# Institute for Social and Environmental Transition

*Submission to Nairobi Work Programme, Climate Adaptation Planning*

## Organization Profile

The Institute for Social and Environmental Transition – International (ISET) catalyzes transformative changes toward a more resilient and equitable future. We work to improve understanding and elevate the level of dialogue and practice as society responds to natural resource, environmental and social challenges. We do this through a three-pronged approach of:

1) Research,
2) Training and
3) Implementation activities.

ISET-International serves as a framework for equal collaboration among individuals and organizations in the North and South.

Through this mission, ISET–International leads regionally scaled research activities and local scaled implementation work into enhancing resilience through our Urban Resilience Framework (URF). From the URF, ISET does training and assists local partners in implementing the URF planning process. Parts of the planning process includes ISET's work in economics and benefit cost analyses, climate threshold analyses and Shared Learning Dialogues. In addition to research ISET has a complete suite of methods for resilience planning that it uses for training. ISET has begun to implement training for resilience with the American Red Cross in Africa and Latin America.

ISET–International is a part of a number of networks that provide institutional learning related to climate resilience and disaster risk management:

- Asian Cities Climate Change Resilience Network (ACCCRN) and Mekong-Building Climate Resilience Asian Cities (M-BRACE) Networks: The ACCCRN and M-BRACE networks work to enhance resilience to climate change in 14 medium sized cities across 4 countries in Asia. Stretching from India through Thailand and Vietnam and into Indonesia, the effort has enabled locally driven processes of understanding vulnerability to climate change leading to the creation of Climate Change Resilience Strategies and implementation activities.

- CDKN Learning Hub Community: Throughout the project life, ISET–International has been engaged with the CDKN Learning Hub Communities that are often organized regionally throughout Asia and nationally, within South Asia. This community has provided methodology sharing around how to calculate the impacts of temperature increases on communities that climate change is drastically affecting.

ISET–International leads research activities into investigating the overall losses of climate change impacts on poor and vulnerable communities focusing mostly on urban contexts and their relationship with climate change. This is exemplified with our current work with the Climate Development and Knowledge Network related to climate resilient shelter in 2030 and 2050 in India and Vietnam as well as ongoing work in Pakistan related to what enables a community to be resilience and bounce back after extreme events.

## Geographic Coverage

ISET works and has offices in three geographic locations: South Asia (including Nepal, Pakistan, and India), Southeast Asia (including Thailand and Vietnam), and North America (from its headquarters in Colorado, USA).

## Key Stakeholders

ISET works and partners with a wide range of stakeholders in order to achieve its mission, including:

- Vulnerable Populations in Rural, Urban and Peri-Urban Locations
- City Level Decision Makers
- Provincial, National and Regional Level Decision Makers
- Partner Local NGOs and International NGOs

## Recent Projects

This is a selection of recent projects completed by ISET. A full list of projects is available on ISET's website, www.i-s-e-t.org.

**Sheltering From a Gathering Storm** Shelter design is one of the greatest factors influencing the loss of lives and assets during extreme climate events and is, therefore, a significant cost for governments, the private sector, and nongovernmental organizations working on disaster risk reduction or post-disaster reconstruction. The Sheltering From a Gathering Storm project has generated substantive information on the costs and benefits of climate resilient shelter designs. This information will contribute to the transformative changes necessary to make communities more resilient to future disasters. Using cost-benefit analysis, this applied research project has produced outputs that provide insights into both the economic and nonfinancial returns of adaptive, resilient shelter designs that take into consideration hazards such as typhoons, flooding, and temperature

increases. The research spans South and Southeast Asia, with a focus on Central Vietnam, Northern India, and Central to Northern Pakistan.

**Asian Cities Climate Change Resilience Network (ACCCRN)** The ACCCRN program is a unique initiative to understand and support urban areas in building climate resilience. The program's work in cities in India (Surat, Indore, and Gorakhpur), Indonesia (Bandar Lampung and Semarang), Vietnam (Da Nang, Can Tho, and Quy Nhon), and Thailand (Hat Yai and Chiang Rai) provides practical insights into the processes and outcomes that contribute to urban climate resilience. The ACCCRN program was a new and innovative approach for program partners. City representatives worked with diverse local stakeholders in novel ways to ensure that outcomes were directly relevant. ISET-International's role in the ACCCRN program included:

- Collaboratively developing a conceptual framework, the Climate Resilience Framework, to guide engagement throughout the program.
- Locating and communicating climate information and working with city partners to help them understand the implications those changes could have for their cities.
- Conceptually grounding and applying approaches to shared learning.
- Providing the technical assistance and capacity building support for vulnerability analyses, sector studies, pilot projects, and development of city resilience strategies.
- Supporting development and implementation of resilience actions.
- Working with cities to develop and apply locally-relevant resilience indicators.

The capacity to learn and reorganize in the face of future uncertainty lies at the heart of ISET-International's understanding of resilience. As such, a critical role for ISET-International has been working with country coordinators and city stakeholders to assess and reflect on the process of building resilience through such activities as targeted capacity building and learning activities, participatory documentation and write shops, city-to-city learning exchanges, and collaborative production of a range of documentary products.

**Mekong – Building Climate Resilience to Asian Cities (M-BRACE)** Medium-size cities in Thailand and Vietnam are growing rapidly, fuelled by economic growth and greater regional economic integration. This growth tends to be poorly planned, with little public participation and dialog. Where urban growth is planned, it tends to be based on assumptions about past climate hazards that are projected to intensify and alter in the coming decades. Medium-sized cities are also growing beyond their immediate ecological carrying capacity—beyond their access to viable water and energy systems. Such cities are expanding geographically into hazardous spaces, changing land use in ways that can exacerbate vulnerability to climate hazards (particularly flooding), and redistribute impacts of hazards. While there are growing calls for building urban resilience, there is still very limited experience of how this can be actualized. M-BRACE has built informed public processes to support city

stakeholders to come together for informed dialogue, to assess vulnerabilities related to the inter-linkages between urbanization and climate change, and to identify, test, and implement initial measures towards building resilience. M-BRACE has been building networks of academics and researchers in Thailand and Vietnam as well as building bridges across the two countries.

**Disaster Risk Reduction and Climate Change Adaptation in South Asia** The purpose of this project was to conduct research on flood resilience in Gorakhpur, eastern Uttar Pradesh. ISET-International and local partners worked to identify strategies for integrating disaster risk management and climate adaptation into local policy. Floods in India have caused large-scale damage to agriculture, housing, and health. Though disaster risk reduction and climate change adaptation approaches have been established in national programs, such programs seldom integrate into subnational levels due to lack of capacity of the relevant departments or organizations. ISET-International and partners led a case study on the Gorakhpur District Disaster Management Authority, focusing on the systemic factors that contribute to flood resilience. Throughout this project ISET-International and partners worked with organizations, academic institutions, and stakeholders in the Gorakhpur area to collect data and identify possible improvements in disaster risk reduction at a subnational level.

## Tools and Methods

*Available and implemented tools and methods for adaptation planning processes addressing the four issues of ecosystems, human settlements, water resources and health*

**Climate Resilience Framework** The Climate Resilience planning process is built on the Climate Resilience Framework, a framework for understanding vulnerability that looks at cities through the lens of agents, institutions and systems, their interactions and feedbacks and the influence of the impact of an exposure, such as climate change. This lens can allow a more complete understanding of vulnerability by highlighting areas not often associated with an impact. For example flooding may not be due to an insufficient drainage system but may be due to institutional or agent-focused issues that allow drains to clog with solid waste.

- **Agents** refer to people, whether as individuals, households, communities, private and public sector organizations, companies etc. The concept of agency relates to human capacity to act in ways that respond to and shape the world around them, and to give the world social value and meaning.
- **Institutions** refer to the rules, norms, beliefs or conventions that shape or guide how agents access, interact with and use systems. Institutions guide human relations and interactions, access to and control over resources, goods or services, assets, information and influence. While institutions shape agents – equally agents are able to shape institutions thus opening one avenue of change

- A **System** is a set of interacting and often interdependent components forming an integrated whole. Since systems are usually composed of agents and sub-systems they always need to be defined. A system is usually defined by the product or service it provides. Within the scope of the CRF systems are defined as ecosystems and the infrastructure that provide core system functions. These are water, food, land, energy, shelter, transport and communication. Systems also provide broader adaptive capacity.

ISET has used the Climate Resilience Framework to design city-level resilience-building processes in the ACCCRN and M-BRACE programs as well as to develop training materials for city officials, community leaders, governments, and NGOs at local, national, and international levels.

**Qualitative CBA Process** Through the Risk to Resilience Study Team we investigated how to catalyze climate and disaster resilience by developing a new framing tool for qualitative cost-benefit analysis. ISET–International uses this process to provide framing and insights into investigating how communities perceive benefits and costs of different strategies and supports the research teams investigation further into quantitative costs and benefits.

**Climate Resilient Quantitative CBA Process** Futhermore, ISET employs an unique approach to investigating hazards, vulnerabilities and frequencies as it relates to future climatic events and the associated returns to risk reduction features. This Process was also developed by the Risk to Resilience Study Team and has guided most of current research work into the economic returns of climate resilience development pathways.

**Shared Learning Dialogues** ISET has developed methodologies for multi-stakeholder assessment and planning that engage stakeholders as active participants and leaders in designing, managing, and carrying out the key aspects of a project, termed 'Shared Learning Dialogues.' ISET works with key partner agencies and organizations to design, develop, and carry out assessments, planning processes, and activities. There are many benefits to direct engagement and participation by stakeholders. Foremost, this ensures that each step of the process is grounded in local knowledge and understanding of issues. Second, when the outcomes of different activities are developed and endorsed by local stakeholders, they are more legitimate and more influential. Finally, by engaging directly in all phases of a project, stakeholders build the capacity and knowledge to in the future to carry out or partner with other organizations in these kinds of activities. Participatory, multi-stakeholder processes such as these ensure that these methods and approaches are sustained after the initial engagement finishes.

**Design Competition** ISET has used competitions to generate and highlight different designs that would improve climate resilience, specifically around housing and shelter. Design competitions offer a number of advantages. They allow for more people to be involved in the design process, thereby increasing the likelihood for creative ideas. Competitions also engage local design institutions (schools, agencies,

etc.) and students, thereby creating capacity and interest in the issues within local institutions that will extend well beyond the duration of the design competition or project.

## Good Practices and Lessons Learned

*Good practices and lessons learned in relation to adaptation planning processes, including on monitoring and evaluation, addressing the four issues of ecosystems, human settlements, water resources and health;*

ISET's work has covered adaptation, resilience, and disaster risk reduction among other issues. From that work, some key lessons and practices have emerged.

**Local ownership is derived from shared learning and public dialogues and participatory assessments and projects.** In ISET project cities, there are clear signs of local ownership and growing local capacity. This is coupled with a high-level of interest in building off ongoing activities, including by continuing to focus on the core issues raised in the project and incorporating them into policy and planning processes. M-BRACE's focus on promoting open dialogue, building local institutional capacity, and promoting participation in projects and assessments are key ingredients for continuing efforts around urban climate resilience.

**Non-government stakeholders can provide an important pathway for building resilience, especially when there are challenges or limits to working directly with governments.** Resilience is built by the combination of many actions throughout a city contributing to an overall approved ability to manage and promote development through disturbance and disruption. While government should traditionally be a source of resilience managing disturbance, there are instances where disturbance or disruption comes from actions taken by the government. In these cases, it is the ability and capacity of non-government actors that most significantly contributes to resilience.

**There are important opportunities for influence are around impacting how high-level decisions are implemented**. In many cities, there are some strategic-level decisions that are often made at national level based on many years prior planning and that are thus difficult to influence. From decisions about major infrastructure to long-term urban planning priorities, there are few opportunities to shift the general direction of development. However, the ways in which these development decisions are implemented can have important effects on the long-term resilience in a city. For example, in Hue, Vietnam the Urban Master Plan has been under development for many years and outlines a future of urban growth and industrialization. Yet, how this future is realized, such as how infrastructure is designed and how institutions are supported to manage future climate risks, is a critical space for influence that is not reflected in current plans. The conceptual frameworks and the locally-led, participatory approaches that underlie ISET's work

have the ability to positively influence the implementation of these decisions and their impact on urban resilience.

**Resilient alternative pathways have positive economic returns.** Shifting the traditional planning designs of systems to those that encompass more resilience can create positive, long-lasting economic returns when taking into consideration the losses and damages associated with future climatic impacts.

**Climate risks are going to exacerbate existing problems.** Climate change will increase the intensity and possibly frequency of extreme climate events in many cities. Development which occurs in disaster-prone areas, such as flood-plains, coasts, or mountainsides is going to be extremely vulnerable to a changing climate. Addressing climate change will require not only adapting to future climate regimes, but integrating planning, development, and management processes so they better account for these risks.

**Resilient housing designs can cost-effectively reduce losses by vulnerable communities due to floods, storms, and high peak daily temperature events.** As climate changes, resilient designs contribute substantially to the adaptive capacity and resilience of poor communities by reducing structural, asset, and income losses. Simple, low-cost design features have been identified through Resilient Housing Design Competitions. These features contribute to the resilience of shelters to floods and extreme storm events. They are cost-effective and in some cases reduce costs below those of standard construction practices. Qualitative and quantitative analyses of investments in climate resilient designs show high benefit-cost ratios under a range of scenarios. Shelter in all study sites is characteristic of large areas in Asia. Results are therefore likely to be applicable throughout the region and in other areas with similar characteristics.

**Access to affordable financing coupled with awareness and training of builders are the primary barriers vulnerable populations face in accessing climate resilient designs.** In some areas, climate resilient elements are already being adopted by wealthy sectors of the population. Local masons and contractors are a key intervention area for training on climate resilient design principles. Access to affordable resilient housing designs and the funding required to implement them is especially important to the poor and near-poor who have access to land and housing. Shelter design measures cannot address the needs of the most marginalized groups, who are unable to access permanent housing or afford to make existing shelters resilient.

**While shelter designs can reduce the impact of extreme storms and floods, the ability to address increases in nighttime temperature through shelter design changes alone is limited.** Presently hundreds of millions of people depend on ambient cooling to maintain their health and productivity. Climate projections suggest that life will prove particularly challenging for them as key physiological thresholds are crossed with increasing hot season nighttime minima temperatures, in combination with humidity (the overall heat index) extend over longer periods

## Linking National and Local Planning

*Good practices and lessons learned related to processes and structures for linking national and local adaptation planning.*

ISET's projects typically include engagement at both local levels as well as national or regional levels. Across these projects, some key lessons have emerged for linking local processes to national and higher level processes.

**The urban climate change resilience and adaptation agendas will be carried forward through the networks and partnerships that now exist in the cities, the countries, and between the countries.** Through ISET projects, there are emerging networks and partnerships that include governments, NGOs, the private sector, and academics that understand, are interested in, and are developing locally relevant ways of building urban climate resilience. These networks have the knowledge, capacity, and interest to carry the urban climate resilience agenda forward. They have the capacity to work at multiple levels, including by engaging and working with additional cities and influencing the ways organizations, including NGOs, donors, and international financial institutions, approach urban climate change resilience.

**Adaptation and resilience require understanding the different needs and entry-points for engagement**. Adaptation, resilience and vulnerability are all based on a number of local, regional, and national factors. ISET focuses on understanding the unique setting in each city and on understanding the entry-points for affecting change. Further, ISET assessments, dialogues, and projects have been designed around influencing policy and practice on these critical issues. As a result, the focus areas within ISET projects have been elevated to issues of high policy concern and public interest. This has created space for local governments and organizations to be more active in addressing them.