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Society for Chemical Hazard Communication Summary Report

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The Society for Chemical Hazard Communication student grant enabled a critical enhancement to the Multi-Layer Data Community Action Tool by allowing two Master's students to study the effectiveness of mapping applications. To achieve this, the students developed a survey to test a layperson's perception of environmental hazards that might appear in their neighborhood such as hazardous wastes, solid waste, surface water impairments, air pollution, and more. Working with Near West community organizations, this tool was digitized in RedCap data capture tools and administered at community events. After recording a baseline of environmental hazard perception, the students found that community members had a range of knowledge about the environment and pollution. Most people did not believe that environmental problems were in their area, but they did believe that if they or their families were to become ill from these problems that it would be extremely serious. (See Figure 1.) Furthermore, results showed that community members had little trust in their policy makers or businesses and that governmental and private institutions were more concerned about profits than the residents' health. (See Figures 2 and 3 in Appendix)

Data gathered from this survey was then translated into a communication strategy wherein the final mapping application was focused more on explaining the health effects and exposure levels to those affected than higher-level characterization of risk. (See Community Action Manual Draft in Appendix) Shifting to a more community-oriented approach led to a goal of improving community understanding of what environmental hazards are in their neighborhoods as well as developing actions residents can take to improve on these problems.

In all, the students have been able to contribute to an in-review manuscript submitted for publication (to be sent when in press), two master's level capstone projects, the environmental hazard perception survey, the MDCAT tool, and the award-winning Effects of Climate Change on the Future of Local Communities in Indianapolis tool (featured in the White House's United States Climate Resilience Toolkit; see press release in Appendix).

Appendix:

Figure 1: Ratings of perceived illness severity from specific hazards ^a					
Hazard	Extremely Serious (%)	Very Serious (%)	A Little Serious (%)	Not Serious at All (%)	Don't Know/Unsure (%)
Contaminated Drinking Water	31.4	25.7	14.3	8.6	20
Air Pollution	5.6	44.4	19.4	8.3	22.2
Hazardous Waste	25	22.2	19.4	8.3	25
Pesticides	13.5	32.4	18.9	16.2	18.9
Lead	25	30.6	13.9	13.9	16.7
Extreme Temperatures	5.4	27	21.6	13.5	32.4
Flooding	13.9	60.6	16.7	22.2	16.7
Total	119.8	242.9	124.2	91	151.9
^a n=75					

Figure 2: Government officials are more interested in protecting industry profits than in protecting the health of the public.

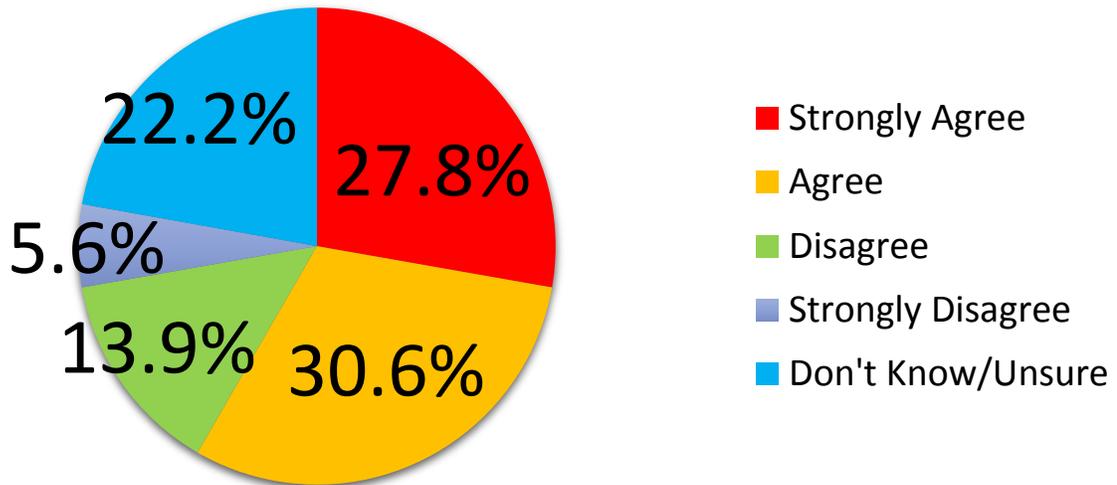
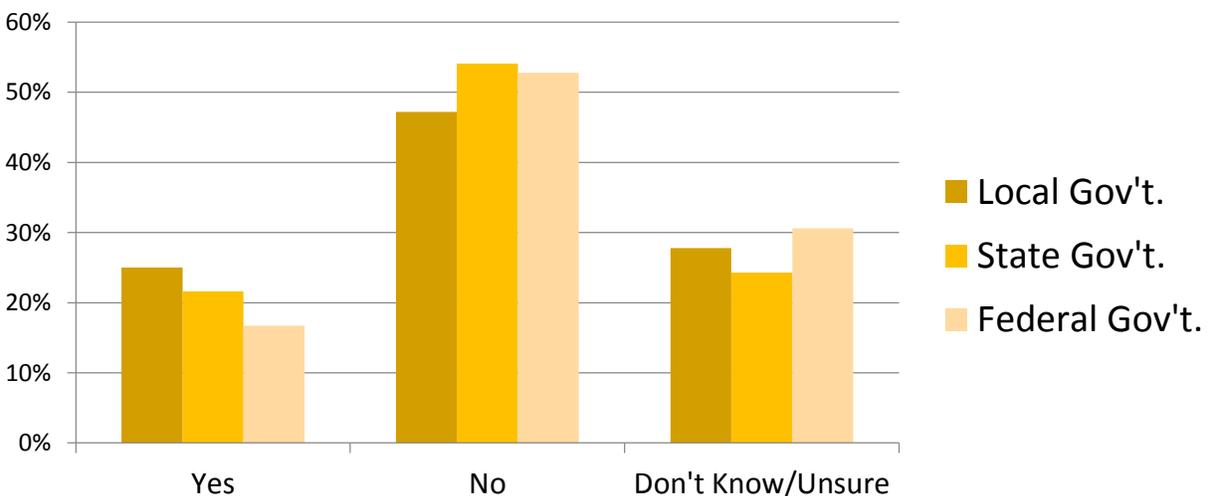


Figure 3: “Do you believe the government officials care about the environmental problems in your neighborhood?”



Community Action Manual Draft can be found here:

https://drive.google.com/file/d/0B_5bdJ3Qnx3QQVF3S3lvaDk4WG8/view?usp=sharing

MDCAT can be found here: <http://arcg.is/2aDQ8Ie>

Effect of Climate Change on the Future of Local Communities in Indianapolis can be found here:

<http://arcg.is/22pivx2>

NIH/NIEHS Press release: <http://www.niehs.nih.gov/news/newsletter/2016/4/feature/feature1-climate/index.htm>