's food access programs. Market locations are secured using grants, rental fees, and donations of space and operational support.

*Greenmarket* uses several food access programs to bring farm products to NYC communities: 1) *Fresh Food Box Program*, through which underserved communities purchase weekly pre-packed fresh produce box selections; 2) *Fresh Pantry Project*, which distributes farmer-donated produce to food pantries, homeless facilities, soup kitchens, and community centers; 3) *Youthmarket*, which employs and trains local teens to help operate markets; and 4) acceptance of EBT and other assistance for purchasing products.

*Greenmarket* also provides technical assistance to new and established farmers within their network through its *FARMroots* program. Issue areas include: succession and land transfers; financial and business planning; legal assistance; strategic marketing; access to capital; and food safety and risk management.

### Resilience Related Observations:

- Having “nimble infrastructure” is among the most important elements for achieving a regional food infrastructure with flexible “touch points” to connect farmers to needy markets and adaptability to expeditiously resume operations after a disaster. This includes readily available access to trucks, mobile payment systems (wireless EBT), and market sites with limited infrastructure set-up needs.
- “Nimble infrastructure” allowed *Greenmarket* to expedite disaster response: immediate damage assessments of markets and storage and transportation assets; “donate-a-bag” initiative within two weeks of Sandy distributed 45,000 lbs. of fresh produce to recovering communities; *Greenmarket* wireless EBT terminals that were the only

post-storm access points for food shopping in many power-plagued neighborhoods; and safeguarded *Greenmarket* trucks enabled quick distribution of hot meals.

- Redundancy and resilience of food infrastructure is critical: City Harvest refrigerated facility was inoperable for two weeks post-Sandy because cooling system flooded underground. Additionally, all of their refrigerated trucks were destroyed resulting in most of city's remaining stock to be rented out.
- Immediate post-disaster communications among partners was overly reliant on social media.
- Nimble infrastructure should be balanced as feasible with more permanent assets (power, storage).

### **Dennis Derryck**

Founded and directs Corbin Hill Food Project, which aggregates fresh, seasonal produce from a network of 18 farms, primarily in Schoharie County, and distributes weekly "farm shares" through a "specialized wholesale market" of over 400 pre-paying shareholder member organizations in Harlem, South Bronx, and other points in New York City. While open to anyone, farm shares are designed to meet the needs of low-income communities by offering fresh produce at affordable prices and flexible membership terms. Shares include set amounts of seasonably available vegetables, fruits, and grains.

Corbin Hill's shareholder concept is an "upside down CSA," whereby low-income members do not share risk with farmers. Instead, the aim is to enable low income members to be "economic citizens" that pay for farm shares, while allowing flexibility to make payments as feasible. To assure long-term organizational stability, Corbin Hill converted from being an investor-financed company at its founding to a non-profit organization. However, founding members remain personally liable for outstanding loans.

#### Resilience Related Observations:

- Hurricanes Irene and Sandy revealed disconnects in communication and logistics at opposite ends of the regional food infrastructure system. Upstate Irene impacted farmers in a manner that NYC markets and consumers initially did not comprehend. Conversely, Sandy impacted distribution and market centers in part because of a lack of mid-chain cold storage options.
- Facilitated dialogues and visits among farmers, shareholders, and distribution partners after Hurricane Irene allowed infrastructure members better understand each other's needs and vulnerabilities.
- Lack of research on the utility of existing trucking networks for fresh food distribution is "astonishing." Using "back calling" to fill empty trucks on already planned routes, Corbin Hills reduced transportation spending from \$82K for 23 trips to deliver to 400 shareholders in 2011 to \$52K for 1000 shares in 2013.

### **Bev Eggleston**

Founded EcoFriendly Foods, a "healing agriculture" inspired company that purchases and processes locally grown, specially bred livestock from among farmers in Virginia and North Carolina that adhere to strict ethical and sustainability standards. Resulting pork, beef, lamb and chicken products are sold among East Coast restaurateurs and direct-to-consumers at several regional farmers' markets.

EcoFriendly Foods manages all aspects of its food infrastructure network, from using a highly selective process to identify farmer partners; affordable purchase prices; and supervising trucker selection, routes, and related livestock handling to assure animal disposition before processing.

#### Resilience Related Observations:

- A significant number of restaurant clients were impacted by Hurricane Sandy causing the complete loss of income for a month and requiring all of 2013 to recover financially.

- “When the farmer leaves the farm, he’s undercapitalized.” Once “the farm gate to plate process” begins, small, sustainable farming and related distribution needs funding support for the elements needed to get to market (fuel, labor, housing, trucking, etc.). “Farming in this time is not an independent endeavor.”

## **Key Recommendations, Action Items & Partnership Opportunities**

***What are specific choke points were observed in the region’s food system, both generally and related to disaster, and how might these barriers be addressed as a matter of policy?***

Michael: Based on Irene, philanthropic bridge loans to farmers would be very helpful. While farmers might eventually receive insurance proceeds and government support, the indefinite delay in receiving such assistance can be devastating. Moreover, farmer losses tend to be significantly higher than market operators. GrowNYC provided grants to farmers that literally help families afford heat during winter.

Both Irene and Sandy underscored need for logistics assessments and planning to identify capacity and gaps in food system. What works and what does not. (Intermodal communications, rapid response supply provisions up and down system network, pre-arranged contracts for assets, storage, and market locations).

Dennis: 1) Investments towards “maintaining the cold chain” through the purchase and installation of small to mid-size refrigerated storage facilities that farmers can jointly use at centrally located points. (Corbin Hill’s 10x8x8 refrigeration unit saved numerous pallets among Irene impacted farmers); and 2) funding for research and business planning assistance to increase leverage of regional trucking networks and mechanisms, which can greatly reduce shipping costs and provide important system redundancy.

***What are significant training needs among farmers and communities to identify needs and solutions?***

Dennis: Training farmers on how to deal with disasters (e.g. Cornell Extension Disaster Education Network, which enables 10% insurance discount among participating farmers).

Bey: Connect entrepreneurial young farmers with land, livestock, and capital; provide training and career advancement opportunities for beginning and/or struggling farmers; organize networks of sustainable livestock producers; educate urban and rural communities and consumers about their food-interdependence

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