HORNEY, TAMU

DHS Coastal Resilience Center

Research Project:

Annual Project Performance Report

Covers reporting period July 1, 2016 – June 30, 2017

1. **Project Title:**
   Implementing the Disaster Recovery Tracking Tool

2. **Principal Investigator / Institution:**
   Jennifer Horney, Associate Professor, Texas A&M University School of Public Health, Department of Epidemiology and Biostatistics

3. **Other Research Participants/Partners:**
   Phil Berke, Professor, Texas A&M University, College of Architecture, Department of Landscape Architecture and Urban Planning

4. **Short Project Description ("elevator speech"):**

   Valid and reliable quantitative and qualitative measures of community disaster recovery are needed in order to be able to track recovery in different geographic locations, from different types of disasters, and over time. The Disaster Recovery Tracking Tool is a web-based tool that enables end users (e.g., planners, emergency managers, long-term recovery committees) to track the progress and quality of post-disaster recovery by comparing baseline and post-disaster data.

5. **Abstract:**

Without monitoring recovery and comparing post-recovery status with pre-disaster benchmarks, it is difficult for communities to assess whether or not they are achieving a quality recovery, improving disaster resilience, or building back better. The Disaster Recovery Tracking Tool provides a framework for end users (e.g., planners, emergency managers, long-term recovery committees) to track progress on metrics of disaster recovery. These metrics were identified and content validated through a literature review, recovery plan review, case studies, focus groups, key informant interviews, and pilot tests with communities impacted by Hurricane Sandy. Practitioners using this tool can compare pre- and post-disaster status using baseline and current data. Reports generated by the tool can provide end users with a useful means of prioritizing recovery goals and activities and identifying elements important to include in recovery planning, potentially making recovery more effective and efficient and communities more resilient.

6. End users:

The Disaster Recovery Tracking Tool (trackyourrecovery.org) currently has over 600 registered users. These include Federal (EPA, FEMA, NOAA (ERMA), Small Business Administration, US Air Force Academy, Cooperation for National and Community Service); Regional (FEMA Regions 2, 6, and 8); Local Governments; Ga. Tech University; National Non-Profits (Red Cross, Natural Resources Defense Council); Other Non-Profits (SeaPlan.org); and private consultants. Additional end users include: 1) Municipal- and county-level planners, emergency managers, and members of long-term recovery committees; 2) FEMA national and regional-level recovery division staff; 3) Department of Health and Human Services, Assistant Secretary for Preparedness, Office of Emergency Management, Recovery; 4) Los Angeles County Emergency Management (John Chung, Emergency Planner).

Liberty County, Texas and Bastrop County, Texas were recruited as pilot test communities. A recovery tool profile was created for each community and the collaborations are ongoing. Recovery planning checklists were completed for both Liberty County, Texas and Bastrop County, Texas. A pre-disaster recovery plan for Liberty County, Texas has been drafted. Data compiled using the checklist was incorporated into the draft plan. A manuscript describing the evaluation data collected from these pilots is being drafted. The anticipated date of submission is August 30, 2017.

Potential applications and opportunities to leverage the Tool were discussed previously with Project Manager at the U.S. Coast Guard R&D Center. However, the Coast Guard's Office of Research, Development, Test and Evaluation, located at Headquarters in Washington, DC, determined that the Tool would not be appropriate to meet established needs.

Lisa Schiavinato, Director of Extension at California Sea Grant, has agreed to connect us with an affiliated extension agent for advisement on natural resource data sources. We are working with Oil Spill Science Outreach and Extension Specialists at Texas Sea Grant College Program to determine whether the Disaster Recovery Tracking Tool could be used to measure recovery progress in oil spill-affected communities. Discussions with Alabama Sea Grant regarding potential applications for the Tool are ongoing. A conference call with Hank Hodde at the NOAA Disaster Response Center in Mobile, AL was also held.

We are working with the Texas A&M Engineering Extension Service (TEEX) to develop a Disaster Recovery Tracking Tool training course. The target audience for this course includes local government officials, city and county planners, and other community stakeholders. A course design document has been drafted and is under review by TEEX. We plan to investigate possible integrations with FEMA Higher Ed and the Emergency Management Institute if the present project is granted an extension.

To enhance the usefulness of the tool for local and federal end-users, the needs, insights, and expertise of FEMA partners have been incorporated throughout the decision-making process. Lessons learned will be incorporated into final marketing materials, a training module, and a user guide for additional end users. Final materials will also be shared with appropriate Federal partners, including FEMA / EMI Emergency Management Higher Education Program as well as TEEX, which provides training in emergency management and homeland security.

We have reached out to Program Manager of S&T Flood APEX, in hopes of scheduling a conference call. If successful, a meeting will be scheduled with FEMA Recovery HQ, S&T Flood APEX PM, Phil Berke, and CRC leadership team to discuss the long-term vision and transition plan.

7. Unanticipated Problems:

We have been unable to collect evaluation data from pilot communities, as communities have been engaged in nearly continuous response to multiple disasters over the grant period. By August 30, 2017, we will have either implemented the evaluation or developed another research milestone that is more acceptable to our partners, who have limited time to provide additional survey data. An example of this might be a paper or poster presented secondary analysis of the data that has been input into the tool, as this could be done by project staff, with less time required of project partners.

8. Project Impact:

The National Disaster Recovery Framework (NDRF) calls for communities to develop tools and indicators that can be used to assess progress toward achieving established goals, objectives, or milestones. The Disaster Recovery Tracking Tool provides an accessible means for resource-limited end users to readily measure and evaluate progress over time. The validated metrics that comprise the Tool's tracking function were developed in accordance with the Recovery Support Functions and Recovery Mission Area Core Capabilities that are defined in the NDRF. The Disaster Recovery Tracking Tool facilitates data collection and management, allowing systematic measurement of the disaster recovery process in various locations, across events, and over time.

The NDRF further recommends that measures of recovery be developed in tandem with pre- and post-disaster planning functions and activities. Data collected for the 84 recovery metrics may be used to guide the development of a recovery plan element as part of a larger plan, or the development of a stand-alone recovery plan. Results may also contribute to increases in the number and improvements in the quality of pre-disaster recovery plans. For example, one of the primary indicators of a high-quality plan is a strong community fact base. It often difficult for smaller communities with limited capacity for recovery planning to develop a robust fact base focused appropriately on high-priority issues. The integration of recovery metrics in community plans and planning processes can aid decision makers in identifying resilience-building opportunities and developing evidence-based policies and priorities. For this purpose, a recovery planning checklist based on the Disaster Recovery Tracking Tool's metrics has been drafted. This resource can be leveraged by practitioners to update plans or begin the process of developing a fact base for a pre-disaster recovery plan.

9. Research Activity and Milestone Progress:

Research Activities and Milestones: Progress to Date

Reporting Period 7/1/2016 – 6/30/2017			
Research Activity	Proposed Completion Date	% Complete	Explanation of why activity / milestone was not reached, and when completion is expected
Complete pilot of tracking tool with at least one community	12/31/2016	100%	Liberty County, Texas was recruited as the first pilot test community. A recovery tool profile has been created and collaboration is ongoing.
Complete pilot of tracking tool with at least one additional community	06/30/2017	100%	Bastrop County, Texas was recruited as the second pilot test community. A recovery tool profile has been created and collaboration is ongoing.
Make a contact at Mayes Business School to recruit a students for marketing assistance; Draft marketing materials, training module, and user guide	03/31/2017	100%	Marketing materials, a training module, and user guide have been drafted.
Research Milestone			
Publication and or poster / presentation based on an analysis of the data collected as part of the pilot to determine which indicators are the strongest, most valid, and most useful predictors of recovery.	01/31/2016	100%	A research article describing the disaster recovery metrics was published in Volume 42 of the Carolina Planning Journal.
Publication and or poster / presentation based on an analysis of the evaluation data collected as part of the pilots	06/30/2017	0%	We have been unable to collect evaluation data from the pilot communities to date. We anticipate being able to update the plan to meet this Milestone in another way by August 30, 2017.

10. Transition Activity and Milestone Progress:

Transition Activities and Milestones: Progress to Date

Reporting Period 7/1/2016 – 6/30/2017			
Transition Activity	Proposed Completion Date	% Complete	Explanation of why activity / milestone was not reached, and when completion is expected
Recruit first pilot test community; Conduct training on Tool; Provide technical assistance	12/31/2016	100%	Liberty County, Texas was recruited as the first pilot test community. A recovery tool profile has been created and collaboration is ongoing.
Recruit second pilot test community; Conduct training on Tool; Provide technical assistance	06/30/2017	100%	Bastrop County, Texas was recruited as the second pilot test community. A recovery tool profile has been created and collaboration is ongoing.
Complete checklist with two pilot communities	06/30/2017	100%	Checklists were completed for both Liberty County, Texas and Bastrop County, Texas.
Transition Milestone			
Code complete release of the Disaster Recovery Tracking Tool website	06/30/2017	100%	The completed Disaster Recovery Tracking Tool website has been released for public access. More than 600 users are registered.
Evaluation summary data from pilot tests with end users	06/30/2017	75%	A manuscript describing the evaluation data collected from these pilots is being drafted. The anticipated date of submission is August 30, 2017.
Draft a pre-disaster recovery plan for a community based on data from the checklist	06/30/2017	100%	A pre-disaster recovery plan for Liberty County, Texas has been drafted. Data compiled using the checklist was incorporated into the draft plan.

11. Interactions with education projects:

No interactions with education projects occurred during this reporting period.

12. Publications:

Kirsch, K., & Horney, J. (2017). Steps toward recovery: A tool for disaster recovery planning, management, and tracking. *Carolina Planning Journal, 42,* 104-109.

Horney, J., Dwyer, C., Aminto, M., Berke, P., & Smith, G. (2017). Developing indicators to measure post-disaster community recovery in the United States. *Disasters, 41,* 124-149. doi: 10.1111/disa.12190

13. Tables:

Table 1: Documenting CRC Research Project Product Delivery

Product Name	Product Type	Approx. Delivery Date	Recipient or Anticipated End Users
Training Module	Guidance	6/30/2017	Local government officials, city and county planners, and other community stakeholders or web users
User Guide	Guidance	6/30/2017	Local government officials, city and county planners, and other community stakeholders or web users
Draft TEEX Disaster Recovery Tracking Tool Course	Course Document	6/30/2017	Local government officials, city and county planners, and other community stakeholders

Table 2: Documenting External Funding and Leveraged Support

External Funding			
Title	PI	Total Amount	Source
NA			
Leveraged Support			
Description			Estimated Annual Value
NA			

14. Metrics:

Metric	**Year 1** (1/1/16 – 6/30/16)	**Year 2** (7/1/16 – 6/30/17)
HS-related internships (number)	0	0
Undergraduates provided tuition/fee support (number)	0	0
Undergraduate students provided stipends (number)	0	0
Graduate students provided tuition/fee support (number)	0	0
Graduate students provided stipends (number)	1	1
Undergraduates who received HS-related degrees (number)	0	0
Graduate students who received HS-related degrees (number)	0	0
Graduates who obtained HS-related employment (number)	1	0
SUMREX program students hosted (number)	0	0
Lectures/presentations/seminars at Center partners (number)	0	0
DHS MSI Summer Research Teams hosted (number)	0	0
Journal articles submitted (number)	1	1
Journal articles published (number)	1	1
Conference presentations made (number)	3	0
Other presentations, interviews, etc. (number)	4	7
Patent applications filed (number)	0	0
Patents awarded (number)	0	0
Trademarks/copyrights filed (number)	0	0
Requests for assistance/advice from DHS agencies (number)	1	?
Requests for assistance/advice from other agencies or governments (number)	3	?
Total milestones for reporting period (number)	3	
Accomplished fully (number)	3	
Accomplished partially (number)	0	
Not accomplished (number)	0	