



Understanding Barriers and Drivers for Urban Climate Adaptation

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OUTLINE

- Introduction
- Framework
- Empirical Approach
- Empirical Results
- Conclusion

WHY ARE CLIMATE IMPACTS PARTICULARLY CHALLENGING IN CITIES?

- High quantity and density of population
 - High value of infrastructure investments
 - Concentration of administrative, economic and social functions
 - Urban-specific land use patterns (e.g., high degree of surface sealing)
 - Strong urban-rural interlinkages (e.g., for food and water supply)
- ➔ Urgent need for adaptation action



RESEARCH FOCUS

- Empirical findings for urban areas (e.g., Betsill/Bulkeley 2007, Hunt/Watkiss 2011):
 - Climate-related strategies and action still in their infancy
 - Strong focus on mitigation
- Research question:
 - What are barriers and drivers for planned adaptation in cities?

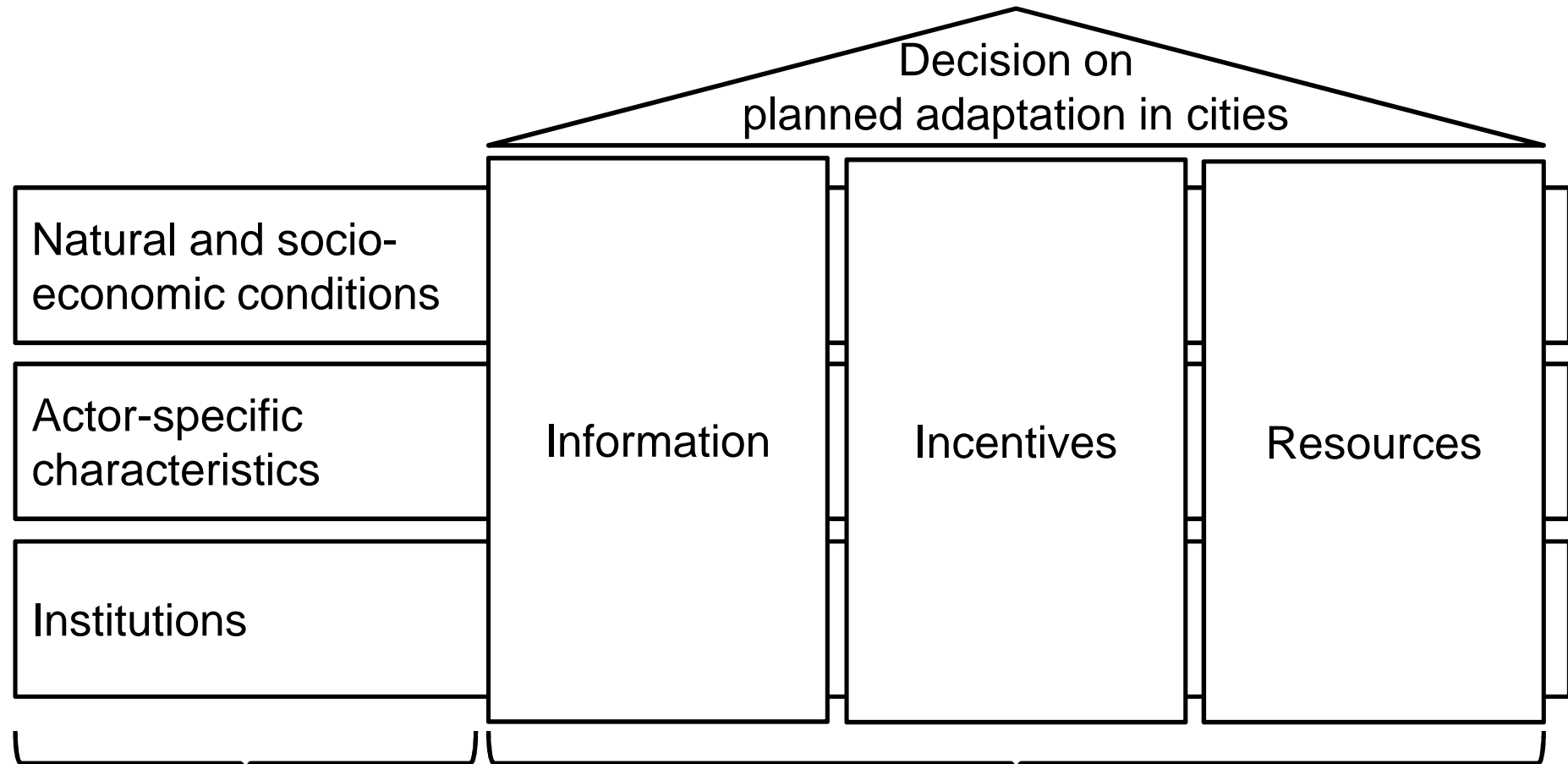
■ Hampering or promoting characteristics of the different variables influencing planned adaptation

■ Deliberative policy decisions to increase adaptive capacity (Parry et al. 2007)

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RELEVANT VARIABLES



Similar to Moser/Ekstrom 2010,
Reser/Swim 2011

Similar to Eisenack/Stecker 2011

Introduction

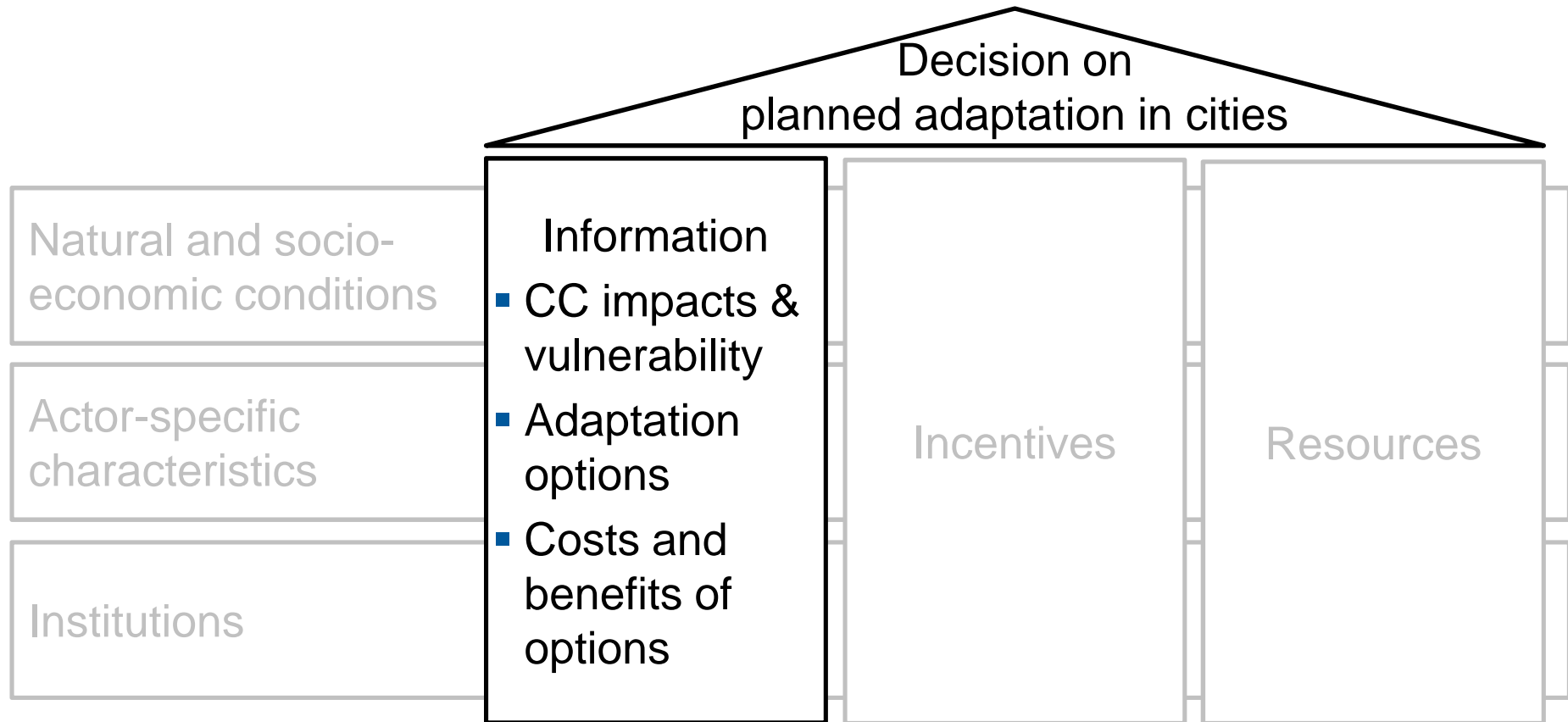
Framework

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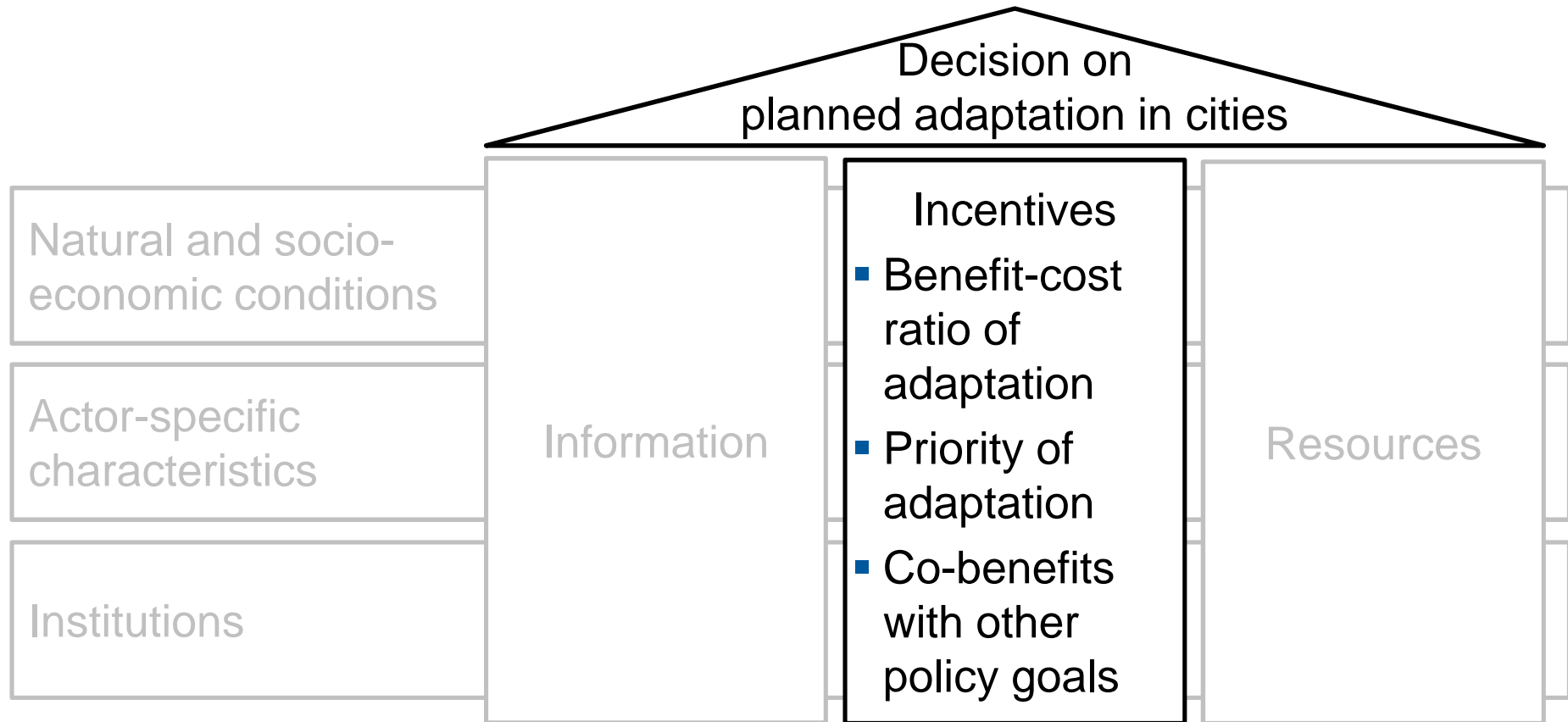
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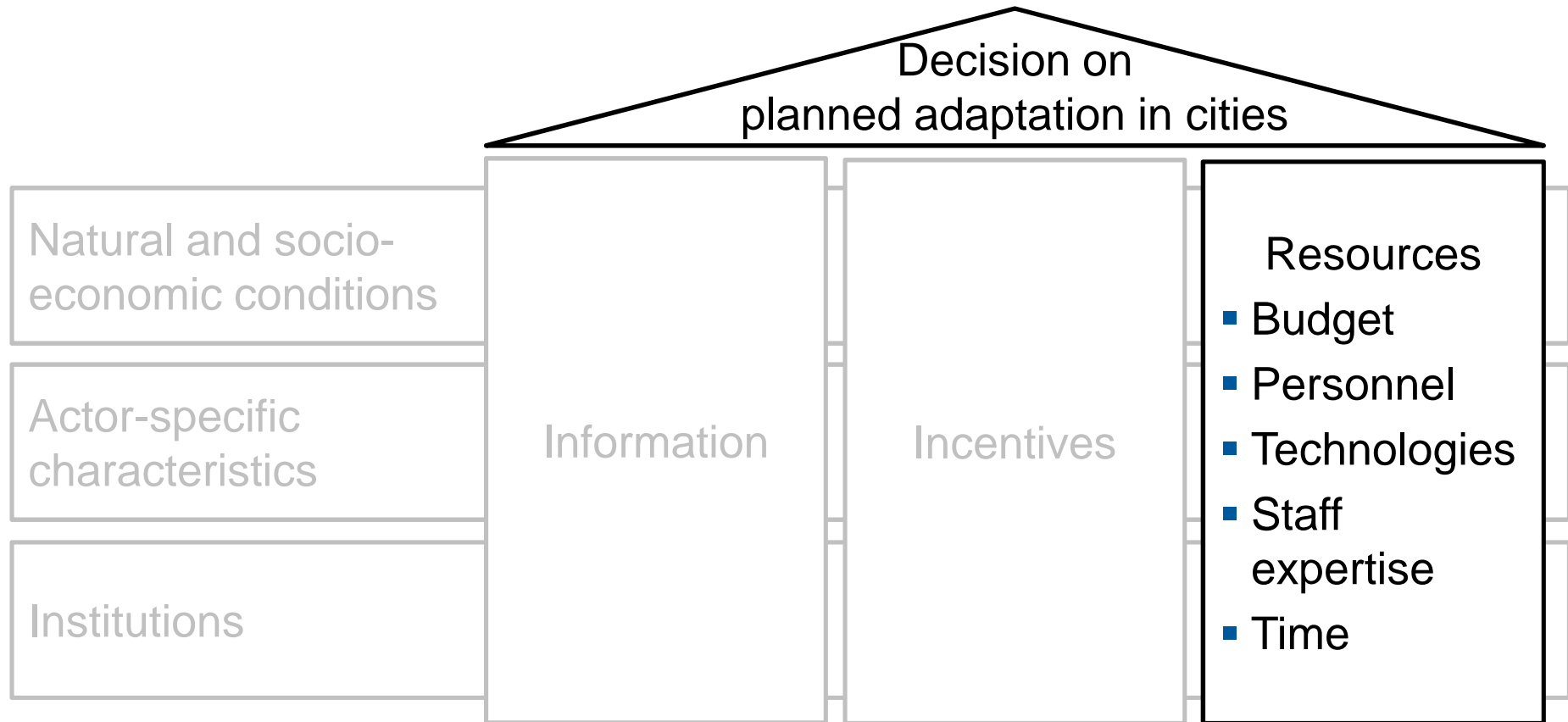
DETERMINANTS OF ADAPTATION DECISIONS



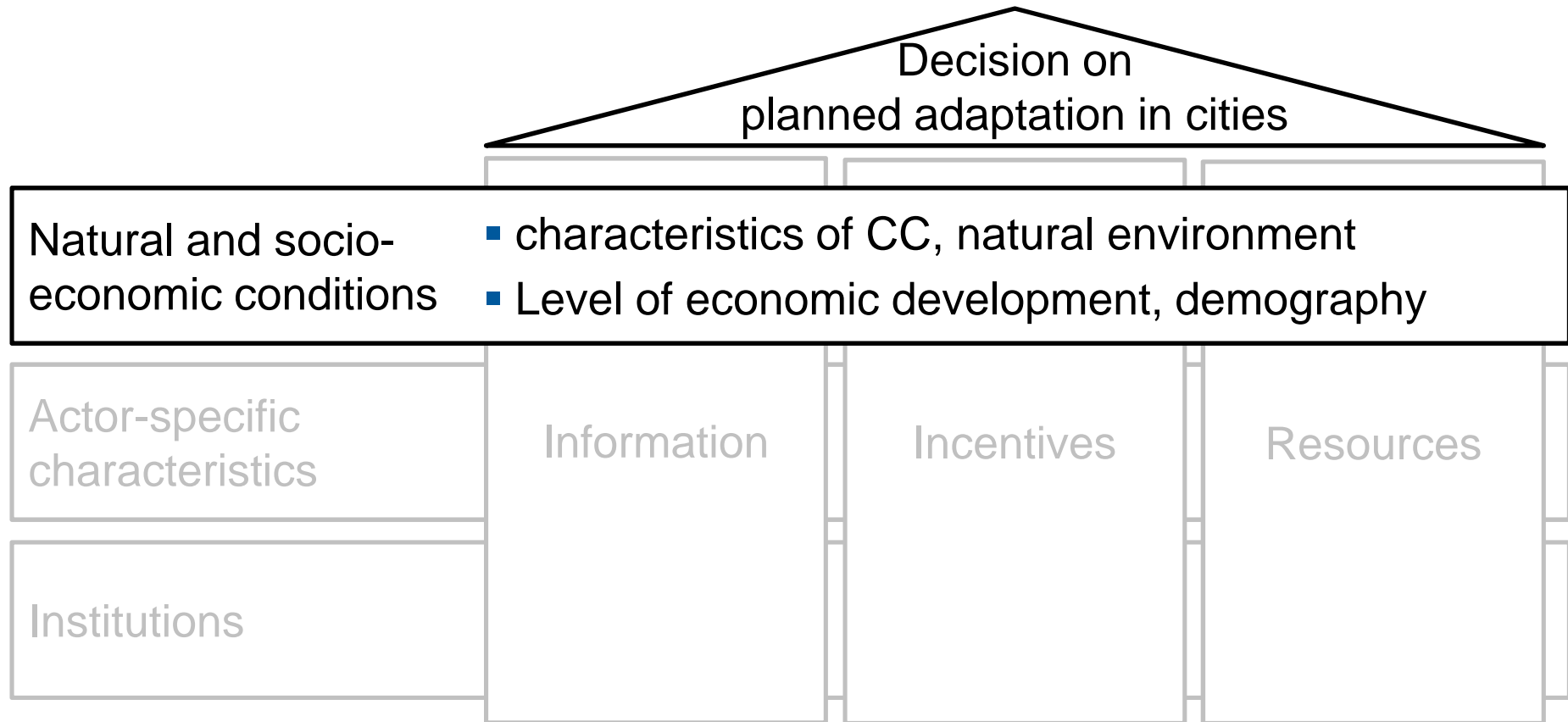
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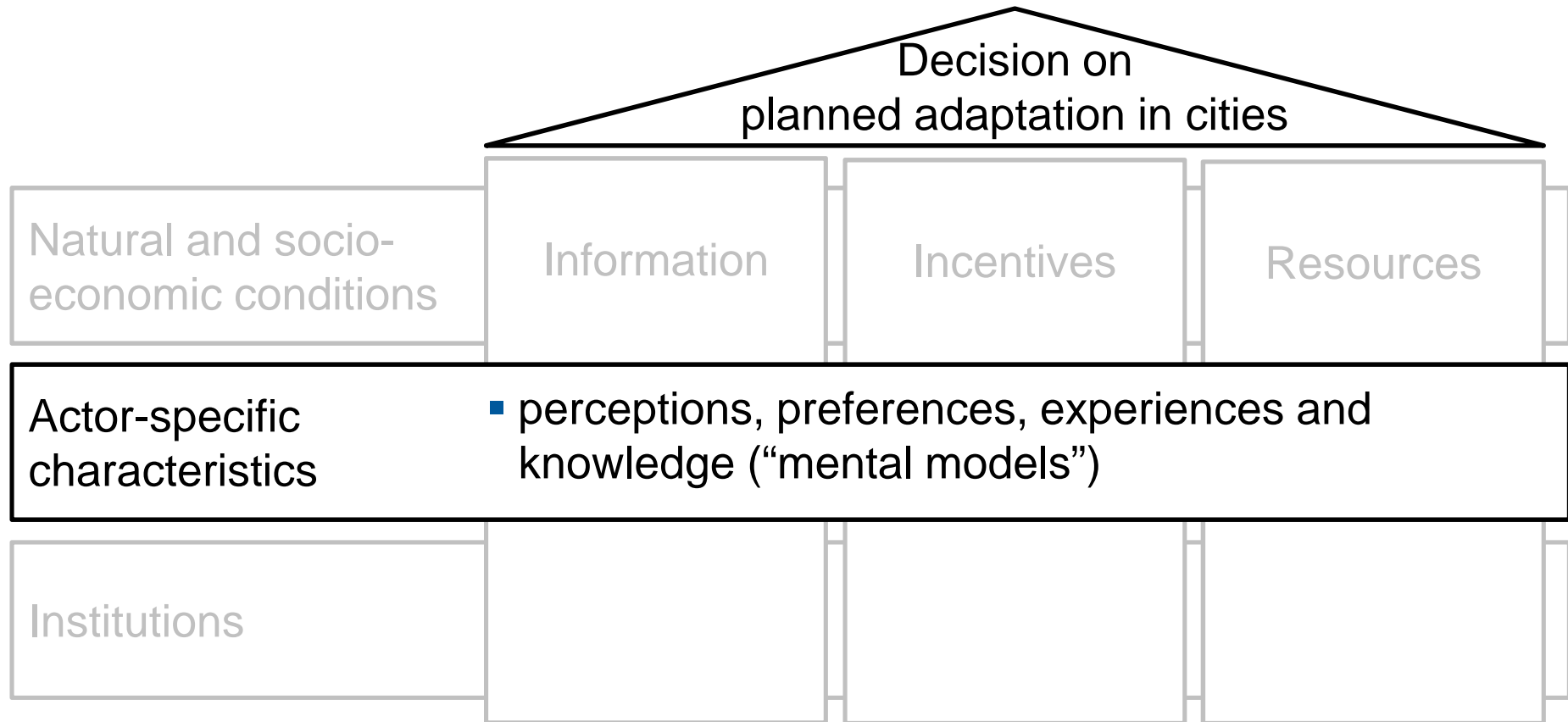
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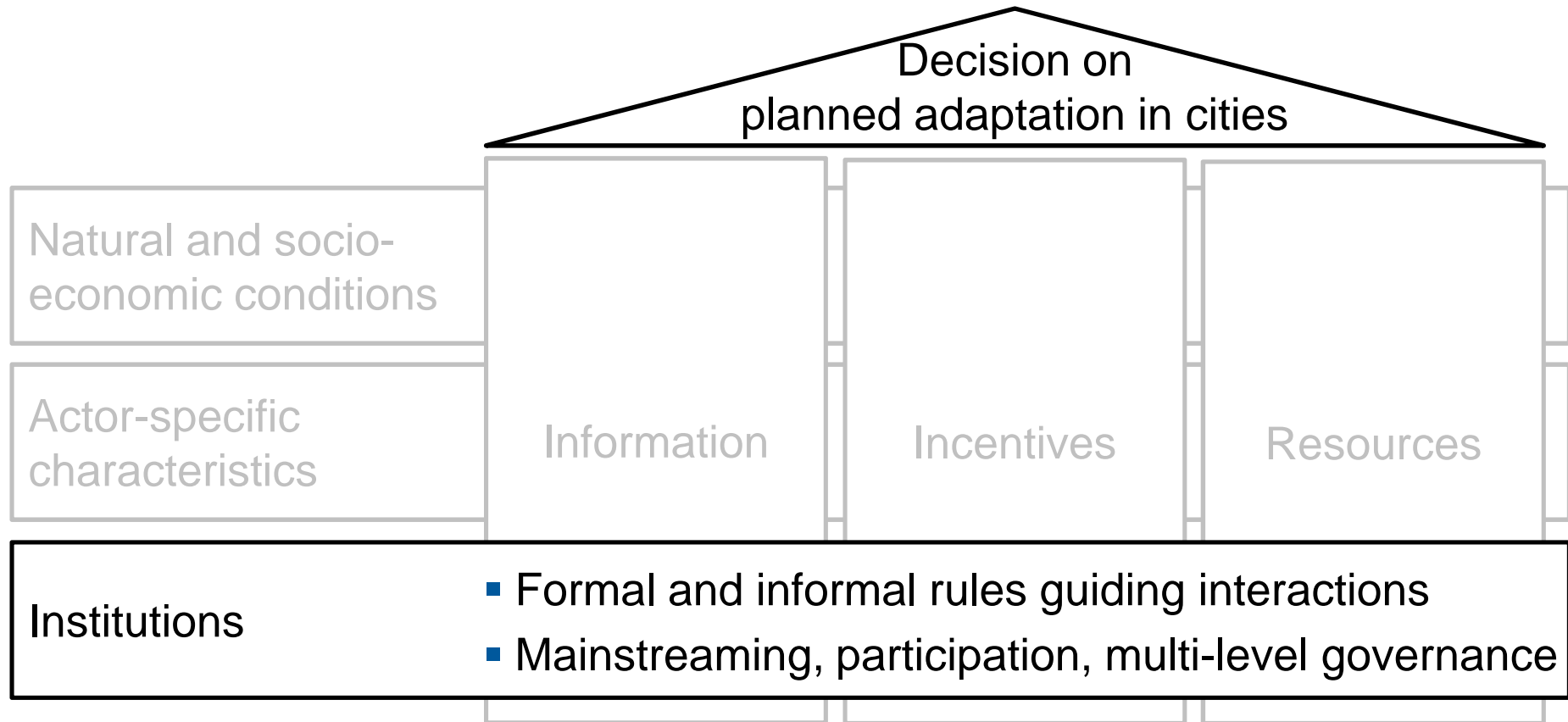
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CASE STUDY CITIES

Selection criteria:

1. Function
 2. Size
 3. Population dynamics
 4. Economic Development
 5. Stage of adaptation planning
- Deliberately heterogeneous sample

Lima (L)

1. National capital
2. Megacity
3. Fast growing
4. Developing economy
5. Planning initiated

Santiago de Chile (S)

1. National capital
2. Large city
3. Growing
4. Emerging economy
5. Planning advanced

Berlin (B)

1. National capital
2. Large city
3. Stable
4. Developed economy
5. Plan adopted

Sangerhausen (SGH)

1. Model city
2. Small town
3. Shrinking
4. Developed economy
5. Planning completed

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INTERVIEWS

- Semi-structured interviews with experts from
 - Administration
 - Politics
 - NGOs
 - Science

Lima	Santiago	Berlin	Sangerhausen
11	7	5	10

- ➔ Not representative, rather meant to provide anecdotal evidence, test the framework

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INCENTIVES

Natural/socio-economic conditions

Actors' characteristics

Institutions

Barriers

- Irregular observability of climate impacts (L,SGH)
- Long time scales of impacts (L,SGH)
- High priority of other public concerns (L,S)

- Insufficient willingness to take responsibility (S)

- Lacking political mandate for adaptation from higher administrative levels (S,SGH)
- Lacking coordination between urban and rural areas (L,S)
- Organizational routines (L,S,SGH)

Drivers

- Co-benefits with other public concerns (B)

- High personal priority of adaptation (L,B), e.g. due to NGO background (L)

- First legal requirements (L,B,SGH)
- Financial assistance programs contingent on adoption of climate policies (L,S,B,SGH)

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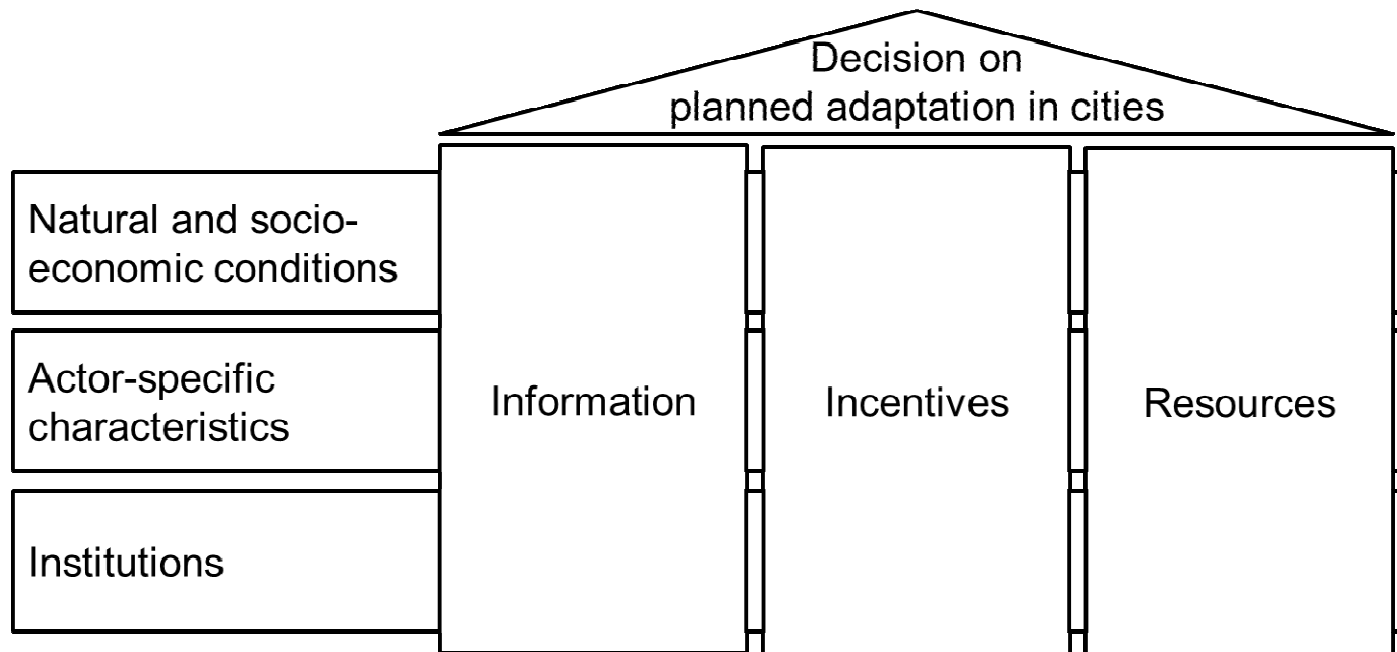
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SUITABILITY OF FRAMEWORK



→ Framework useful to understand barriers and drivers for planned urban adaptation in quite heterogeneous contexts

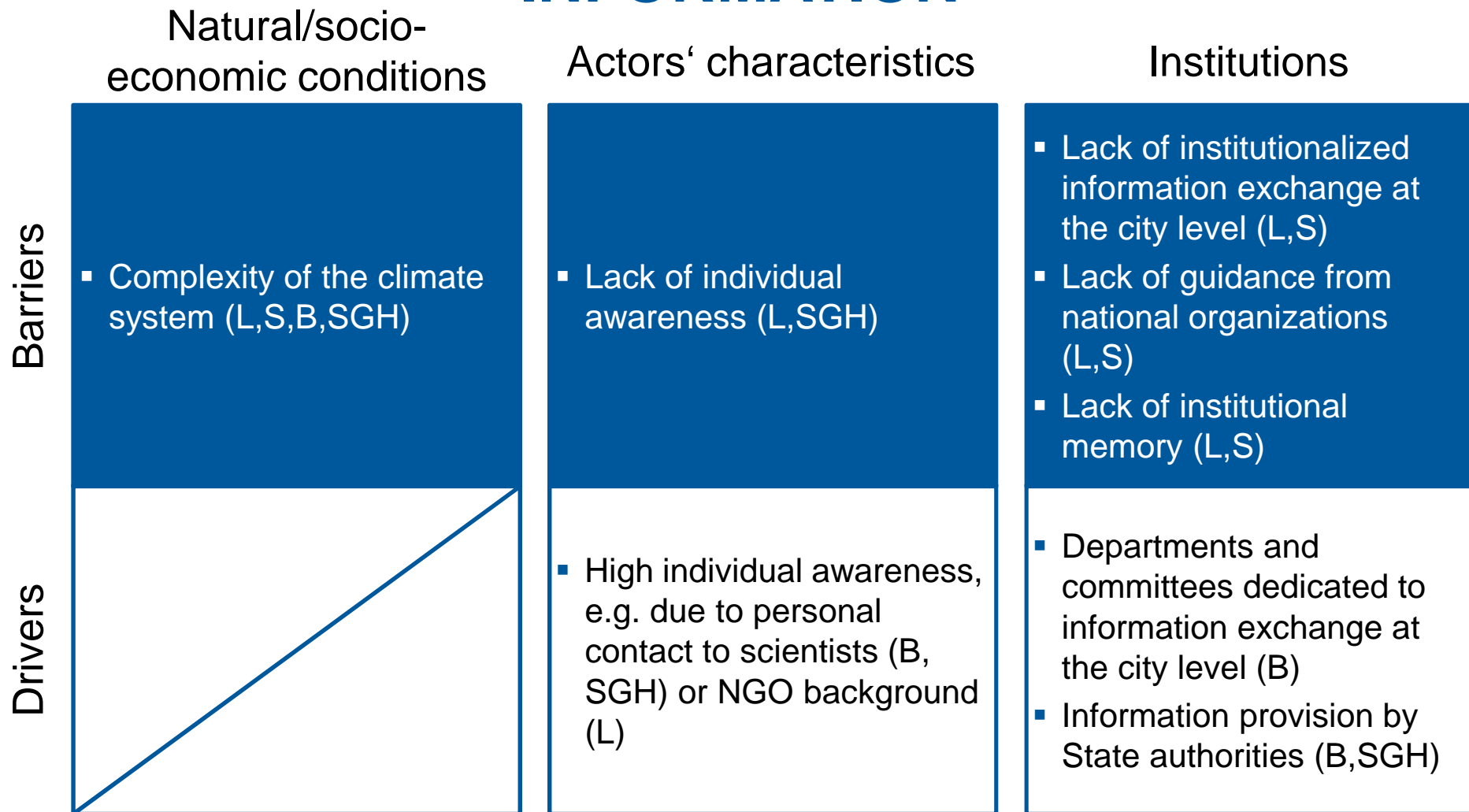
IMPORTANT EMPIRICAL LESSONS

- Natural and socio-economic conditions usually constrain information, incentives and resources.
- Actor-specific characteristics are particularly decisive for the perception of information and individual willingness to take action.
- Several institutional issues:
 - Mainstreaming is insufficient in most cases.
 - Cross-sectoral coordination is a challenge.
 - Strong guidance from state and national levels is needed.
 - Participation is slowly gaining importance.
- Spatial and temporal fit of the natural conditions and the institutional arrangements is essential.



Thank you for your attention!

INFORMATION



RESOURCES

Natural/socio-economic conditions

Actors' characteristics

Institutions

Barriers

- General budget constraints (L,S,B,SGH)
- High priority of other public concerns (L,S,SGH)

Drivers

- Poorly developed fiscal federalism (S)
- Overlapping competences of governance levels (L,S)
- Insufficient institutional embeddedness of adaptation (L,S,SGH)
- Coordination by environm. department (L)
- Well-renowned coordinating unit (B)
- Financial support for adaptation planning (L,B,SGH)
- Participation of science (L,SGH), business (B)

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