Project Title:　　　　　　　　　　　　　　　　**ENRTF ID:**　**132-E**

Human Health, High Risk Populations and Climate Change

Category:　　E. Air Quality, Climate Change, and Renewable Energy

Total Project Budget: $　225,000

Proposed Project Time Period for the Funding Requested:　2 Years, July 2014 - June 2016

Summary:

Improve health of low-income and communities of color as Minnesota's climate changes. Conduct GIS mapping outlining high-risk human populations, develop recommendations for adaptation planning and conduct culturally appropriate community outreach.

Name:　Shalini　　　Gupta

Sponsoring Organization:　Center for Earth, Energy and Democracy

Address:　216 Cecil St SE

　Minneapolis　　　　　MN　55414

Telephone Number:　(612) 276-5632

Email　sgupta@ceed.og

Web Address　sgupta@ceed.og

Location

Region:　Statewide, Metro

County Name:　Statewide, Hennepin, Ramsey

City / Township:

_____ Funding Priorities	_____ Multiple Benefits	_____ Outcomes	_____ Knowledge Base
_____ Extent of Impact	_____ Innovation	_____ Scientific/Tech Basis	_____ Urgency
_____ Capacity Readiness	_____ Leverage	_____ Employment	_____ TOTAL _____%

PROJECT TITLE: Human Health, High Risk Populations and Climate Change

I. PROJECT STATEMENT
The Goal of this project is to improve the health and resiliency of low-income and communities of color as the climate changes in Minnesota. It is well documented that these communities will be hardest hit, and it is imperative that state health, land use and adaptation planning efforts develop methods and tactics for addressing these disparities. A study released in May 2013 in the Journal Environmental Health Perspectives found that African-Americans are 52 percent more likely to live in 'heat-risk related land cover' areas that have few trees and lots of impervious surfaces – placing those residents more at risk from climate change-induced severe weather events.

The Minneapolis and St. Paul geographic area will be focused on in order to develop model data, planning practices, and outreach curriculum that can be utilized by, and applied to, other population centers in both urban and rural town settings that have lower incomes than the state average and are experiencing racial and ethnic demographic changes. MSP houses a diverse range of cultural communities, houses a large concentration of environmental hazards per capita, and allows us to leverage existing data compiled in Phase 1 of the Twin Cities Environmental Justice Atlas. Outcomes include: (a) better local and state adaptation plans that reflect the needs of those most impacted by a changing climate, and (b) better prepared communities. The project will achieve its goal and outcomes by: identifying and developing the data and GIS mapping that outlines high risk human populations and geographic areas; formulating model language for inclusion in land use and adaptation planning documents; and developing culturally appropriate, community-based curriculum and outreach that can be utilized by high risk populations state-wide.

II. DESCRIPTION OF PROJECT ACTIVITIES

Activity 1: *Climate Vulnerability/Assets GIS Data Development*   **Budget: $ 150,000**
This compiles data that will be key to the development of community-based adaptation planning in high-risk communities. Data would be layered over demographic data (race, income, age, immigrant, family size, housing, sensitive health populations) and environmental risk/toxic sites. It would identify and incorporate climate vulnerability/asset indicators such as: % impervious surface, % tree canopy coverage, open/green spaces, potential for energy production (solar) in case of down power lines, cooling center locations (where those without AC would go in an extreme heat event, i.e. libraries, community centers), health facilities, % elderly living alone, % car ownership (access to leave an area during an extreme weather event).

Outcome	Completion Date
1. Identification and Compilation of Climate Vulnerability/Assets Indicator Database	*Oct 2014*
2. Evaluation of Indicator Data through Ground-truthing (canvassing & focus groups) in 5 high risk neighborhoods.	*Apr 2015*
3. Development of GIS map layers visually showing data and climate 'hot spot' neighborhoods. Web-based interactive map application created to allow custom data layer manipulation, cumulative risk mapping, and monitoring of data use.	*Jul 2015*
4. Development of model community-based adaptation plan priorities language given outcomes of data; change in state and local agency land use, health, and environmental adaptation planning language that reflects the needs of high-risk communities.	*Sep 2015*

1

Activity 2: *Community-based Curriculum Development and Outreach*   **Budget: $ 75,000**
Culturally appropriate workshop curriculum on climate change and adaptation would be developed utilizing the findings from Activity 1. Curriculum would be in Spanish, English, Somali and Hmong for community education and engagement, along with evaluations for improvement of maps.   Workshops with community groups in both Minneapolis/St. Paul and other parts of the state would be given.

Outcome	Completion Date
1. Development of culturally appropriate curriculum on climate change and adaptation.	*Dec 2015*
2. 20 Community member workshops in Minneapolis/St. Paul and 5 Community workshops in other parts of the state (likely: Milan, Duluth, Rochester, Bemidji, Mankato).	*Jun 2016*
3. Improved understanding by impacted communities of climate change, human health and planning strategies to adapt.	*Jun 2016*

III. PROJECT STRATEGY
A. Project Team/Partners
This is a joint project between the Center for Earth, Energy and Democracy (CEED) and the Center for Urban and Regional Affairs (CURA) at the University of Minnesota. CURA and CEED have been collaborating together on Phase 1 of Twin Cities Environmental Justice Atlas since 2011. Phase 1 of the Atlas layers racial, housing, energy use, land use, food deserts and air quality indicators using local, county, state and federal data - identifying the most at-risk community populations and neighborhoods that are experiencing a range of cumulative environmental hazards. Both partners will be receiving money from this ENRTF request.
- *Shalini Gupta*, Executive Director, CEED, will be the Project Manager [See attachment for more detail].
- *Dr. Cecilia Martinez*, Director of Research Programs, CEED, will be a Lead Researcher.
- *Jeff Matson*, Community GIS Coordinator at CURA, will conduct the GIS mapping of the project.
- *Neeraj Mehta*, Director of Community-Based Research at CURA.

B. Timeline Requirements
This project is Phase 2 of the Environmental Justice Mapping Project. Phase 1 developed a baseline set of data and layers on demographics, environmental hazards, and at-risk geographic areas for Minneapolis and St. Paul. Phase 2 now will go deeper into developing specific Climate Vulnerability/Asset layers in order to aid in planning for climate adaptation for low-income and communities of color, focused on the Twin Cities, but applicable to other parts of the state as a model. The project outlined here has a two-year timeline for completion.

C. Long-Term Strategy and Future Funding Needs
Funding for Phase 1 of the project came from the Elmer L. and Eleanor J. Andersen Foundation, Headwaters Foundation for Justice, Jesse Smith Noyes Foundation, Andrus Foundation, University of Minnesota Center for Urban and Regional Affairs, and the donated volunteer time of community members and their expertise on the environmental harms in their neighborhoods. The long-term strategy is to create a tool that is a model for data collection and visualization around environmental justice and climate change, and can be used by communities around the state to ensure that their health and community needs are protected. Project findings will be disseminated via community workshops in the Twin Cities and in other parts of the state, conference presentations, journal articles, and articles in community newsletters. This project has been taking best practices from around the country to be applied here to Minnesota. Ongoing funding from foundations will be investigated in order to keep data updated and the online interface accessible, and support ongoing community engagement.

2

2014 Detailed Project Budget

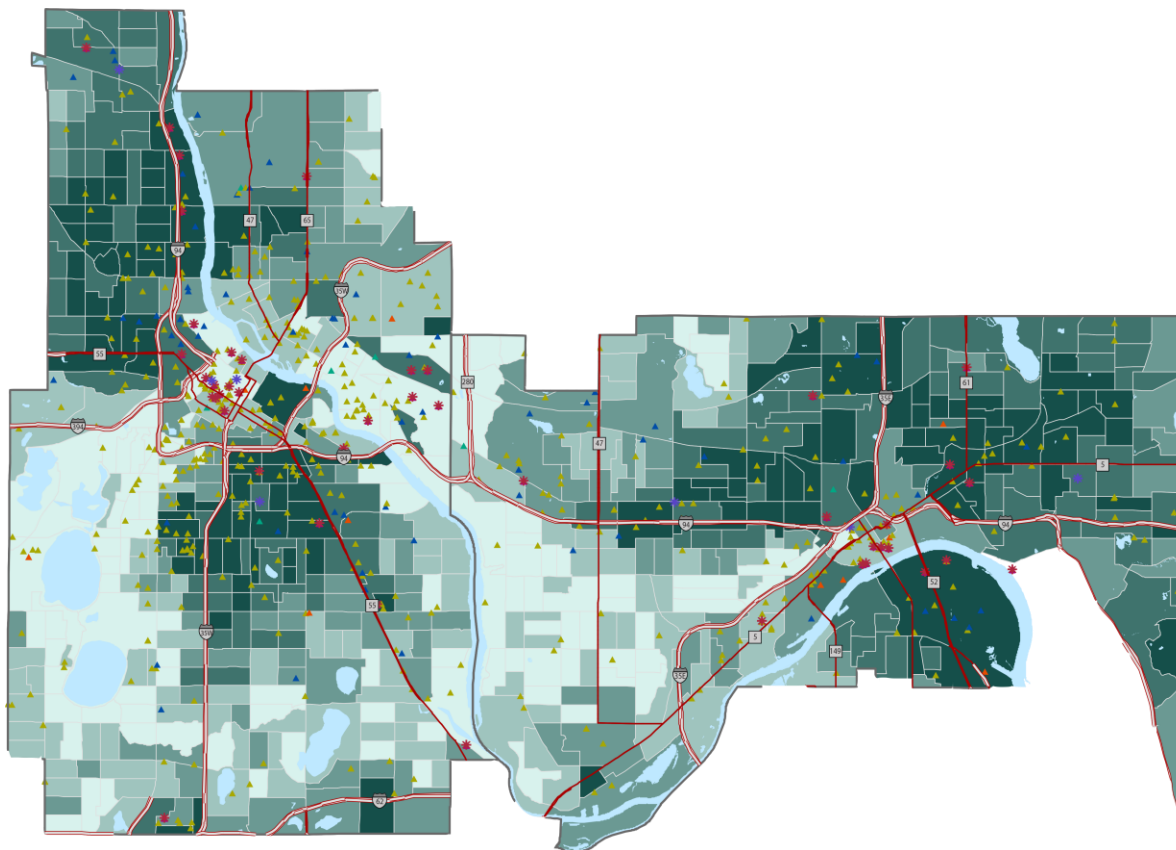**Project Title:** *Human Health, High Risk Populations and Climate Change*

IV. TOTAL ENRTF REQUEST BUDGET - 2 years

BUDGET ITEM		AMOUNT
Personnel:		
Shalini Gupta, Project Manager - overall management of project implementation and design, staff supervision, contractor oversight, and reporting. (15% FTE @ $70,000 annual*2 years)	$	21,000.00
Dr. Martinez, Lead Researcher - data analysis, mapping research methodology, ground-truthing survey development, working with University of Minnesota CURA on map development (35% FTE @ $70,000 annual * 2 years)	$	49,000.00
Community Coordinator - conduct, oversee and supervise interns and volunteers for groundtruthing of data; develop community education curriculum, conduct community education workshops (50% FTE @ $48,000 annual * 2 years)	$	48,000.00
Subtotal personnel	$	118,000.00
Benefits (24% of subtotal personnel)	$	28,320.00
Total Personnel	**$**	**146,320.00**
Contracts: *University of Minnesota Center for Urban and Regional Affairs, GIS Mapping*	**$**	**65,000**
Equipment/Tools/Supplies:		
Curriculum Printing (400 @ 10 color pages each @ .50 per page)	$	2,000
Map Printing	$	180
Data Purchasing	$	450
Software (ArcView GIS, Illustrator and InDesign)	$	1,200
Total Equioment/Tools/Supplies	**$**	**3,830**
Travel:		
Mileage reimbursement for MSP groundtruthing and workshops (20 workshops @ 15 miles $ $.55 per mile for 2 vehicles) (5 vehicles for groundtruthing @ estimated 50 miles total @ $.55 per mile)	$	470
Mileage reimbnursemnt for 5 workshops out-state (Milan (RT 286 miles), Bemidji (RT 442 miles), Rochester (RT 170 miles), Duluth (RT 306 miles), Mankato (RT 170 miles) @ $.55 per mile.	$	755
Total Travel:	**$**	**1,225**
Additional Budget Items:		
Curriculum Translation into Spanish, Somali, Hmong (10 pages, 3 languages @ $100 per page per language)	$	3,000
Interpretation at Workshops (25 workshops, $225 per workshop)	$	5,625
Total Additional Budget Items	**$**	**8,625**
TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND $ REQUEST =	**$**	**225,000**

V. OTHER FUNDS

SOURCE OF FUNDS	AMOUNT	Status
Other Non-State $ Being Applied to Project During Project Period: Community Workshop space rental fees, food (Headdwaters Foundation for Justice, 10 workshops at $250 per workshop)	$ 2,500	*Pending*
Funding History: Elmer L. and Eleanor J. Andersen Foundation, Headwaters Foundation for Justice, Jesse Smith Noyes Foundation, Andrus Foundation, University of Minnesota Center for Urban and Regional Affairs	$ 95,000	

Twin Cities Environmental Justice Atlas – Model Data Collection Phase 1
People of Color and Location to Environmental Hazards

Project Manager and Organization Description

Rich has over 25 years of supporting, educating and assisting home, business owners, and energy industry professionals in energy efficiency and renewable energy technologies. He has his own off the grid home of which over 500 folks have toured to hear of the pluses and minus of the technologies used. Rich also has developed courses for the University of Minnesota, Winona State University, and Riverland College similar to this proposed project.