

# Climate Change and Territorial Planning: Adaptation Case Studies for Urban Policy and the Private Sector





February 25, 2015 Bogotá, Colombia

Colombia faces a range of current and future impacts from climate change, from sea level rise and flooding in coastal zones, to effects on agriculture and economic development. Climate change is not an issue for the future—its effects are already being felt—but there are a variety of adaptation responses that can help create resilience and reduce vulnerability. In Colombia and elsewhere, the public sector is often seen as the leader in responding to climate change, but there is room—and indeed, a need—for private sector involvement, not only in mitigation activities such as reducing GHG emissions, but also in adaptation efforts.

On Wednesday, February 25, 2015, the fifth seminar of the Wilson Center-USAID Climate Change Adaptation Series was held in Bogotá, Colombia. The seminar, designed to bring new stakeholders to the adaptation discussion already underway in the country and create greater awareness among private sector, focused on private sector involvement in adaptation and urban planning. Related climate change issues of food security, natural disasters, population dynamics, ecosystem services, agriculture, insurance, infrastructure, territorial planning, and ongoing initiatives in Colombia were also highlighted.

Organizers of the event sought the active participation of members of the private sector

primarily developers and representatives of financial institutions—in order to broaden awareness and highlight the role of the private sector in adaptation initiatives in Colombia. Representatives from the Ministry of Housing, which is in charge of urban and territorial planning and has recently begun incorporating adaptation into their work, were another important group of participants, along with other representatives of the Colombian government at the national and subnational level.

Peter Natiello, Director of USAID-Colombia and Cynthia J. Arnson, Director of the Latin American Program at the Wilson Center, opened the day's presentations, offering context for the meeting within the larger goals of USAID and the global climate change adaptation movement. In order to provide greater clarity on the climate change challenges and adaptation needs facing our planet—and Colombia in particular—to an audience from diverse areas of expertise, project consultant Carmen Lacambra presented a brief summary setting the climate and adaptation technical bases for the audience.

# International Presentations: Engaging the Private Sector in Climate Change Adaptation

Dr. Steven Wilson, Project Manager at FOMIN (Multilateral Investment Fund) of the Inter-American Development Bank, addressed the need to engage the private sector on adaption initiatives as well as the need to acknowledge, measure, and support initiatives arising from the private sector. While the public sector has a mandate to act against the global public challenge of climate change, and to set the framework and incentives for partnerships with the private sector, the private sector should be engaged much more. Wilson noted that there are already many adaptation initiatives being implemented by private sector entities in the areas of infrastructure, agriculture, and food, among others; but because these are not explicitly identified as adaptation-linked, they fail to register on the climate change adaption "radar". Companies with business interests in a sustainable water supply—such as major national international beverage manufacturers—could be major assets in designing cost-effective, practical water management programs. Wilson also stressed the importance of clearly differentiating adaptation from mitigation. While there is a significant "crisis of the commons" for mitigation, adaptation is a very different scenario in which solutions can benefit communities and private sector investments in much more immediate ways. Wilson emphasised the importance of separating insurance against climate-related threats from climate resilience—while insurance can be an important tool in protecting livelihoods, and the industry can provide good technical knowledge on threats, resilience requires more action.

Water security—intimately related to food security—will be one of the defining issues of the 21st century. Even incremental changes in climate can have major long-term impacts, including dramatic changes to planting cycles and widespread effects on other sectors such as transportation. The effects of extreme weather are especially hard on small and micro enterprises. Wilson described in greater detail the work of FOMIN and the ProAdapt program which is being implemented in several countries in the region. FOMIN aims to

create climate resilience among micro-, small-, and medium-sized enterprises, primarily in the agriculture and tourism sectors. ProAdapt aims explicitly to promote climate justice, help secure vulnerable small supply chains with anchor firms, and provide access to practical climate resilience knowledge, credit, and technology.

Eric Kaufman, President and Founder of the Natural Resilience Fund and Built Environment, presented his experience working on public-private partnerships for climate resilience in the city of New York—from the perspective of a private entrepreneur. Kaufman, with a background in commercial real estate, presented his flagship development project on Staten Island—the New York Wheel, a tourist attraction and multi-use development. He discussed the processes of negotiation with local authorities, modification of designs for resistance to flooding, and the final resulting project. The Wheel, built in an area damaged during Hurricane Sandy, is designed to withstand flooding—a measure of adaptation—and has other sustainability features, such as a "green" roof. Kaufman emphasised that projects of this magnitude by necessity involve multiple stakeholders from the public and private sectors, and internal politics among these stakeholders must be considered. From a private sector perspective, the "payback" on climate resilient development must be a consideration—partners should emphasize long-term savings and available incentives, such as tax credits.

Kaufman also profiled Built Environment, a company he founded to build more sustainable large construction projects, primarily municipal buildings, schools, and hospitals. Built Environment focuses on reducing building and insurance costs by creating more climate resilient structures. The for-profit company is part of the growing interest in the "Triple Bottom Line," which considers the environment and social impacts as well as profit. Especially following the impact of Hurricane Sandy, New York City is more interested than ever in protecting, enhancing, and preserving buildings in the face of climate change and extreme weather, although limited budgets and conflicting priorities make is difficult for the public sector to tackle these issues alone. Finally, Kaufman noted that the third partner in partnerships between the private sector and government is the public at large, and that individuals and groups in civil society have the ability to drive change.

### **Colombian Experts**

Claudia Martínez, Executive Director of E3 Asesorías (Ecología, Economía y Ética) and a leader in adaptation in Colombia, focused on the need to build bridges between adaptation and mitigation strategies. Climate influences both social and economic development goals. Therefore, Climate Compatible Development should address not only climate change challenges, but also issues of reducing poverty and inequality, enhancing sectorial competitiveness at the local level, and fostering economic growth, and business development, In other words, it should be a vision for transformation for the long term. Martínez shared adaptation advances from across Colombia, including Cartagena's adaptation plan (Plan 4C, discussed in detail below); Plan Huila 2050 in the department of Huila, where advances in watershed management have been crucial for decision making; and the sector-specific adaptation plan for roads in Colombia, Plan Vías CC, the first of its

kind in the country. Agriculture, particularly coffee, sugar cane, and fruit production, is an especially vulnerable sector, but the energy and transportation sectors in Colombia are also vulnerable to climate change. Like all infrastructure, roads should be designed and built to be resilient to climate change effects, which requires long-term planning and innovative thinking. Martínez highlighted need to engage multiple partners to reach the goals of climate compatible development, including planning offices, information providers, civil society, and the private sector. In particular, she mentioned the important role played by "B Corps," companies that include the environment in their mission and vision (much like the idea of the "Triple Bottom Line" discussed by Eric Kaufman).

### **Building Resilient Cities: Quito, Cartagena, and Bogotá**

Dolly González, the Secretary of Planning for the city of Cartagena de Indias, presented the Plan 4C: Cartagena Competitiva y Compatible con el Clima (Cartagena Competitive and Compatible with the Climate), which was initiated in 2003. The first phase of the plan was dedicated to analyzing the city's vulnerabilities to climate change—as a coastal city, Cartagena is particularly vulnerable to sea level rise and flooding, issues it has prioritized in Plan 4C. The second phase, from 2008 to the present, is focused on identifying adaptation methods to overcome these vulnerabilities and on setting priority areas for action: highly vulnerable tourist and industrial zones, beaches at risk for erosion, historic areas, vital infrastructure, and public health. Plan 4C focuses on creating awareness of climate risks, involving communities, enhancing research and information, restoring vital ecosystems, and integrating economic development and competitiveness. To achieve its goals, Plan 4C seeks to engage the public and private sectors and civil society. The on-going implementation plan has faced a number of challenges, including difficulties in prioritizing investments and defining institutional roles, inadequate information and monitoring, and creating integrated strategies.

Diego Javier Enríquez Pabón, the Secretary of Environment for the city of Quito, Ecuador, spoke about how his city has promoted sustainability and climate resilience in its planning. The city is affected by a range of climate change impacts, including temperature change, changes in wind and rainfall patterns, and increased humidity. In order to adapt to these changes, the city has set out a political and institutional framework which includes a detailed assessment of the city's vulnerabilities, focusing mostly on fires, agriculture, health, ecosystems, and enhanced civil society participation. The Quito Climate Action Plan, implemented in 2012 and due to last through 2016, prioritizes access to information, citizen participation, and the use of mitigation and adaptation in strategic sectors. The plan is also concerned with territorial planning and resilient agriculture, and is working in rural as well as urban areas to improve adaptive capacity. Quito is taking an international leadership role on climate change, and will host the 3rd U.N. Habitat Conference (on housing and sustainable development) in 2016.

The city of Bogotá, Colombia, has also been active in regional and urban climate change planning. *Javier Mendoza*, coordinator of the Third National Communication for Colombia

(Tercera Comunicación Nacional de Cambio Climático), was the leader of the PRICC (Plan Regional Integral de Cambio Climático de Bogotá—Cundinamarca), an integrated regional plan to address climate change in the Bogotá capital region and the department of Cundinamarca. This regional approach has focused on strengthening institutions and enhancing inter-agency cooperation, in this case the government of Cundinamarca and the administration in Bogotá have joined together for a territorial approach to climate change. Mendoza noted that while the poorest populations are often cited as most vulnerable to climate change, even in centers of population and economic strength such as Bogotá, climate change is still a major challenge and concrete steps must be taken to create resilient communities. Climate change planning must be incorporated into official planning and an inter-institutional platform of work and knowledge is necessary. In Bogotá, there is a clear institutional commitment, including financial incentives for institutions to join the framework. Nevertheless, translating technical language to make it accessible to decision makers and ensuring that the adaptation strategies are tangible substitutes are ongoing challenges.

During the discussion, the three representatives from urban areas went into greater detail regarding specific adaptation measures, particularly those related to land use management. Some attendees of the seminar asked whether issues of climate change adaptation (impacts, consequences, and coping strategies) have been included in the ongoing peace talks in Colombia—a question that was left unanswered.

### Public-Private Partnerships for the Development of a Climate-Adapted Colombia

ProBogotá, an organization that facilitates dialogue and promotes public policy solutions, is supporting sustainable development and urbanization in Colombia's capital by disseminating information and sound practices that are applicable to the city. María Mercedes Jaramillo, Manager for Urban Development (Gerente de Desarrollo Urbano) for ProBogotá, discussed the organization's initiative aimed at engaging various enterprises based in Bogotá, with the goal of achieving a more compact city in which internal displacement can be reduced, resources used rationally, and risk properly addressed at the same time that natural resources, including soil, are properly managed. While the organization is small, it invites civil society to participate in its working groups on a range of topics: urban planning, employment creation, security, public transport, and mobility and education. ProBogotá is able to coordinate efforts of civil society, businesses, and other member organizations outside the electoral cycle to carry out long-term planning.

Jessica Jacob, Director of Social and Environmental Responsibility brought in the perspective of Findeter (La Financiera del Desarrollo Territorial S.A.), a government financial institution for development projects which was recently re-structured to focus on sustainable, territorial development. Findeter offers both financial and technical products and is currently working on sustainable cities projects in cooperation with the

Inter-American Development Bank in eight municipalities across Colombia: Montería, Valledupar, Pasto, Pereira, Manizales, Cartagena, Barranquilla, and Bucaramanga. The program considers four components in each city: (1) climate change; (2) urbanization; (3) socio-economic conditions; and (4) governance and fiscal management. Jacob offered some specific examples of their work, such as a park in the city of Baranquilla that integrates sustainable rain water management and "auto-irrigation" to reduce vulnerability to precipitation changes, water and energy use, and maintenance needs. Findeter's work in urban areas aims to integrate the understanding of growth trends, services provision, costs, and hazards, including the identification of sectors contributing the most to climate change.

# Advances in Territorial Planning and Climate Change Adaptation in Colombia

Diana Hernández of Colombia's National Planning Department (DNP) discussed the Colombian context for adaptation—both the climate change impacts the country faces and its framework for action. Due to climate change-related weather impacts, Colombia is already experiencing more extreme floods, decreased agricultural production, aquifer salinification, and land loss in low coastal areas. The framework for action aims to build greater understanding and knowledge of risks and opportunities in the face of climate change; plan for development while incorporating climate risks; and reduce the vulnerability of socio-economic and ecological systems. Hernández explained the importance of creating resilient urban systems in Colombia: a large majority (over 75 percent) of Colombia's population lives in urban areas; the country's major cities continue to grow; and these urban centers are the main consumers of goods, water, food, and other resources in the country. In urban areas, DNP is working in small and mediumsized cities to improve transportation and mobility, improve water management, protect green spaces, reduce dependence on single sources for basic services, and construct more sustainable buildings. These efforts are underway in addition to a collection of other national-level climate change mitigation and adaptation strategies, including: the National Adaptation Plan PNACC, Low Carbon Development strategy, the REDD+, and the financial strategy for disasters management.

Tools for planning for resilience to climate change must be based in the public sector but should also incorporate the private sector, according to *Mariana Rojas*, Coordinator for the Adaptation Group at the Ministry of Environment and Sustainable Development (MADS). She emphasized that climate change mitigation and adaptation interventions offer roles for all sectors of society, not just the government or environmental organizations. MADS promotes climate change mainstreaming with the inclusion of climate change in the unified territorial planning agenda (*formulario único territorial*, FUT), directs resources and investment between territories, and permits the continuation of investment in shortand medium-term climate change projects. Rojas outlined new and forthcoming climate change initiatives in Colombia, such as the climate change law proposed in 2014 to be presented to congress in 2016, and the national climate change policy, also proposed

in 2014 and currently under discussion. Rojas discussed potential, sector-specific opportunities for adaptation—which may benefit both businesses and communities.

#### **Linking Population, Climate Change, and Territorial Planning**

Sandeep Bathala, Senior Associate from the Maternal Health Initiative at the Wilson Center, discussed the interplay between climate change adaptation and population dynamics, particularly urbanization. Bathala highlighted the interactions between climate, development, health, security, population, and livelihoods, stressing that climate vulnerability is not static and is impacted by population dynamics, including population growth, urbanization, population distribution, and age structure. Population patterns can have an important impact on adaptive capacity—migration, for example, can be seen as both a consequence of climate change and a tool for climate change adaptation. As part of the planning process, decision makers should incorporate climate change and population dynamics concerns. As populations concentrate in more urban areas, municipalities need to plan for a variety of services and infrastructure to create resilient communities. Women are an especially vulnerable group in many ways, but access to education and voluntary family planning services are additional tools for empowering women to help building resilient families and communities. During the discussion, the audience highlighted an additional challenge in the Colombian context, having to do with the existing and future impacts of people internally displaced by conflict and violence.

#### **Conclusions**

Government and civil society organizations have made important strides in planning for climate change adaptation, and involving the private sector is a crucial aspect of sustainability. As private sector participants demonstrated, companies in Colombia as well as in other parts of the world are beginning to invest in adaptation and resilience measures, based on the realization that climate change impacts should considered at the outset of productive project development. Political will remains a major challenge for adaptation projects at all levels, coupled with deficits in the availability of accurate information, technical capacity, and inter-institutional cooperation. Nevertheless, Colombia has made notable advances in adaptation, on the territorial management side through strategic thinking, planning, and cross-sector integration, and on the urban side through innovative approaches adopted by large enterprises based in Bogotá.

## WOODROW WILSON INTERNATIONAL CENTER FOR SCHOLARS Jane Harman, President, Director, and CEO

#### **BOARD OF TRUSTEES**

Thomas R. Nides, Chairman

Public Members: William Adams, Chairman, National Endowment for the Humanities; Sylvia Mathews Burwell, Secretary, U.S. Department of Health and Human Services; Arne Duncan, Secretary, U.S. Department of Education; David Ferriero, Archivist of the United States; John F. Kerry, Secretary, U.S. Department of State; David Mao, Acting Librarian of Congress; David Skorton, Secretary, Smithsonian Institution

## Designated Appointee of the President from within the Federal Government:

Fred P. Hochberg, Chairman and President, Export-Import Bank

Private Citizen Members: Peter Beshar, John T. Casteen III, Thelma Duggin, Lt. Gen. Susan Helms, USAF (Ret.), Barry S. Jackson, Nathalie Rayes, Earl W. Stafford, Jane Watson Stetson

#### Wilson National Cabinet:

Ambassador Joseph B. Gildenhorn & Alma Gildenhorn, Co-Chairs

Eddie & Sylvia Brown, Dr. Armeane Choksi & Mary Choksi, Ambassadors Sue & Chuck Cobb, Lester Crown, Thelma Duggin, Judi Flom, Sander R. Gerber, Harman Family Foundation, Frank F. Islam, Willem Kooyker, Raymond Learsy, Frederic & Marlene Malek, Linda B. & Tobia G. Mercuro, Thomas R. Nides, Nathalie Rayes, Wayne Rogers, B. Francis Saul II, Diana Davis Spencer, Jane Watson Stetson, Leo Zickler

THE WOODROW WILSON INTERNATIONAL CENTER FOR SCHOLARS, established by Congress in 1968 and headquartered in Washington, D.C., is a living national memorial to President Wilson. The Center's mission is to commemorate the ideals and concerns of Woodrow Wilson by providing a link between the worlds of ideas and policy, while fostering research, study, discussion, and collaboration among a broad spectrum of individuals concerned with policy and scholarship in national and international affairs. Supported by public and private funds, the Center is a nonpartisan institution engaged in the study of national and world affairs. It establishes and maintains a neutral forum for free, open, and informed dialogue. Conclusions or opinions expressed in Center publications and programs are those of the authors and speakers and do not necessarily reflect the views of the Center staff, fellows, trustees, advisory groups, or any individuals or organizations that provide financial support to the Center.

ONE WOODROW WILSON PLAZA, 1300 PENNSYLVANIA AVENUE, NW, WASHINGTON, DC 20004-3027



SMITHSONIAN INSTITUTION
OFFICIAL BUSINESS
300\$.PENALTY FOR PRIVATE USE

Presorted First Class Mail Postage and Fees Paid Smithsonian Institution

G-94