

CLIMATE CHANGE RESILIENCE INITIATIVE

STRATEGY OVERVIEW

The impacts of climate change are increasingly evident across the world. Climate change has increased average temperature, which leads to a wide range of impacts including a rise in sea levels, more frequent and more intense storms, a loss of biodiversity, continued loss of arctic ice and glaciers, and increased intensity of precipitation. Other impacts include increasing salinity of freshwater aquifers, coastal erosion and flooding, and an increase in heat and precipitation-related diseases like malaria and dengue. Some of these impacts will be new climatic events (for example, sea level rise). Others will be new or unexpected patterns of existing climate events (for example, the 20-year storm happens every year).

These impacts hit poor people the hardest, especially those concentrated in high-risk areas. These populations have the fewest resources to prepare and plan for the impacts, and the lowest capacity to respond. They are also often heavily reliant on the climate for food, water, and livelihood and in many cases, survival, and are the most exposed to climate extremes. A changing climate will exacerbate socioeconomic and environmental risks that already stretch poor people's capacity to cope. Climate change has the potential to undermine past progress in poverty alleviation and derail development initiatives from making an impact. As the UNDP's 2007/2008 Human Development Report states, climate change is one of the greatest development challenges of our time.

Because increasingly severe impacts are likely for several more decades even if greenhouse gas emissions are reduced to a safer level, it is crucial that we begin to build resilience to the impacts of climate change. The resilience required to cope with this level of change is comprehensive. It requires robust, reinforcing systems and expanded capacities, and it must be built urgently.

The Rockefeller Foundation believes that there is a current opportunity to catalyze attention, funding, and action in building climate change resilience globally. The goal of the Climate Change Resilience Initiative is to build resilience to climate change risks for poor and vulnerable people, especially through targeted investments in developing, demonstrating and replicating resilience strategies, and through leveraging policy opportunities to support and fund resilience building measures.

CHANGE LEVERS:

The initiative focuses on three primary change levers:

- **Developing, testing, and replicating urban-based resilience strategies.** The Asia region is the strategic geographic focus for the Foundation's urban climate change resilience work. More than 60 percent of the increase in the world's urban population in the next 30 years will occur in Asia, the continent with the largest urban population, and the largest population at risk to climate related impacts¹. Decisions made in cities today will either amplify climate change impacts or reduce them, and thus there is a narrowing

¹ A study of the population at risk to sea level rise revealed that of the top 10 countries with the highest populations vulnerable to sea level rise, all but two are located in Asia (McGranhan et al. 2007. Environment and Urbanization. v.19 (1)17-37.) Of the global population most exposed to sea level rise (634 million), 37% reside in Asian cities (238 million).

window of opportunity to ensure that the cities of tomorrow are developed in a climate resilient manner. Addressing urban growth and climate trends in tandem in the Asia region provides the opportunity to create urban resilience strategies that will benefit the largest urban population of the world, and will develop models that can be exported to other regions. Through the development of the Asian Cities Climate Change Resilience Network, the Rockefeller Foundation works with city governments, academic centers, non-profits and the private sector to collectively improve the ability of the cities to withstand, prepare for, and recover from the projected impacts of climate change. Cities will develop a replicable model to assess climate risks, assess vulnerabilities, identify, prioritize and implement resilience building measures. These interventions will span health, infrastructure, water, disaster, urban planning/development issues, and will include leveraging policy incentives and investment funds to improve infrastructure, services, disaster management and preparedness strategies.

- **Developing, testing, and replicating agricultural resilience strategies.** Climate change is projected to have a strong impact on agriculture, particularly in rain-fed tropical areas, such as sub-Saharan Africa, where crops are already growing at their physiological temperature limits, and resilience is low due to low levels of productivity, eroded soils, lack of safety nets and extreme poverty. Crop yields in sub-Saharan Africa are projected to fall on average by 10-20% by 2050.² Strengthening the resilience of African smallholder farmers to climate change builds off of the Foundation's long history in investing in food security in Africa, and will help ensure that investments in building a Green Revolution in Africa are ultimately successful. Adaptation strategies will be adopted by farmers only if they are part of a broader set of development recommendations that provide near term benefits to farmers by increasing the productivity and profitability of their farms. Thus the long term scalability and sustainability of agricultural investments depend on the successful adoption of climate change adaptation as an integral component of the routine work of key African agricultural research and development organizations. Work supported by the Foundation helps national agricultural research and development organizations integrate climate change resilience measures into their practice; tests interventions that could be implemented more extensively in African countries to build resilience to climate variability and change; and develops the scientific evidence base and enabling policy environment to support agricultural resilience-building in Africa.
- **Promoting policies and funding to support climate change resilience.** The increased attention to climate issues by the United States federal government provides a concrete opportunity to support the development of climate change resilience policies for the US and the potential creation of new funding streams to support climate change resilience in the US and internationally. To capitalize on this limited window of opportunity, the Foundation is supporting the development of domestic climate resilience strategies through policy analyses that evaluate policy options at the federal level to support climate change resilience across sectors, through targeted communications and education campaigns that will educate policymakers and the general public on the need to invest in building climate resilience, and by building new and diverse constituencies in the US that will advocate for building climate resilience domestically and support funding for international resilience-building efforts.

² "Mapping Climate Vulnerability and Poverty in Africa," International Livestock Research Institute, 2006.

KEY OUTCOMES:

The Initiative is managed in three separate work streams, which together aim to develop a deeper understanding of climate resilience and the capacities and resources needed to operationalize resilience building work within and across sectors at a greater scale.

In an urban context, the **Asian Cities Climate Change Resilience Network (ACCCRN) seeks to build the capacity of city stakeholders to implement resilience strategies and share knowledge.**

Specifically, selected cities in South and Southeast Asia have adequate capacity to plan, finance, coordinate, and implement climate change resilience strategies; practical (actionable) knowledge on how to build resilience will be generated, shared and used by a growing number of city stakeholders; and new and more diverse partners will provide resources for replication and translation of urban climate change resilience models into new geographies and support more widespread implementation of resilience plans and strategies.

Within the agriculture development sector in Africa, the Initiative seeks to develop more climate resilience development practices within agricultural development institutions.

Specifically, African agricultural research and development institutions through experimentation produce innovative approaches to increase stability of agricultural production to meet basic food security and income needs of smallholder farmers; new partnerships and networks among agriculture research institutions, governments, NGOs, and donors will lever resources to improve the resilience; and individual agriculture champions within agricultural research and development centers enhance their capacity to address the major climate-related agricultural challenges.

Within the US context, the Initiative seeks to inform Federal and local government policy makers of the benefits of adopting domestic resilience efforts and policies and supporting international resilience efforts.

New and diverse constituencies will be engaged in, and advocate for, federal and international support of climate change resilience-building measures.

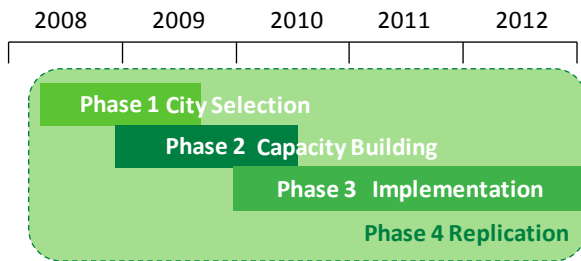
IMPACT - Our vision of success

If this initiative is successful, poor and vulnerable people will have the ability to respond in an adaptive way to current and future climate risks. They will have more choices, feel more secure and less vulnerable, and will be willing and able to invest in improving their livelihoods. Formal and informal institutions will reinforce the abilities of individuals to predict, prepare for, and recover from climate shocks. They will learn, monitor and respond to changing conditions in a timely, flexible and efficient manner. Practitioners and policy makers are equipped with the knowledge, tools, enabling policies and sustained funding needed to implement decisions in a manner that increases resilience.

UPDATE: Asian Cities Climate Change Resilience Network Component

ACCCRN Overview

The ACCCRN component of the Foundation’s Building Climate Change Resilience initiative is being executed in four interconnected phases. Phase 1 involves identifying core ACCCRN partner cities. Phase 2 is the process of creating deep engagement and capacity development of



cities through multi-stakeholder dialogues, climate vulnerability assessments, sector studies, and pilot projects. This will lead to the development of city-wide climate change resilience frameworks and specific intervention proposals. Phase 3 is the implementation of resilience interventions at the city level, while Phase 4 refers to the ongoing effort to disseminate emerging

lessons and leverage additional resources to stimulate resilience-building initiatives by others.

New Results Framework for ACCCRN

Guided by the Foundation’s new Results Based Management system, a grant is being awarded to monitor and evaluate the overall effectiveness of these efforts. The Results Framework for ACCCRN has defined what success will look like: *The resilience of ACCCRN cities’ institutions, systems, and structures is measurably enhanced in relation to current and future climate risks, and through this, the lives of poor and vulnerable people (both men and women) are measurably improved.*

Under this impact statement, the framework has three key result areas. These relate to capacity enhancement at the city level, expanded networks for mutual action, and the scaling up of resilience actions and their replication by others.

City Selection and Engagement

The city selection process was completed by January 2009 in India (three cities) and Vietnam (three cities); by July in Indonesia (two cities), and by October in Thailand (two cities). Cities in India and Vietnam are progressing toward the end of the engagement and capacity-building phase, with agreements in place with the local People’s Committees in Vietnam and with municipal corporations in India.

The work in this phase is generating a range of valuable analytical outputs. Among these are vulnerability assessments and climate-risk assessments (including climate modeling at the city scale) that will inform the resilience intervention frameworks and interventions in each city. In addition, several sector studies are underway in areas such as flood management, health, water management, energy management, and housing. More than 25 pilot projects have been vetted, and some are now being implemented in areas such as solid-waste management, storm-resistant housing design, and the creation of asset banks to protect valuables. All of the outputs to date will

be synthesized and disseminated as policy briefs at the forthcoming United Nations Framework Convention on Climate Change (UNFCCC) Conference of Parties meeting (COP-15) in Copenhagen in December 2009.

First ACCCRN City Network Meeting in Da Nang, Vietnam

In mid-September 2009, the Rockefeller Foundation held the first-ever ACCCRN City Network Meeting to stimulate intercity networking, allow cities to share results from activities to date, and provide a platform for identifying opportunities for ongoing shared learning. The meeting was attended by several city mayors, and the Vice Minister for Environment from Vietnam presided over the first day's activities. The event demonstrated cities' powerful demand for learning from each other's experiences. We are now working with our lead network partner to ensure that there is proactive follow-up.

Phase 3 Intervention Criteria and Proposal Development

The first set of city resilience frameworks from Vietnam and India will be ready in January 2010. By the second quarter of next year, we expect to see the first round of detailed intervention proposals ready. Of the \$35.5 million currently allocated for ACCCRN, a minimum of \$20 million is being reserved for city-level intervention financing between 2010 and 2012. We are currently working with our grantee, Arup (our technical assistance partner working with the prospective cities) to refine an urban-resilience framework and intervention criteria for assessing the relative strength of proposed interventions.

Replication and Donor Engagement

We have engaged in a number of outreach events to increase donor interest in the field of urban resilience, including the Prevention Disaster Risk Reduction Forum in Istanbul and the UNFCCC/COP-15 preparatory meeting in Bonn. We also held a side event in partnership with the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) and the United National International Strategy for Disaster Reduction (UNISDR) at the UNFCCC/COP-15 preparatory meeting in Bangkok. These events enabled city partners to speak directly with national negotiators and donors about the importance of urban resilience. Furthermore, there will be several opportunities for profiling ACCCRN side events organized by the Foundation and grantees at the COP-15 meeting in Copenhagen in December 2009.

The Foundation's own team is playing an active role in brokering relationships with potential donors such as the World Bank, the Asian Development Bank, the German development agency, and USAID. Our team is currently discussing the possibility of creating a Memorandum of Understanding with the World Bank to foster deeper cooperation in this area. The Foundation's leadership in this field is being widely acknowledged by external actors.

Communications and Knowledge Management

ACCCRN is already beginning to develop an array of new information that needs to be better profiled and shared. A grant for Communications and Knowledge Management (CKM) has been awarded and will be used to foster knowledge sharing, both within ACCCRN and with external

audiences. This will include the development of an ACCCRN Web portal on urban resilience, to be launched in February 2010. Recognizing that there are continuing gaps in this work, we are also investing in new learning in what is still a very young field. For example, we have recently made an award to a consulting firm (Intellectap, Inc.) to assess opportunities for new markets, products, and services that could be developed by the private sector and that could enable cities, communities, and households to build their resilience to climate change.

ACCCRN Advisory Board

To support the next phase of city-level interventions, the Rockefeller Foundation team is seeking new advisory board members who will bring more geographical expertise and who will help guide and shape the next stage of the work. The target board size is seven to eight members, and the current board is comprised of the following:

- *Dr. Rajendra Pachauri*, Director-General, The Energy Research Institute, New Delhi, India
- *Dr. Debra Roberts*, Development Planning, Environment and Management Unit, Ethekewini Municipality, Durban, South Africa
- *Dr. Saleemul Haq*, Senior Fellow, Climate Change, International Institute for Environment and Development, United Kingdom
- *Dr. Aromar Revi*, Director, Indian Institute of Human Settlements

Annex I – ACCCRN Brochure (July 2009)

UPDATE: Promoting Resilience-Building Policies Component

Economics of Climate Adaptation: *Shaping Climate-Resilient Development*

In partnership with McKinsey and Company, Swiss Re, and others, the Foundation launched “The Economics of Adaptation: *Shaping Climate-Resilient Development*” in September, 2009. The study concluded that climate risks could cost nations up to 19% of their GDP by 2030, with developing countries most vulnerable. However, cost effective adaptation measures already exist that can prevent between 40 and 68 percent of the expected economic loss, with even higher levels of prevention possible in certain target geographies. The study offers a comprehensive and replicable methodology to determine the risks that climate change imposes on economies. It provides a set of tools for decision makers to adopt a tailored approach for estimating these costs based on local climate conditions, and for building more resilient economies. The methodology was tested in localities within eight different countries (China, United States, Guyana, Mali, United Kingdom, Samoa, India, and Tanzania), which together represent a wide range of climate hazards, economic impacts, and development stages. The RF funded the study and participated in shaping and informing the analysis as a means of improving the analytical frameworks available to prioritize and improve adaptation investments globally. The study was covered by CNN, Reuters, Financial Times (India) and other traditional media as well as trade media, and was downloaded 1,700 times from the McKinsey website in the first month since it was launched.