Handling & Processing Section


UTILIZING STRATEGIC PLANNING TOOLS TO DEVELOP A DISASTER RESPONSE INITIATIVE FOR RETAIL AND DISTRIBUTION PERISHABLE PRODUCT COMPANIES

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Abstract. The mission of the UF/IFAS Center for Food Distribution and Retailing (CFDR) is to provide the food industry and the scientific community with a unique environment for developing knowledge that will assure food quality and safety through the whole distribution chain. In light of recent large-scale disasters and the potential for future natural and man-made disasters, a need was identified to develop a new initiative related to disaster response for retail and distribution center perishable product companies. This project will expand the CFDR mission and there is excellent potential for coordination with the Extension Disaster Education Network. The strategic planning for this new research project area is presented including potential partners; Florida Division of Emergency Management, Department of Homeland Security, Department of Defense, USDA, NASA (cryogenic cooling), member companies of the CFDR, and other industry groups. Initial project activities include assessment of the current impact of disaster on the whole retail food chain, inventorizing existing plans for post-disaster activities and fact-finding industry working groups, to develop dialog with the overall objective of establishing industry norms and areas needed of research. Potential research projects could investigate movement of perishable products prior to the disaster, providing mobile electric energy capability, use of short-term cryogenic cooling, certification of food quality for redistribution, decontamination of food materials, alternatives to land fill disposable of destroyed food materials, methods to improved food resupply and distribution to the disaster area from distant sources. Industry input will assist with establishing project priorities and determining the state of the industry in dealing with the food distribution system when it is disrupted by disasters, methods to maintain refrigeration cooling energy during disasters, efficient and economical waste disposal, etc.

The UF/IFAS Center for Food Distribution and Retailing (CFDR) (http://cfdr.ifas.ufl.edu/) was established in Feb. 2004, with the mission to provide the food industry and the scientific community with a unique environment for developing knowledge that will assure food quality and safety throughout the whole distribution chain. The mission is accomplished through the goals to facilitate research and education in the multidisciplinary area of the food distribution chain from growers to consumers and to disseminate science-based information about the impact of the whole distribution chain on the final quality of the food products on the shelves of a retail store. J. P. Emond is co-director and M. T. Talbot is a research member of the CFDR. The CFDR external advisory board is made up of top decision makers from the most prestigious retail chains, food service and restaurant chains. Associate members are research partners from government agencies or private companies involved in the distribution and retailing business, which sponsor and contribute to the development of new scientific findings and technology.

In the course of program evaluation and analysis during the last two years, M. T. Talbot sought direction for modifying his plan of work in order to better support the CFDR. In addition to his expertise related to postharvest engineering for perishable products, M. T. Talbot has several years of training and experience in emergency response gained while serving as the Florida State Emergency Preparedness Liaison Office, while a member of the U.S. Army Reserves from 1997 to 2001. In light of recent large-scale disasters and the potential for future natural and man-made disasters, the CFDR identified a need to develop a new initiative related to disaster response for retail and distribution center perishable product companies.

At the direction of the President of the USA, the National Response Plan (NPR) (http://www.dhs.gov/interweb/asset-library/NRPbaseplan.pdf) was published in Dec. 2004 and comprehensively involved all levels of government in preparing for and dealing with all types of disasters. The State of Florida has an excellent emergency response organization: Florida Division of Emergency Management (FDEM) (http://www.fema.gov/). The University of Florida is a participant in the Extension Disaster Education Network (EDEN) (http://www.lsuagcenter.com/en/family_home/hazards_and_threats/recovery_assistance/eden/) which links Extension educators from across the U.S. and various disciplines, enabling them to use and share resources to reduce the impact of disasters. Therefore, these and other related organizations have a well established organization for dealing with disasters. The CFDR is in a unique position to bridge the gap between these existing programs and the needs and strengths of the whole perishable food industry.

As planning was initiated to develop a program to expand the CFDR mission to coordinate with the established emergency response network, M. T. Talbot participated in the UF/IFAS Extension Symposium (Golden, 2006). One of the professional development workshops related to building youth extension programs through strategic planning. The strategic planning process appeared to provide a good approach to develop the new program area. Thus, the objective of this article is to show the development of a new initiative, as part of the CFDR, related to disaster response for the perishable food company retail and distribution centers, utilizing strategic planning tools.

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Materials and Methods

Strategic planning has been a tool used by businesses and government agencies since the 1960s (Darling and Bittel, 1991). The purpose of strategic planning is to 1) clarify where you are, and where you want to go; 2) develop strategies for long-term success; 3) prepare and guide organizational change or improvement; 4) plan for sustaining promising programs; and 5) demonstrate to stakeholders the value of your programming.

Strategic Planning Major Activities involves three activities 1) Strategic Analysis, 2) Setting Strategic Direction, and 3) Action Planning. Strategic Analysis includes the following: 1) review the mission and vision; 2) scan or review the organization's environment; and 3) consider the forces in the environment, S.W.O.T. (Strengths, Weaknesses, Opportunities, and Threats). Setting Strategic Direction emphasizes the following: 1) Decide on overall goals the organization should achieve; 2) Establish the methods to achieve goals; and 3) Goals need to be SMARTER (Specific, Measurable, Acceptable, Realistic, Timely, Extend Capabilities, Rewarding).

Result and Discussion

Strategic planning was used to develop a disaster response project initiative as part of the CFDR, designated as the "CFDR Disaster Response". The initial step identified key issues, situations that an organization must respond to in order to meet its mission and vision. Ten key issues were established and are listed in Fig. 1. These key issues include the fact that this project initiative is new and that research data is needed concerning commercial perishable losses from recent disasters.

The next planning step involved identification of stakeholders, all those people or groups interested in or affected by the work of the organization. Stakeholders are critical to the success of the CFDR Disaster Response. Fifteen stakeholder groups were identified and are listed in Fig. 2, including: CFDR; EDEN; FDEM; Florida Governor's Hurricane Conference.

Key Issues

An issue is a situation that an organization must respond to in order to meet its mission and vision.

Think about the issues that the CFDR Disaster Response Program is facing. List 10 of them as they come to mind in no particular order.

1. New program, starting from scratch
2. Research needed, losses recent disasters
   actions taken before and after, economic impacts, product loss, disposal cost, replacement costs, recovery time
3. Develop Connectivity/Acceptance
   CFDR, EDEN, FDEM, DHS/FEMA, Industry Groups, Individual Companies, State, Fed.
4. Need Funding
   for research, equipment, grad. students, post doc
5. FSHS Presentation Jun06, CRIS Project Aug06
6. How Things are done in FL & US, POCs
7. Research Alternatives
   external/emergency power, cryogenic cooling, moving to safer/harden area, mobile cooling
8. Food Safety
   redistribution, near event utilization
9. Soon after event on site evaluations
10. Levels of Interest:
   small, medium grocery store, terminal markets, hospitals, shelters, restaurant/food service, packing house/processors, mobile containers (truck, train, sea, air)

Identifying Stakeholders

Stakeholders are critical to the success of the CFDR Disaster Response Program. Stakeholders are all of those people or groups interested in or affected by the work of this organization. Who are our stakeholders?

- CFDR, Members, UF Departments, Advisory Board
- Faculty, Staff, Students, Graduate Students, Post Doc, ABE & UF Depts.
- EDEN, SART
- State of FL Agencies, including FDEM, Governor's Hurricane Conference
- US Government Agencies, including DHS/FEMA, DOD/USACE, USDA, DOC, DOT, DOE, EPA, FDA
- Perishable Good Companies, Local Store (small), mid to large grocery store, distribution centers (DC), Food Service
- City, County, State Government Agencies and Officials (elected and appointed)
- NASA, cryogenic cooling technology
- Packinghouse Operations and Processors
- Cooling, Refrigeration and Building Contractors
- Mobile Electric Generation/Refrigeration Companies
- Transportation Companies, truck, rail, air, sea
- Insurance Companies
- Power/Energy Supply Companies
- FL Hospital Network

Fig. 1. Identification of Key Issues.
Fig. 2. Identification of Shareholders.
These stakeholders were classified as internal or external and methods to involve them in the project planning process were identified as shown in Fig. 3. The stakeholders can provide valuable research data and assist with establishment of directions, needs and funding.

The CFDR Disaster Response project mission and vision were developed and are presented in Fig. 4. The purpose of the CFDR Disaster Response project is shown along with the factors which make it different from other disaster response organizations. The organizational values and culture are detailed. A statement of community perception of the CFDR Disaster Response project is also listed.

A S.W.O.T. Analysis was performed and the project internal strengths and weaknesses, and external opportunities and threats are listed in Fig. 5. Three of the threats which make it different from other disaster response organizations are described. The organizational values and culture are detailed. A statement of community perception of the CFDR Disaster Response project is also listed.

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A S.W.O.T. Analysis was performed and the project internal strengths and weaknesses, and external opportunities and threats are listed in Fig. 5. Three of the threats and opportunities (external changes and trends) with the greatest potential impact on the CFDR Disaster Response programming were selected. They are 1) how have previous disasters impacted perishable food companies (lost facilities, lost product, product disposal, product replacement, time to return to business); 2) alternatives for lowering impact of disaster events; and 3) new techniques for maintaining cooling before, during and after disaster events (distribution/storage of perishable before loss). How the CFDR Disaster Response could respond to these three external changes and trends in the next 3-5 years are presented in Fig. 6. These are 1) extensive data research, analysis, and presentation; 2) work with the CFDR companies, state and federal agencies to develop strategies to improve existing emergency response; and 3) re-
search methods like portable power generation, portable refrigeration, cryogenic refrigeration (fixed or mobile). One of the key issues, “develop baseline data on disaster impacts on the perishable food industry”, was selected for development of a strategy statement (Fig. 7). The strategy statement for this key issue was developed by addressing practical ways to address the issue, potential barriers to the approach, and how to deal with the barriers. The strategy statement to address this key issue is to “research past disasters by determining losses, costs, destroyed product disposal methods, length of time without power and cooling, how long sufficiently low temperature is maintained after power outage, actions taken to mitigate losses, and time to return to full operation. Project strategies for other key issues will be developed as the project is developed.

An Action Plan for Strategies was outlined for the key issue selected (Research disaster impact on perishable food industry at local convenience store, grocery store, distribution center), and is presented in Fig. 8. These include: 1) initial research; 2) establishment of points of contact with stakeholders; 3) preparation of the full project proposal; 4) survey of CFDR Advisory Board and industry members; 5) development of alternative for cooling during disaster; and 6) development of an immediate impact assessment plan.

### Summary

Strategic planning techniques provide a useful tool in building a project from scratch. The new CFDR Disaster Response project area is important and needed. The project can bridge a gap in current emergency response thinking. It is anticipated that the CFDR Disaster Response project area will have significant impact on disaster response strategies of retail and distribution center perishable product companies and will lead to new research areas and new knowledge.

### Literature Cited

Developing Strategies

Take a look at the key issues you listed. Select one that you would like to develop into a strategy or strategies. Write that issue in this box. Develop baseline data on disaster impacts on the perishable food industry

What are some practical ways to address this issue?

All source data collection from past events, what happened, how were perishables handled, disposed of, cost of loss, replacement, time to return to full operations, impact on solid waste disposal.

Are there any barriers to using the above approaches?

Lack of records, lack of response to request for information from commercial companies.

If yes, how can the barriers be addressed?

Insure security, anonymity, stress importance.

Write a strategy statement(s) that would address the issue.

Research past disasters determining losses, cost, disposal methods, length of time without power, without cooling - how long cooling is maintained after power outage, actions taken to mitigate losses - time to return to full operation.

Helpful Strategy Activity Words

Offer new/innovative
Enhance quality of
Develop
Diversity
Produce more
Joint venture
Coordinate
Increase/decrease
Expand
Analyze

Hire new
Train
Rotate
Educate
Inform
Research
Change
Include
Build
Maintain

Fig. 7. Developing Strategies.

Action Plan for Strategies

Strategy: Research disaster impact on perishable food industry (DC, Grocery store, local convenience store), what has been done.

<table>
<thead>
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<th>BY WHEN</th>
<th>EVALUATION MEASURE</th>
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<td>Develop Alternatives for Evaluation</td>
<td>October 2006</td>
<td>Research Proposals for Projects</td>
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<tr>
<td>CFDR (M.T. Talbot &amp; JP Emond)</td>
<td>Develop Plan Immediate Impact Assessment</td>
<td>October 2006</td>
<td>Complete plan with request for equipment</td>
</tr>
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</table>

Fig. 8. Action Plan for Strategies.

Florida Division of Emergency Management (FDEM), http://www.floridadiaster.org/DEM.com.htm
Florida Governor’s Hurricane Conference, http://www.fhgc.org/
Florida Hospital Network, http://www.floridahospital.com/
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U.S. Food and Drug Administration (FDA), http://www.fda.gov/
U.S. Department of Commerce (DOC), http://www.commerce.gov/
U.S. Department of Defense (DoD), http://www.defense.gov/
U.S. Department of Energy (DOE), http://www.energy.gov/
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UF/IFAS Center for Food Distribution and Retailing (CFDR), http://cfdr.ifas.ufl.edu/