Natural Disasters & Resilience

The Insights of Community Residents

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Natural Disasters and Resilience:
The Insights of Community Residents

Introduction

Purdue University was awarded funding from USDA NIFA in the fall of 2018 as part of the Food and Agriculture Defense Initiative - Extension Disaster Education Network effort. One of the important roles of the Purdue University team was to continue providing national coordination to the Extension Disaster Education Network (EDEN), a key responsibility that it had carried out for more than 15 years at the time the FADI-EDEN grant was re-competed in 2018. But Purdue's 2018 proposal, why retaining several of the important functions that it carried out in past FADI-NIFA grants, introduced some important new elements to the FADI-EDEN effort.

One of the more significant changes in Purdue's 2018 application was to dedicate a portion of the grant funds to the updating and fine-tuning of a core set of EDEN-related products and resources. A more sizable amount of funds, however, was to be invested in a competitive grants program, one that would provide funds to support land-grant university teams and partners who were positioned to develop new products that respond to current and emerging priority educational, informational and technical assistance needs of EDEN stakeholders. This report represents an effort by Purdue University, in partnership with the EDEN Community and Economic Development Committee, to secure input from a core group of representatives living in small-to-medium sized communities across various parts of the United States (i.e., Northeast, North Central, South, and West regions).

The report is organized in the following manner. First, we briefly describe the protocol that was developed for capturing important information from stakeholders on the community resilience features of their community, along with their natural disaster-related experiences. Next, we discuss the process for inviting land-grant university Extension professionals to serve as collaborators with the EDEN Community and Economic Committee, including the hosting of a focus group meeting in their state. Third, we present a summary of the quantitative and qualitative data collected from the multiple sites, and finally, offer key observations and recommendations as to the possible programs/resources that EDEN may wish to develop and the priority topics/projects that could be included in the next round of the EDEN competitive grants to be announced in spring 2021.

The Data Collection Plan: The Community Listening Sessions

The decision was made early in the process that one of the most efficient ways to collect important insights from community members was to conduct a series of community listening sessions in different places across the country. After delving into the resilience literature and securing feedback from EDEN representatives, topics to be addressed in the listening sessions were selected. Some minor revisions in the topics were made based on the feedback from the initial listening session in Illinois. That input resulted in the decision to streamline the listening

session and to focus on the following items in all subsequent listening sessions with local stakeholders:

Section	Topics
Introduction	Welcome and Overview of Today's Session
Part I	A Brief Overview of EDEN
Part II	The Community Resilient Features of Your Community
Part III	Past Experiences with Natural Disasters in the Community
Part IV	Strengthening Your Community's Resilience to Disasters: High Priority Areas to Address
Part V	Addressing Your Community Resilience Needs/Priorities
Wrap-Up	Closing Comments and Next Steps

- ***The COVID Pandemic: A Change in Strategy***

The first Community Resilience Listening Session was conducted just prior to the decision by Cooperative Extension Service leaders across the country to discontinue face-to-face meetings with Extension stakeholders due to the COVID-19 pandemic. This meant that all remaining listening sessions being planned were placed on hold. While the hope was that face-to-face meetings would be allowed in a matter of a few weeks or months, it became clear that returning to a state of "business as usual" was not likely to occur for several more months. As a result, the decision was made to develop and make available a virtual version of the listening session protocol, one that would allow Extension professionals interested in conducting a listening session to do so via the use of an online communication platform, such as Zoom or WebEx. As such, Extension educators who wished to host and conduct a listening session now had two options: (1) conduct a face-to-face session once allowed by their state Extension leadership; or (2) pursue a virtual online listening session with key constituents.

- ***Recruitment of Host Sites***

The Purdue FADI-EDEN grant proposal stated that a community listening session would be held in a minimum of four sites, although the Purdue team was open to sessions being conducted in additional sites. Purdue informed EDEN Points of Contact and Delegates about the opportunity to conduct listening sessions and invited Extension professionals to notify the Purdue EDEN team if they were interested in hosting one of the community resilience listening sessions. In addition, members of the EDEN Community and Economic Development Committee were informed of the opportunity of hosting a session.

Several EDEN representatives expressed interest in learning more about the listening session. As a result, the Purdue team hosted a webinar with these individuals to discuss the purpose of the listening sessions, to review the protocol and the various resources that were developed to support the various phases of the listening session, and to dialogue about the list of possible stakeholders to invite to the session. A second webinar was conducted when the virtual online option was introduced to the host sites.

While not all Extension professionals who agreed to host a listening session were able to plan the listening session in light of COVID-19, in the end, the Purdue team was able to work with the following eight land-grant universities to conduct listening sessions:

Northeast Region:
- Cornell University
- Penn State University

North Central Region:
- University of Illinois
- University of Missouri
- University of Nebraska - Lincoln

Southern Region:
- Prairie View A&M University

Western Region:
- University of California – Davis
- Washington State University

The following provides a summary of the number of individuals taking part in the community resilience listening sessions in each site:

State	Community Sessions	Number of Participants
California	Montecito	5
	Shaver Lake Area	10
	Oroville	7
Illinois	Quad Cities	13
Missouri	Jefferson City & Eldon, MO	13
Nebraska	Chadron, Dawes County	11
New York	Various	6
Pennsylvania	Various	4
Texas	Various	30
Washington	Stevens & Ferry County	6
TOTAL	10 sessions in all	105

- *The Mix of Listening Session Attendees*

One of the requests the Purdue EDEN team made to the host sites was to invite a mix of people to take part in the listening sessions. These could include individuals/agency representatives involved in disaster management/response activities, local government officials, representatives from the education, business and health sector, public safety officials, nonprofit organizations that lend assistance at times of disasters (such as Red Cross, United Way, and Salvation Army), voluntary organizations such as VOADS and COADS, and state/county/regional Extension educators involved in disaster education outreach efforts. Certainly, the host sites had the discretion to invite other people they felt could offer valuable input on the issues being addressed in the listening session.

Collectively, the eight sites involved people who represented the following organizations or sectors:
  - Business Representatives
  - City/County/Regional Government Officials
  - Economic Development Organizations
  - School administrator
  - Emergency Management Representatives -- Local, Regional, State
  - FEMA Officials
  - Foundation Representative
  - Human/Social Services Representatives
  - Interested residents
  - Nonprofit Representatives
  - Public Health Officials
  - Public Safety Officials
  - Voluntary Organization Representatives (including VOADs)
  - University/Extension Professional

- *The Role of the Regional Rural Development Centers*

There are four Regional Rural Development Centers (RRDCs) that are funded, in part, by USDA NIFA and that play a key role supporting Research and Extension collaborative activities in their respective regions. The four RRDCs are the Northeast Regional Center for Rural Development (at Penn State University), the North Central Regional Center for Rural Development (formerly at Michigan State University but now at Purdue University), the Southern Rural Development Center (at Mississippi State University), and the Western Rural Development Center (at Utah State University). Because of their active role in providing grants to land-grant institutions in their regions, a modest amount for funds were provided to the Centers to help coordinate and provide seen funds to the Extension professionals in their region who were hosting community listening sessions. These funds were used to defray the cost of conducting the listening sessions.

Listening Session Results

The 10 listening sessions held by the eight LGU hosts allowed us to capture some valuable information on a variety of topics of importance to the work of the Extension Disaster Education Network. This section of the report seeks to present information on the following: (1) the list of natural disasters experienced by listening session participants in recent years; (2) a summary of the responses by participants to the online community resilience survey they were asked to complete prior to the listening session; (3) the areas where communities did well or fell short in enhancing those elements that can make it more resilient; and (4) areas where EDEN could fill critical gaps in information and education.

1. <u>Community Resilience Online Survey</u>

Prior to their engagement in the listening sessions, participants were invited to complete an online survey that was intended to capture their insights on a handful of resilience-related attributes of their community. The survey was not designed to explore all areas associated with "resilience," but rather to briefly assess the extent to which individuals feel connected to their community, the effectiveness of local leaders in addressing local problems and challenges, the capacity of the community to mobilize people and groups in times of need, the level of planning and training the community has undertaken in the event of a natural disaster, and the strength of a community's connections to surrounding counties in the formation and implementation of a regional approach to disaster planning/management. In many respects, the intent was to touch on community/business planning, communications, civic engagement, community spirit, and collaboration within and external to the community. A total of 76 individuals completed the online questionnaire.

Table 1 details responses to the 14-item survey. Response options to the Likert scale were strongly agree, agree, disagree, strongly disagree, or not sure. Two statements garnered the highest level of agreement on the part of respondents: (1) Local people feel a sense of belonging in my community; and (2) People in my community help each other out. Over 90 percent of the survey participants strongly agreed or agreed with these two items (see yellow highlighted table cells). This suggest that a strong sense of community cohesion or the presence of strong social capital bonds were in place in the communities taking part in the listening sessions. Since many of the communities engaged in the listening sessions were smaller populated communities, it is likely that people tended to know each other or interact with one another in a variety of formal and informal settings.

Six statements tended to produce more "agree" ratings by respondents (see aqua-colored cells). The proportion of people who agreed with each of the six statements ranged from a high of about 71 percent to a low of just over 58 percent. In some cases, the percentage of people claiming they were unsure about their level of agreement/disagreement was sizable. For example, nearly 19 percent said they were not sure about "My community works with leaders, organizations and agencies in surrounding counties on disaster planning and disaster

management activities" and just under 16 percent were unsure about this statement: "My community has a plan to provide emergency services during a disaster."

Table 1. Responses to the EDEN Online Community Resilience Survey (n=76)

| Statement	Level of Agreement/Disagreement (in percent)					Mean
	SA	A	D	SD	Not Sure	
Local people feel a sense of belonging in my community	42.1	50.0	2.6	--	5.3	1.76
People in my community help each other out	43.4	50.0	1.3	--	5.3	1.74
My community treats people fairly no matter what they background	8.0	52.0	21.3	4.0	14.7	2.65
My community has the resources needed to take care of community problems/challenges	7.9	39.5	35.5	4.0	13.2	2.75
My community has effective leaders	14.5	61.8	13.2	--	10.5	2.30
Residents often work together on solutions to help improve my community	17.3	70.7	5.3	--	6.7	2.08
Local leaders actively work with local organizations and agencies to get things done	21.3	64.0	6.7	--	8.0	2.09
My community develops skills and finds resources to solve its problems and reach goals	17.3	58.7	5.3	--	18.7	2.44
My community actively prepares for future natural disasters	7.9	55.3	21.1	1.3	14.5	2.60
My community works with leaders, organizations and agencies in surrounding counties on disaster planning and disaster management activities.	12.2	58.1	10.8	--	18.9	2.55
My community communicates timely information to residents, businesses and key organizations whenever a natural disaster event may be approaching	12.0	61.3	12.0	2.7	12.0	2.41
My community has a plan to provide emergency services during a disaster	22.4	60.5	--	1.3	15.8	2.28
My community has services and programs to help residents after a disaster	10.5	56.6	11.8	2.6	18.4	2.62
Local businesses have sounds plans in place in the event they are impacted by natural disasters	1.3	19.7	26.3	6.6	46.1	3.76

A third set of statements, captured with the gray-colored cells, tended to generate more "disagree or strongly disagree" responses or result in lower average ratings because people were not sure how to rate certain statements. The statement, "My community has the resources needed to take care of community problems/challenges," garnered a disagree or strongly disagree rating by nearly 40 percent of the respondents, while "My community treats people fairly no matter what they background" produced a disagree/strongly disagree assessment by over one-fourth of the survey participants. Two statements had had lower mean scores because several individuals stated they were unsure, namely, "My community works with leaders, organizations and agencies in surrounding counties on disaster planning and disaster management activities" (with 18.9 percent indicating they were not sure) and "My community has services and programs to help residents after a disaster" (with over 18 percent being unsure how to answer this item).

The sole statement that produced the least favorable ratings was "Local businesses have sounds plans in place in the event they are impacted by natural disasters." Approximately one-third of the respondents disagreed/strongly disagreed with this statement. At the same time, a very large percentage of respondents – over 46 percent – were not sure whether local businesses had disaster management plans in place. Certainly, it is the sizable proportion of people who responded "not sure" to this statement that produced such a poor average rating on this item.

- Overall Rating of Two Components of Their Community

One final summary item posed to the survey respondents was to rate their community on the following items: (1) As a Great Place to Live; and (2) The Quality of its Disaster Planning Activities. Individuals could score each of these items on a scale of "0" to "100." The results are noted in the accompany graphic.

Results show the average score of respondents on the "Great Place to Live" statement was much higher (80.9) than the mean rating assigned to the "Quality of Disaster Planning Activities" item (64.9). Scores ranged from a low of 30 to a high of 100 for "Great Place to Live" statement and a low of 9 to a high of 95 on the "Quality of Disaster Planning Activities." Clearly, respondents were much more critical of the disaster planning efforts of their community, but this perceived shortcoming did not compromise the positive view they had of their community.

64.8   **80.9**

Quality of Disaster Planning   *Great Place to Live*
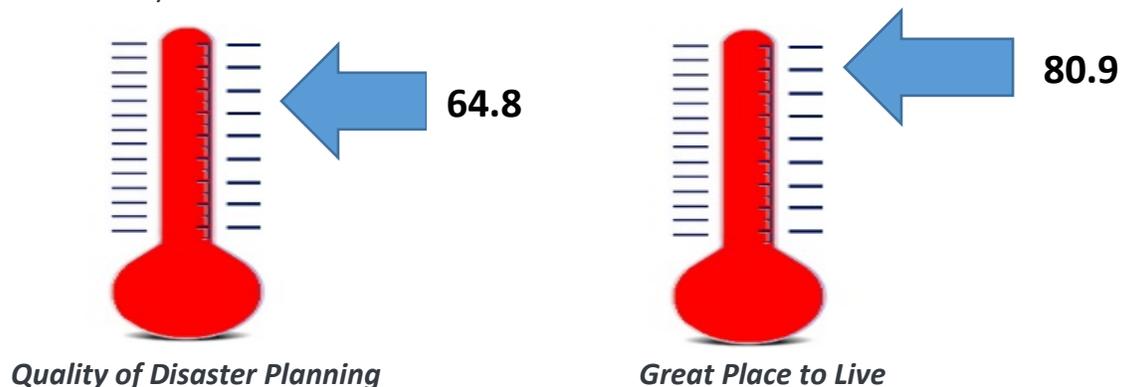
2. Natural Disasters Experienced by Session Participants

Collectively, 16 types of natural disasters were identified by the groups taking part in community resilience listening sessions in the 10 sites. The accompanying graph (see Figure 1) shows the number of times specific disasters were selected by participants. The ones mentioned most often were droughts, extreme temperatures, the pandemic, straight-line winds, and tornadoes. These were followed by hail/ice storms, pests/animal diseases, and wildfires/fires.

The natural disasters captured in Figure 1 provided the context for the next phase of the listening session, one that sought to identify how well the community responded to the natural disasters it experienced in recent years. The results of those discussions are highlighted in the following section of this report.

3. Responding to Nature Disasters: What Went Well? What Didn't?

In reflecting on the mix of disasters that communities experienced in the recent past, participants engaged in a discussion of what the community did well and where it may have fallen short in terms of effectively responding to the natural disaster(s). The elements that participants stated their communities did well are captured in Figure 2. Items are captured under five major buckets – Leadership & Collaboration, Regional/Local Planning, Agency Engagement, Volunteer Support, and Fundraising.

Leadership & Collaboration: What helped some communities prepare and respond to a disaster what the presence of effective local leaders. Moreover, having in place strong partnerships with area agencies and organizations well before the emergence of a natural disaster threat was deemed to be quite valuable in their preparation, response and recovery activities. Others noted that strong ties with local businesses resulted in these enterprises assisting in meeting the immediate needs of disaster-impacted residents – such as food, water, and housing. One site highlighted the establishment of a multi-agency center as a way of providing a more coordinated and integrated support system to people and places impacted by the disaster.

Regional/Local Planning: Communities rated as doing well in their response to natural disasters happen to be ones that did a good bit of advance planning. The key factors that positioned them to effectively handle local disasters are noted in Figure 2 and include such items as the presence of a long-term disaster recovery committee, the development of emergency plans, the training of key personnel, and having regional agreements with surrounding communities/counties on a joint hazard management plan.

Agency Engagement: Having strong internal ties with local agencies, organizations, and institutions is a plus when it comes to lending assistance in times of disasters. So, too, are strong connections with external entities, such as FEMA and land-grant institutions. This internal bonding across groups, coupled with bridging activities with external organizations, made for a powerful combination that brought valuable assistance to disaster-impacted communities.

Figure 1. Past Experiences with Natural Disasters in the Communities of Listening Session Participants
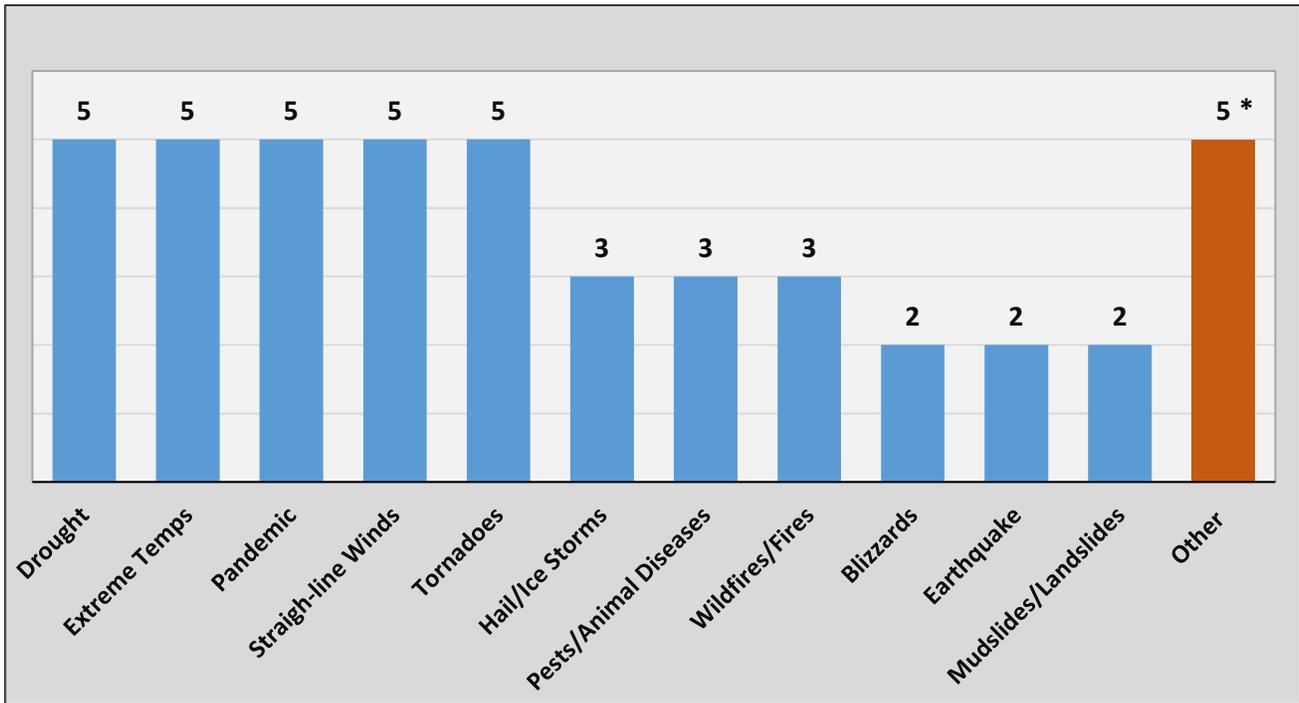
* The following were mentioned once: Air Quality/Pollution; Hurricanes; Oil Spill; Power Outages; and Windstorms.

Volunteer Support: It is clear that places that handled disasters in a much more effective manner had a strong volunteer program and/or system in place. Listening sessions participants offered some concrete examples, such as the establishment of a Volunteer Reception Center or the mobilization of a many volunteers to assist with short, medium and long-term needs of impacted communities. In some cases, the faith-based organizations were noted as having played an instrumental role in meeting the immediate needs of residents.

Fundraising: While only a handful of people noted the importance of fundraising, securing financial resources that could be tapped to help meet the needs of local residents impacted by local disasters was deemed important. An exemplar was the creation of a disaster recovery fund by the community and other fundraising efforts by various businesses and organizations.

- *What Didn't Go Well in Some Communities*

The concerns expressed by listening session participants with respect to the areas where they felt their communities fell short in their preparation and response to the natural disasters are captured under six broad categories in Figure 3. The problems participants identified most frequently tended to be associated with six areas -- Education and Planning, Communications, Government Bureaucracy, Vulnerable Populations, Infrastructure, and Funding. We now provide more information on each of these six topical areas.

Figure 2. List of key activities that communities did well in terms of responding to natural disasters

Leadership & Collaboration

- Effective local leadership
- Strong active partnerships preparing for response & recovery
- Help by local businesses in meeting needs of residents for food, shelter, water, etc.
- Multi-agency center established

Regional/ Local Planning

- Long-term Recovery Committee in place
- Emergency plans developed & trained personnel who can be quickly deployed
- Regional agreements in place regarding hazard management plan
- GIS maps developed on areas with flooding/drainage issues
- Pre-positioning of assets to assist with evacuation efforts

Agency Engagement

- Exellend response by FEMA, Fire Department, local agencies, nonprofits, Land-grant institutions to meet immediate needs of individuals and households
- Post-disaster mental health services provided by relevant agencies

Volunteer Support

- Establishment of Volunteer Reception Center or other mechanism for organizing volunteers
- Turnout by volunteers to assist with short-term and long-term needs.
- Support by the faith-community
- Outreach by volunteers to determine needs of people impacted by a disaster

Fundraising

- Community disaster fund established to support diaster recovery activities
- Variety of efforts by varioius groups and businesses to raise funds to help local residents

Education and Planning: The problems some communities experienced were, in part, the product of poor planning and a limited effort to educate and prepare the community. In a nutshell, the areas where some communities fell short were as follows: (1) lack of proactive planning, thus placing the community in a reactive mode in its response to the disaster; (2) failure by local residents to prepare for disaster events; (3) absence of a plan or preparedness by local businesses; (4) insufficient amount of education targeted to residents on disaster preparedness and what to expect from government officials when a natural disaster strikes; (5) information on location of critical facilities (such as evacuation centers and available medical services).

Communications: The second most frequently mentioned concerns my listening session participants had to do with communication challenges. In many respects, the problems they identified align with some of the issues noted under the "Education and Planning" theme. For one, some participants felt that efforts to communicate with residents -- using a variety of channels -- were limited or nonexistent. Some stated that local officials needed to develop a better understanding of what communication channels are likely to be most effective in informing residents of potential approaching hazards. A second matter that worried participants was the lack of communication targeted to residents on how to prepare for the natural disaster, where to find evaluations centers/shelters, and the kind of resources that were available prior to, and after, the natural disaster event took place. The third concern had to do with efforts to communicate with specific sub-populations – the elderly, rural residents, and those who are bilingual (or speak a language other than English). The feeling is that special efforts should be made to communicate timely information to these individuals, and in a language that is most appropriate for those who are non-English speakers.

Vulnerable/Marginalized Populations: One of the problems identified in some listening session sites was the lack of information on the precise location of vulnerable people in their community. These could include the elderly, the disabled, non-driving residents, and others who may be at risk when it comes to natural disaster events. In their view, better efforts must be made to identify and lend support to these vulnerable populations. Others noted the importance of treating all people, regardless of their social and economic background, in a fair and equitable manner when it comes to disaster support and recovery assistance.

Government Bureaucracies: While some listening session site participants stated that federal, state and local governments worked in coordinated and effective manner in the preparation, response and recovery phases of a natural disaster, other sites found that navigating across complex bureaucracies at the various levels of government (federal, state, local) was a difficult and frustrating process. Others expressed a concern with how long it took to receive their funding from one or more of the government agencies.

Infrastructure: A discussion of infrastructure-related problems did not take place in many of the sites. But when it did, the concerns participants raised had to do with lack of reliable broadband

Figure 3. Broad Areas Where the Community Fell Short in its Response to Natural Disasters
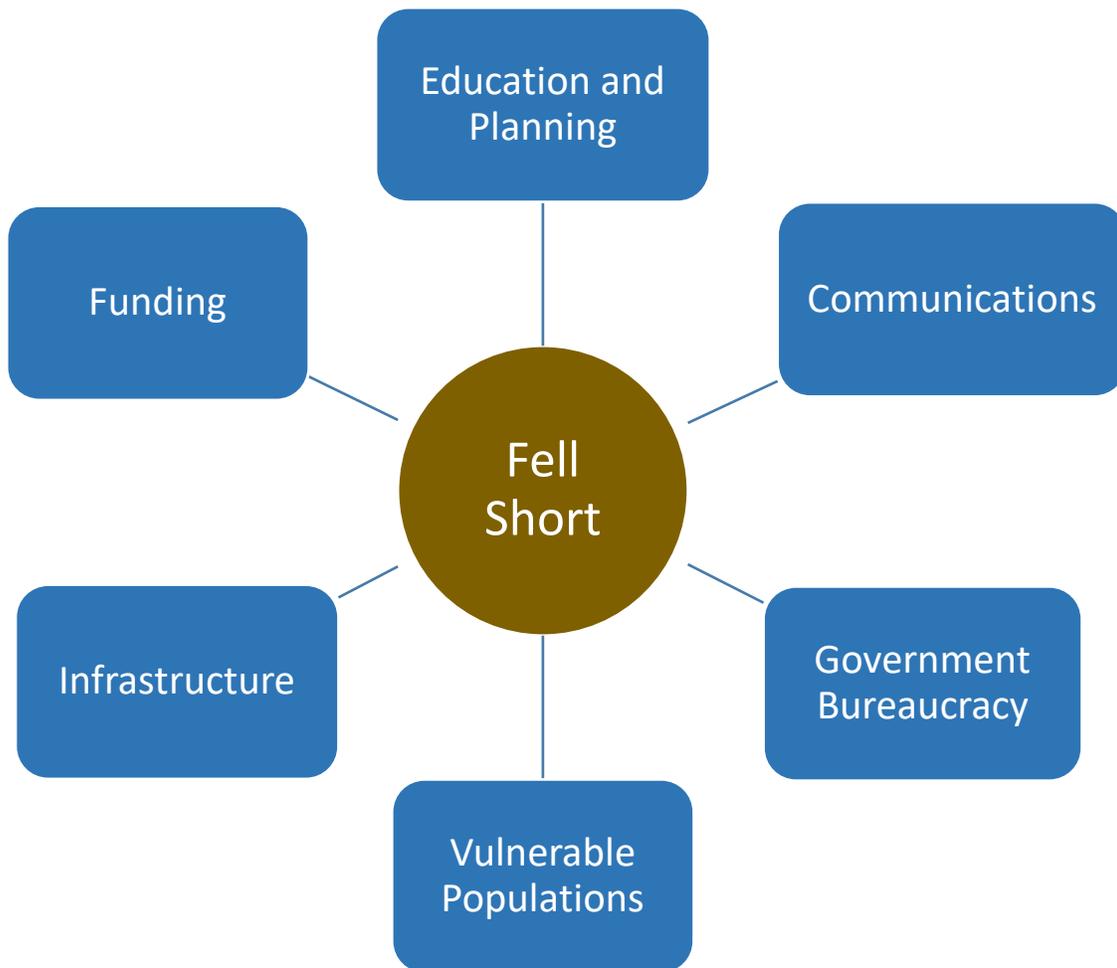
services to help get disaster-related information out to residents, as well as the lack of temporary or long-term housing to meet the needs of those impacted by recent disasters.

Funding: The final area that some stated was not done well by their community had to do with the following: (1) lack of funds to provide training and coordination with respect to disaster management; (2) limited resources/funding available for response and recovery efforts; (3) the inequitable distribution of funding/resources to communities by the state; and (4) difficulty finding the resources or funding to help in the recovery effort.

4. <u>Addressing Community Resilience Needs/Priorities: The Role of EDEN</u>

The final phase of the community listening session was designed to elicit from participants the various ways in which EDEN could help strengthen the disaster management and capacity-building efforts of their community. Several ideas were provided by the listening session participants and the accompany table is intended to capture the major areas where EDEN

engagement was recommended. Before doing so, however, a frequent comment offered by participants, as well as the insights provided by the Extension educators serving as the listening session host, is that many individuals taking part in the listening had limited knowledge of EDEN. Recommendations offered by participants on what EDEN could do to address this issue are provided in the accompanying table (see Table 2).

Recommendations

The series of listening sessions conducted in the eights stated produced valuable insights on challenges communities were experiencing with respect to disaster management and the role that EDEN might play in helping communities to become more resilient. This is not to suggest that EDEN has not taken such steps in the past, but the time may be right to ramp up its efforts with educational products and resources that are already in place within the EDEN system. At the same time, it may be an opportune time to tap the competitive grants program to move forward in investing in the development of new products that could fill a gap in the resources needed by EDEN stakeholders/beneficiaries.

In is in this spirit that the following recommendations are offered in terms of investments that could be incorporated in future phases of the competitive grants program being managed by the Purdue EDEN National Coordination Team:

1. **Develop Online Data Portal on Vulnerable Populations:** A number of valuable studies have been done, such as seminal work by Susan Cutter and others, on the social vulnerability of people and communities to hazards. But, the time is ripe to build on this work and to introduce a user-friendly online data portal that would employ state-of-the-art mapping and data visualization strategies. This portal, which would reside on the EDEN website, would offer communities and regions a sound way to assess the population and geographic areas that are at risk when it comes to natural disasters. Furthermore, it could include a host of other critical information, such as the mapping of key facilities and services in the area (such as storm shelters, health care facilities, major evacuation routes, and more).

2. **Build Community/Regional Capacity in Disaster Education, Planning & Action:** The lack of preparedness by smaller communities to natural disasters continues to be an issue from the perspective of listening session participants and survey respondents. This includes the need for the development of a sound and up-to-date disaster management plan, one that incorporates short-, medium-, and long-term activities/issues. The development of new educational curricula, or the adoption and refinement of existing community-capacity building Extension programs tailored to disaster management, is an investment worthy of consideration.

Table 2. Areas Where EDEN Support to Communities is Recommended by Participants

Possible Areas for EDEN Engagement	Synopsis of Input from Listening Session Participants
Disaster Awareness & Education	• Provide disaster awareness and education training for communities, especially those with limited presence of people/organizations involved in disaster planning. • Develop awareness and education campaigns that are aligned with the cultural diversity of the community.
Disaster Planning/Capacity-Building	• For communities with no disaster planning in place, deliver planning and capacity-building training to these sites, in partnership with key local representatives. • Assist in establishing a formal or voluntary organization or coalition dedicated to supporting disaster education and/or planning. • In communities where COADS, VOADs and/or CERTS exist, provide continuing education training/webinars if no such opportunities are available to them. • Guide post-disaster listening sessions in communities in order to help them assess ways to better prepare for future disasters. Assist with the development of a post-disaster action plans. • Develop table top exercises and other training resources that are tailored to small communities.
Business Planning	• Assess the current state of disaster planning activities by businesses, including small-to-medium sized enterprises (SMEs) and Information Technology firms. • Determine what educational programs and disaster planning activities are needed by SMEs and IT companies. • If not available, develop new resources needed to support the disaster planning efforts of these businesses. This would include the development of Continuity of Operations plans for these establishments.

Emergency Communications Coordination/Planning	• Support/guide the development of local communications plans that incorporate current technologies. • Research and develop training on best practices for communicating disaster-related information to community residents. This could include determining the communication strategies that are most effective with various target groups, including vulnerable populations.
Use of Social Media	• Provide training to community leaders, emergency management personnel, and other relevant groups on the effective use of social media.
Grant Writing Training & Support	• Build the grant-writing capacity of communities and organization involved in disaster mitigation, preparation, response and/or recovery efforts. • Provide information/guidance on navigating federal and state grants and how to interact with these agencies.
Vulnerable Populations and Communities	• Develop a sound process for identifying the vulnerable populations & places in communities (such as neighborhoods and/or census tracts); • Target disaster awareness and education to vulnerable people/places. • Engage faith-based organizations, nonprofit organizations and others in reaching vulnerable people/places.
Volunteer Development	• Provide training on best practices with respect to volunteer recruitment, retention and sustainability.
Community Resilience Planning	• In general, participants believe that many communities have done a decent job addressing the short-term needs of those in disaster impacted communities. But, less attention has been dedicated to the mid- to long-term needs. As such, participants are encouraging EDEN to develop and deliver community resilience planning that gives explicit attention to the mid- and long-term needs of the community.
Awareness & Visibility of EDEN	• Inform/educate constituents on the important niche that EDEN plays so as to reduce confusion among local, state and federal officials engaged in disaster response.

	- Enhance communication about EDEN, and the role it plays in strengthening disaster awareness, education and community capacity-building.
	- Accelerate efforts to inform/education people, places, and organizations about the EDEN website and key resources. Have municipalities and county governments link to the EDEN website.
	- Conduct listening sessions on a regular basis to keep in touch with key stakeholders and to inform them of EDEN's important activities.
	- Establish an EDEN Training Academy for communities, organizations, and individuals seeking to strengthen their knowledge and skills related to various aspects of disaster management and education.

3. **Establish and Implement Grant-Writing Program:** Helping communities and key local/regional agencies to learn the process of grant writing -- specifically tailored to issues/topics relevant to disaster management and resilience – is an area of need by these EDEN stakeholders. This includes finding federal, state and philanthropic grants and providing communities/regions with feedback on ways to improve their grant applications. With the existence of Grant-Writing programs/workshops at some land-grant institutions, providing funds to expand the focus on disaster management-related topics would be a cost-effective way to meet this important need.

4. **Strengthen Support to Small-to-Medium Sized Businesses:** The failure of local businesses to have a disaster management plan is a problem that was expressed by listening session participants. While EDEN has the ReadyBusiness curriculum, it may be worthwhile to assess the factors that are preventing such enterprises from adopting a disaster management plan. Then, take steps to support the development of new products that would complement or add-value to the ReadyBusiness program. This could include the delivery of the program through such channels as Small Business Development Centers, Main Street Programs, Manufacturing Extension Partnership, and other organizations that that can expand EDEN's access to small-to-medium sized businesses.

5. **Enhance Emergency Communications: Effective Use of Social Media Strategies:** With the presence of new ways to communicate with the public, introducing community leaders and emergency management personnel with strategies and best practices for using social media is an area of great opportunity for EDEN. Moreover, guiding local communities on the development of a cohesive communication plan that incorporates such social media approaches would help address one of the major problems the listening sessions unearthed in some sites – a disjointed communication plan.

6. **Identify Best Practices in Volunteer Development & Management:** Some listening session sites noted that a well-coordinated plan was in place and implemented when it came to managing volunteers who were there to help communities impacted by a disaster event. Others noted that no organized process was in place. As such, EDEN could provide a valuable service to communities in terms of providing training on how to develop an effective volunteer development system for communities that wish to proactive prepare for a natural disaster.

   A second issue that arose is the challenge of sustaining a strong VOAD, COAD and/or CERT system between natural disaster events. So, the opportunity to expand the roles of these volunteer organizations is worthy of consideration. The EDEN competitive grants program could serve as an important conduit for developing new programs or resources that mobilize the skills and talents of these individuals between hazard events – activities that could keep these organizations more fully engaged in supporting the disasters awareness needs of households, communities and organizations.

7. **Strengthen EDEN's Visibility:** Many of the listening session participants had very little knowledge or awareness of EDEN. This is a challenge that has faced EDEN for some time, much like the Cooperate Extension Service system. While dedicating competitive grant funds to this issue may be deemed inappropriate, the fact that EDEN remains an unknown resource to many households, communities, businesses, and organizations is a problem. The question is "what can be done to tackle this problem"? The opportunity is ripe for discussions and investments to be made in addressing this issue.

Concluding Comments

This report is intended to offer the EDEN Executive Committee, the Purdue National EDEN Coordinators, and relevant EDEN Standing Committees – especially the Community and Economic Development Committee – with valuable insights about the experiences and challenges that communities have faced as a result of various natural disasters. The value of the report is that it represents an honest and unvarnished assessment of what participants felt were the positive and negative experiences of their communities when it came to recent natural disaster events. At the same time, it captures the insights of community participants as to the variety of steps EDEN could undertake in the development and delivery of programs and activities they feel would be of benefit to their communities.

In the previous section, we sought to encapsulate the wealth of ideas participants offered as to what EDEN can do in addressing the disaster-related needs of individuals, households, businesses, and communities. In some cases, the recommendations they provided align with activities that EDEN is already doing. So, the challenge is how to ensure that these stakeholders are aware of these programs and resources. At the same time, the participants proposed exciting new opportunities for consideration by EDEN, as captured in Table 2 of this report. Now, it is time for EDEN to discuss and deliberate which of the recommendations can support

the mission, goals and priorities of EDEN and which ones might be good candidates to include the EDEN competitive grants program being managed by the Purdue EDEN National Coordinators.

Of course, an important caveat is that the community resilience survey, coupled with the qualitative date captured in the 10 listening sessions, are not intended to be representative views of community members across the nation. Nevertheless, there provide valuable nuggets of information that can be of value to EDEN members and their land-grant institutions as they seek to elevate the value of EDEN to the nation's land-grant university system and to local stakeholders.

Appendix

The Appendix contains materials developed in support of the Community Resilience Listening Sessions. In particular, the following are provided:

A.1.   The EDEN Community Listening Session Qualtrics Survey

A.2.   Overview of the FACE-TO-FACE Protocol for Meeting Facilitators

A.3.   Handouts and Small Group Questions for Listening Session Participants

A.4.   Listening Session PowerPoint Document

EDEN Community Listening Session Survey: The Resilience Features of Your Community

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There are important features of a community that make it better able to prepare, respond and rebound from natural disasters. Please rate your community on the following items.

Q1 First, please indicate the state in which your community listening session is being held:

○ Alaska (1)

○ California (12)

○ Florida (11)

○ Guam (2)

○ Illinois (3)

○ Missouri (4)

○ Nebraska (6)

○ New York (7)

○ Pennsylvania (8)

○ Texas (10)

○ Washington (5)

Q2 Local people feel a sense of belonging in my community

○ Strongly agree (1)

○ Agree (2)

○ Disagree (3)

○ Strongly disagree (4)

○ Not sure (5)

Q4 My community treats people fairly no matter their background

○ Strongly agree (1)

○ Agree (2)

○ Disagree (3)

○ Strongly disagree (4)

○ Not sure (5)

Q5 My community has the resources it needs to take care of community problems or challenges

○ Strongly agree (1)

○ Agree (2)

○ Disagree (3)

○ Strongly disagree (4)

○ Not sure (5)

Q6 My community has effective leaders

○ Strongly agree (1)

○ Agree (2)

○ Disagree (3)

○ Strongly disagree (4)

○ Not sure (5)

Q7 Local residents often work together on solutions to help improve my community

○ Strongly agree (1)

○ Agree (2)

○ Disagree (3)

○ Strongly disagree (4)

○ Not sure (5)

Q8 Local leaders actively work with local organizations and agencies to get things done

○ Strongly Agree (1)

○ Agree (2)

○ Disagree (3)

○ Strongly disagree (4)

○ Not sure (5)

Q9 My community develops skills and finds resources to solve its problems and reach its goals

○ Strongly agree (1)

○ Agree (2)

○ Disagree (3)

○ Strongly disagree (4)

○ Not sure (5)

Q10 My community actively prepares for future natural disasters

○ Strongly agree (1)

○ Agree (2)

○ Disagree (3)

○ Strongly disagree (4)

○ Not sure (5)

Q11 My community works with leaders, organizations and agencies in surrounding counties on disaster planning and disaster management activities

○ Strongly agree (1)

○ Agree (2)

○ Disagree (3)

○ Strongly disagree (4)

○ Not sure (5)

Q12 My community does a good job communicating timely information to residents, businesses and key organizations whenever a natural disaster event may be approaching

○ Strongly agree (1)

○ Agree (2)

○ Disagree (3)

○ Strongly disagree (4)

○ Not sure (5)

Q13 My community has a plan to provide emergency services during a disaster

○ Strongly agree (1)

○ Agree (2)

○ Disagree (3)

○ Strongly disagree (4)

○ Not sure (5)

Q14 My community has services and programs to help residents after a disaster

○ Strongly agree (1)

○ Agree (2)

○ Disagree (3)

○ Strongly disagree (4)

○ Not sure (5)

Q15 Local businesses have sounds plans in place in the event they are impacted by natural disasters

○ Strongly agree (1)

○ Agree (2)

○ Disagree (3)

○ Strongly disagree (4)

○ Not sure (5)

Q16 Finally, please rate your community on the following (from zero to 100):

	0 10 20 30 40 50 60 70 80 90 100
Great Place to Live ()	
Quality of its Disaster Planning Activities ()	
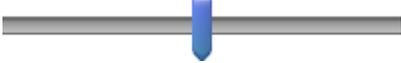
End of Block: Rate Your Community on the Following Resilience Features