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Institutional Capacity for Climate Change Responses in Cities

Colloquium on Governance and Knowledge Integration at the Science-Policy Interface

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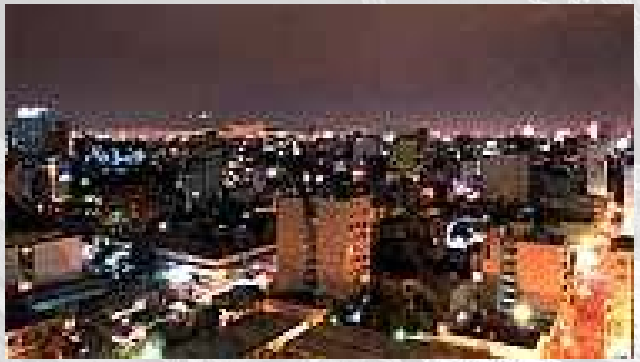
ADAPTE

How local authorities in Mexico City manage global warming?

- Historical/current centralization and fragmentation
- City managed by 3 state-, 60 municipal authorities and federal agencies
- Metropolitan commissions have not created much coordination thus far

How local authorities in Mexico City manage global warming?

- Local authorities “localized” global warming
- Institutional capacity (lack of resources, cooperation culture & power)
- Legal regime (no stable & clear rules)
- “Decentralization”
- Deregulation of public transportation



Why Santiago Chile and Mexico City?

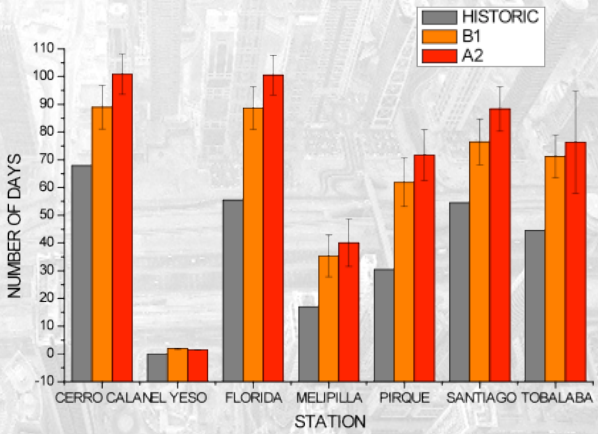
Climate and Environmental Change

Temperature increases

Changes in precipitation

Heat waves

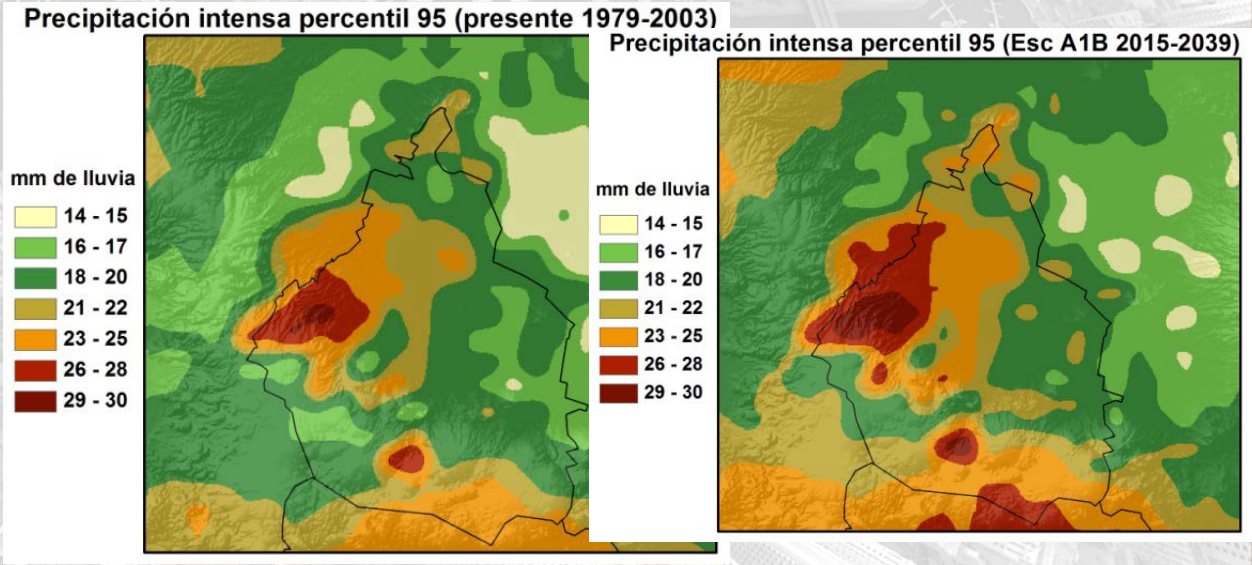
Droughts, floods



Santiago: Extreme temperatures (2045-2065)

McPhee, et al. 2011

Mexico City: Precipitation



Magana, 2011

Why Santiago Chile & Mexico City?

- Both share similar urbanization processes, reforms, and urban and environmental policies
  - E.g., due to population growth alone
    - Mexico City: 2007- 2030 available water per capita will diminish by 11.2% and in Santiago by 20.3 % per capita between 2005 - 2025
- Presence of scientific groups and multinational networks is key
- Yet differences also exist
  - Mexico City is a frontrunner
  - Santiago is a laggard

Why institutional response capacity?

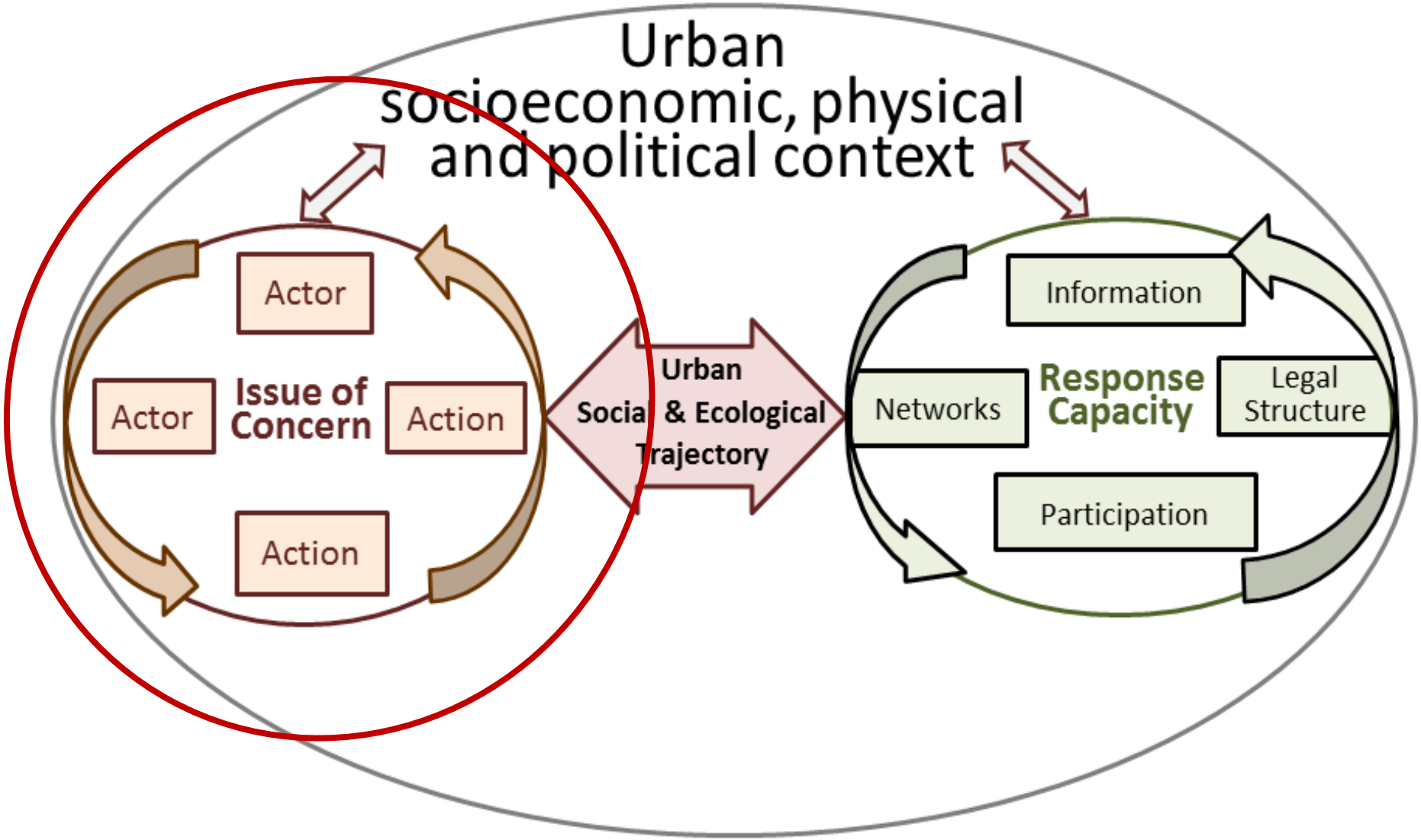
- Capacity for change has received increasing attention
- Scholarship has mostly focused on
  - Motivations & barriers to adaptation
  - Attributes of institutional capacity
- Yet, Frameworks distinguish between adaptive and mitigative capacity
- Response capacity, an alternative, refers to
  - the broad pool of resources governmental and nongovernmental actors can use to reduce greenhouse gases and respond to climate variability and change (Burch and Robinson 2007)

Methods: Qualitative analysis

1. Interviews with Government (City, State, National), Academics, and NGOs/Community organizers
   a) 18 in Mexico City
   b) 22 in Santiago

2. Common coding scheme in Nvivo, network analysis software (UCINet).
3. Supplemented with government reports and academic studies

Unpacking institutional response capacity, a framework



Source: Romero-Lankao, Hughes, Rosas-Huerta, Borquez, Gnatz (2013)

Climate-relevant planning actions

Mexico City

National System of Civil Protection (1982)

To prevent and reduce

- Life loses
- Property damage
- Other impacts

National Disaster Fund (1996)

Ministry of Finance administers resources for disaster reconstruction

City Climate Strategy (2000)

- Emissions inventory
- Emissions scenarios
- Synergies between air pollution and climate change

City Climate Action Plan (2008) and its Regulation (2012)

- Mitigation of 7 Million tons by 2012
- 26 mitigation actions in energy, transport and waste (94.3% of budget)
- 8 adaptation actions (5.1% of budget)
- Integrated adaptation actions by 2012

City Climate Law (2010)

Inter-agency commission

- Climate change fund
- Regulation of GHG emissions
- Taxes and financial incentives
- Carbon market

National Climate Law (2012)

- Reduce GHG emissions by 30% in 2020 and by 50% in 2050
- Define climate role of tiers of government (e.g., D.F.)
- Acknowledge cities' climate role

Santiago

Both cities at different stages of climate change planning

Civil Protection National Plan (2002)

- Decentralize
- Enhance participation
- Assess risks
- Create emergency plan guidelines

National Climate Plan (2008)

- Adapt
- Reduce GHG emissions
- Foster capacities

Climate Adaptation Santiago (2009-2012)

Identify:

- Expected climatic changes - Impacts on energy, LUC, water, social vulnerability
- Adaptive measures

Regional Adaptation Plan for the Metropolitan Region of Santiago

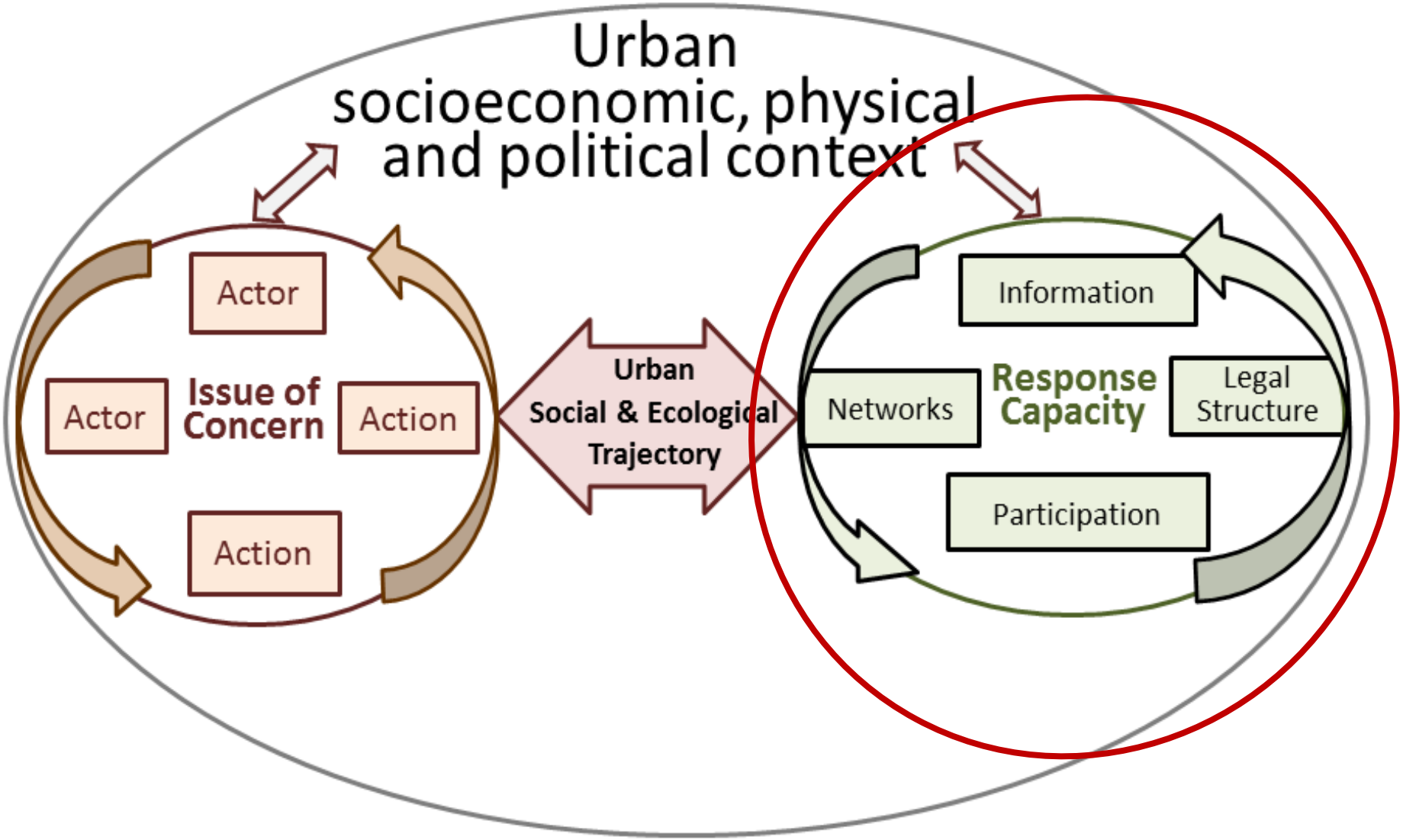
(to be launched)

National Agency of Civil Protection

(to be passed)

time

Unpacking institutional response capacity, a framework



Source: Romero-Lankao, Hughes, Rosas-Huerta, Borquez, Gnatz (2013)

Administrative Structures and *Networks*

- Mexico City

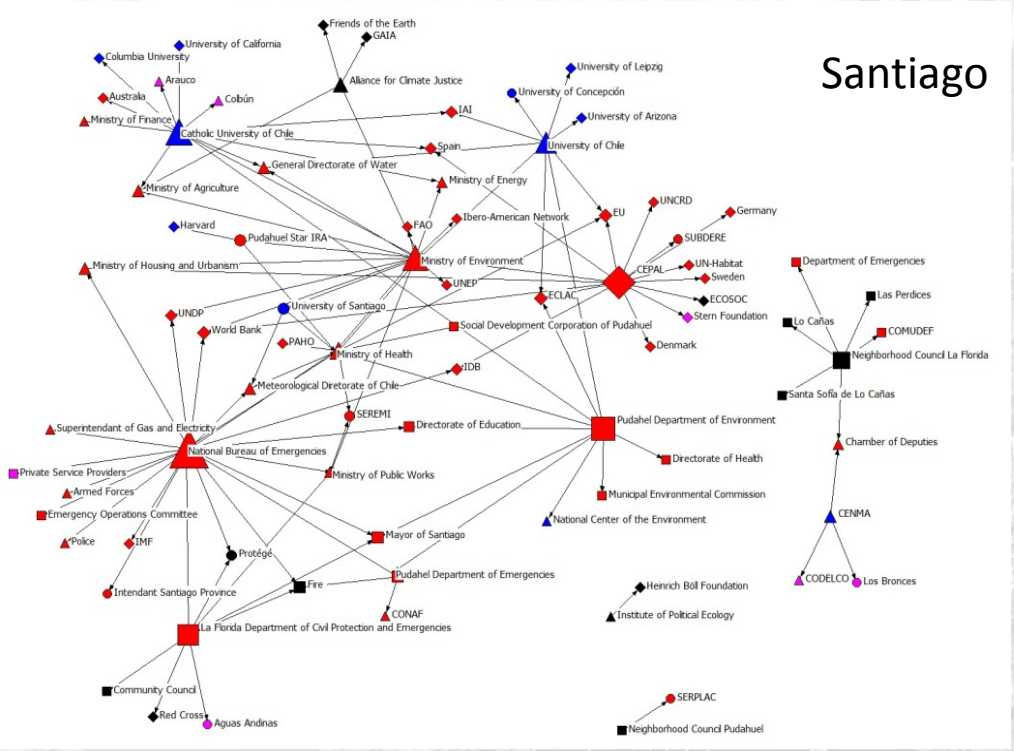
- Local (16 delegations), State (35 municipalities), and Federal authority
- Term limits and political tension
- Climate plan only for FD

- Santiago

- Local (52 communes), and Federal authority
- Term limits and single-party rule

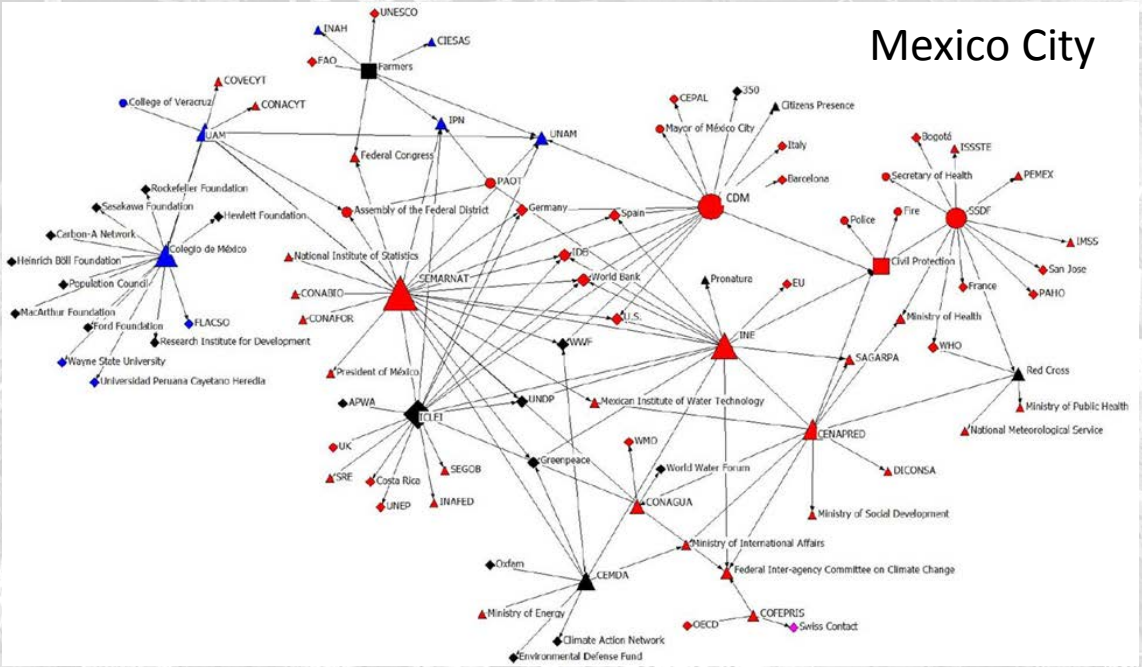
Environmental authorities

- don’t interact as frequently with health & energy,
- don’t interact at all with housing, urban development, transportation)



Cities working networks; the size of nodes is proportional to the number of respondents reporting to work with that actor. Mexico City exhibits a relatively more integrated network.

Centralized yet fragmented administrative structure



Use of Information

Mexico City

- Virtual Climate Change Center
- Top-down due to perceived lack of local capacity
- Want information on climate scenarios

Santiago

- Early stages of generation
- Top-down due to perceived lack of local capacity
- Want information on local impacts and adaptation responses

Legal framework

Mexico City

- Tension between urban growth and conservation

Santiago

- Relatively more open promotion of urban growth

- Urban authorities are responsible for:
  - diverse climate-relevant non-regulatory services such as water and sanitation
  - land use and zoning
- Flexibility a challenge, even during disasters
- Longer-term (reactive) tradition of disaster management

Participation

Mexico City

- Authoritarian political culture (70 years PRI gov.)

Santiago

- Authoritarian political culture (Pinochet dictatorship, techno neoliberalism)

- Mechanisms in place tend to be technocratic and paternalistic
- Consultations, pamphlets and guidelines
- Perceptions on this are mixed
- Yet participation in civil protection and disaster management is more common

Opportunities

- Leadership (and political ambition)
- For Mexico City institutionalization of climate into planning
- Presence of
  - Influential scientific groups
  - Non-governmental and international organizations
  - Participation of local authorities in transnational networks
- Longer-term tradition of disaster management (although reactive)

Constraints

- Centralized yet fragmented administrative structure inhibits effective coordination
- Technocratic and top-down approach to information sharing inhibits learning and informed policy making at the city level
- Limited existing mechanisms for participation in decision making transfer to climate change planning
- Economic policies and efficiency dominate

Thank you!

Urban Futures at RAL, NCAR