Building Regulation for Resilience In Low and Middle-Income Countries

The Contribution of Experience

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Challenges

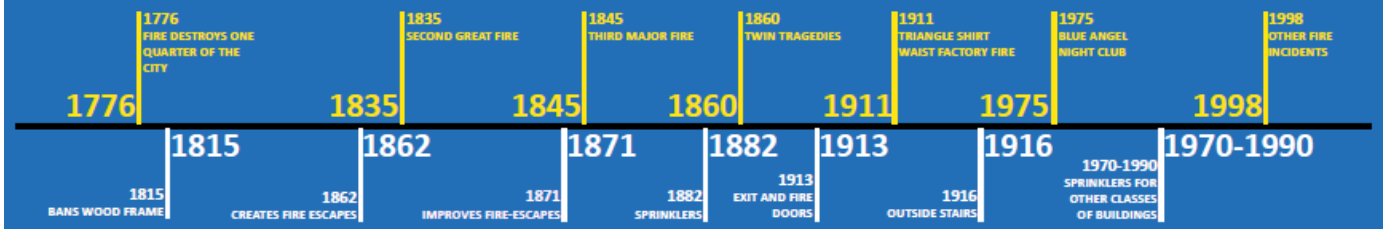
- Urbanization
- Globalization
- Climate Change
- Complexity and Interdependency

What Has Worked ?

- Urban Conditions of 19th Century
- Protection of Public Health Safety and Welfare
- Evolutionary Process
- Regulatory Ecology

FIRE EVENTS AND REGULATORY RESPONSE IN NEW YORK (1776- 2000)

MAJOR FIRE EVENTS IN NEW YORK CITY



BUILDING CODE RESPONSE

A Tale of Two Cities:
The Paso Robles and Bam earthquakes of December 2003

- Paso Robles, Calif.
- Population: 30,000
- December 23, 2003
- 6.5 Richter
- 2 died
- 46 buildings damaged

- Buildings were code compliant

- Designed and built by qualified professionals

- Bam, Iran
- Population: 40,000
- December 23, 2003
- 6.5 Richter
- Over 30,000 died
- 85 percent of the city destroyed

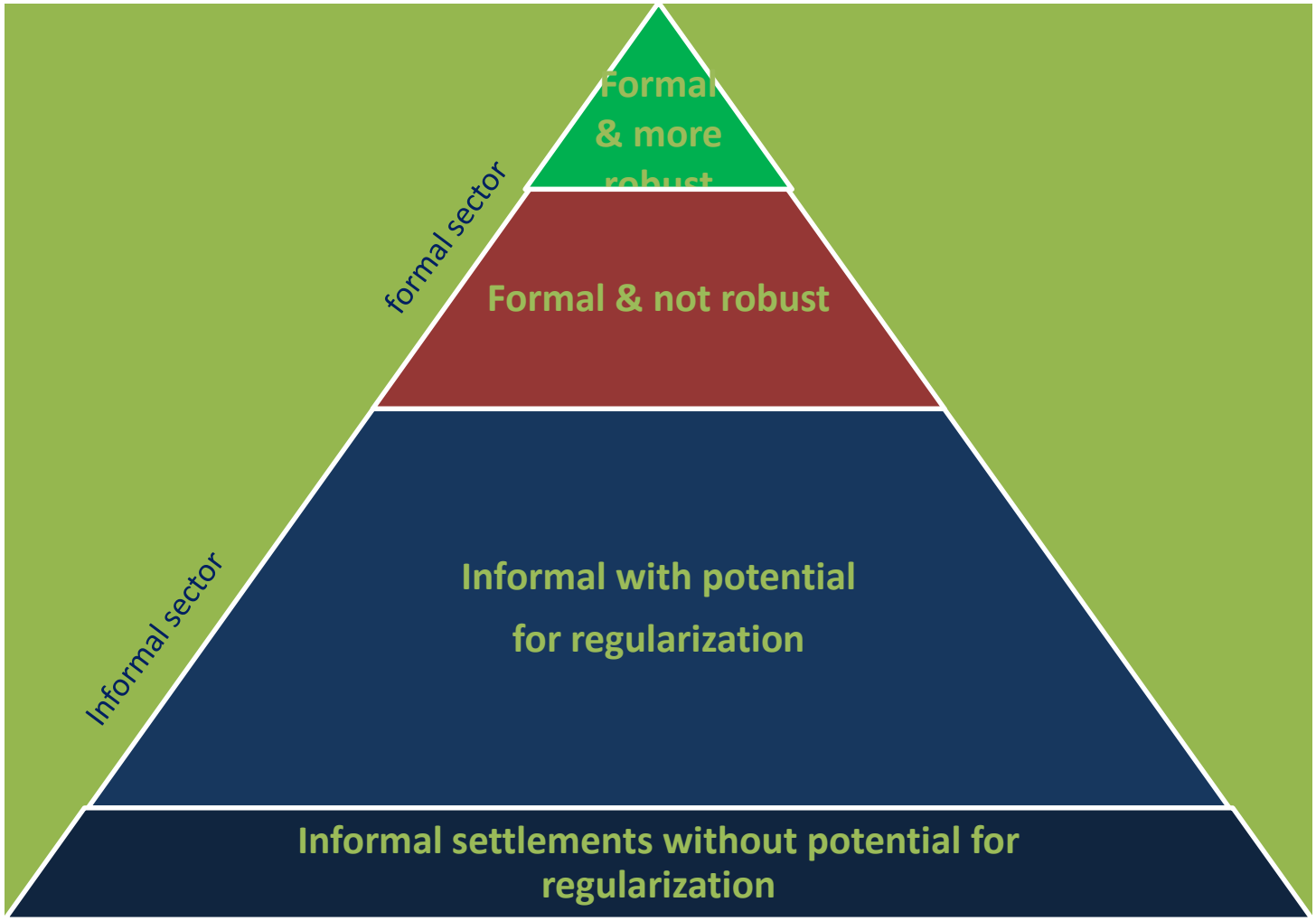
- Buildings were not code compliant

- Informal buildings

Implementation Failure

- Poverty
- Ignorance
- Corruption
- Inept Transfer of Practice
- Washington Consensus

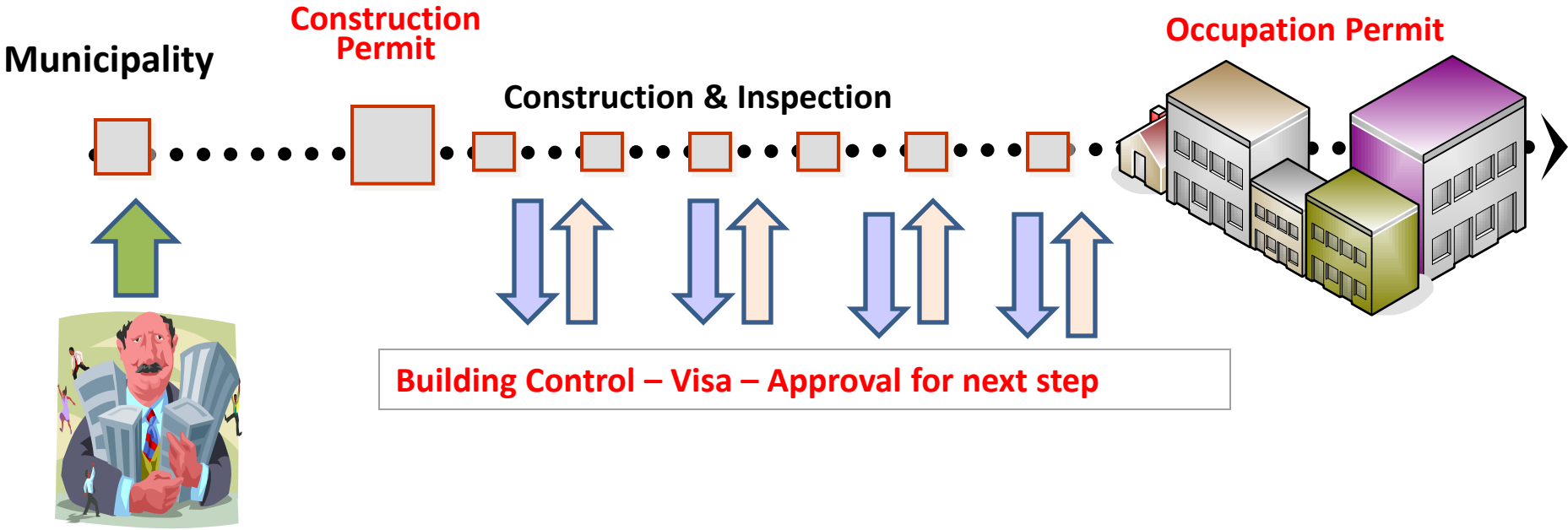
Formal and informal buildings in developing countries: a market segmentation



Reconsideration and Innovation

- Locally Based
- Participatory Process
- Include Non-engineered Structures
- Support for Compliance
- Benefits of Formal & Efficiency of Informal
- Mobilize Private Sector
- Inspect and Enforce

Building Permit Issuance Stages



Effective Codes:

1. They are developed through an open and participatory process

2. The risk reduction measures are affordable and consistent with local capabilities.

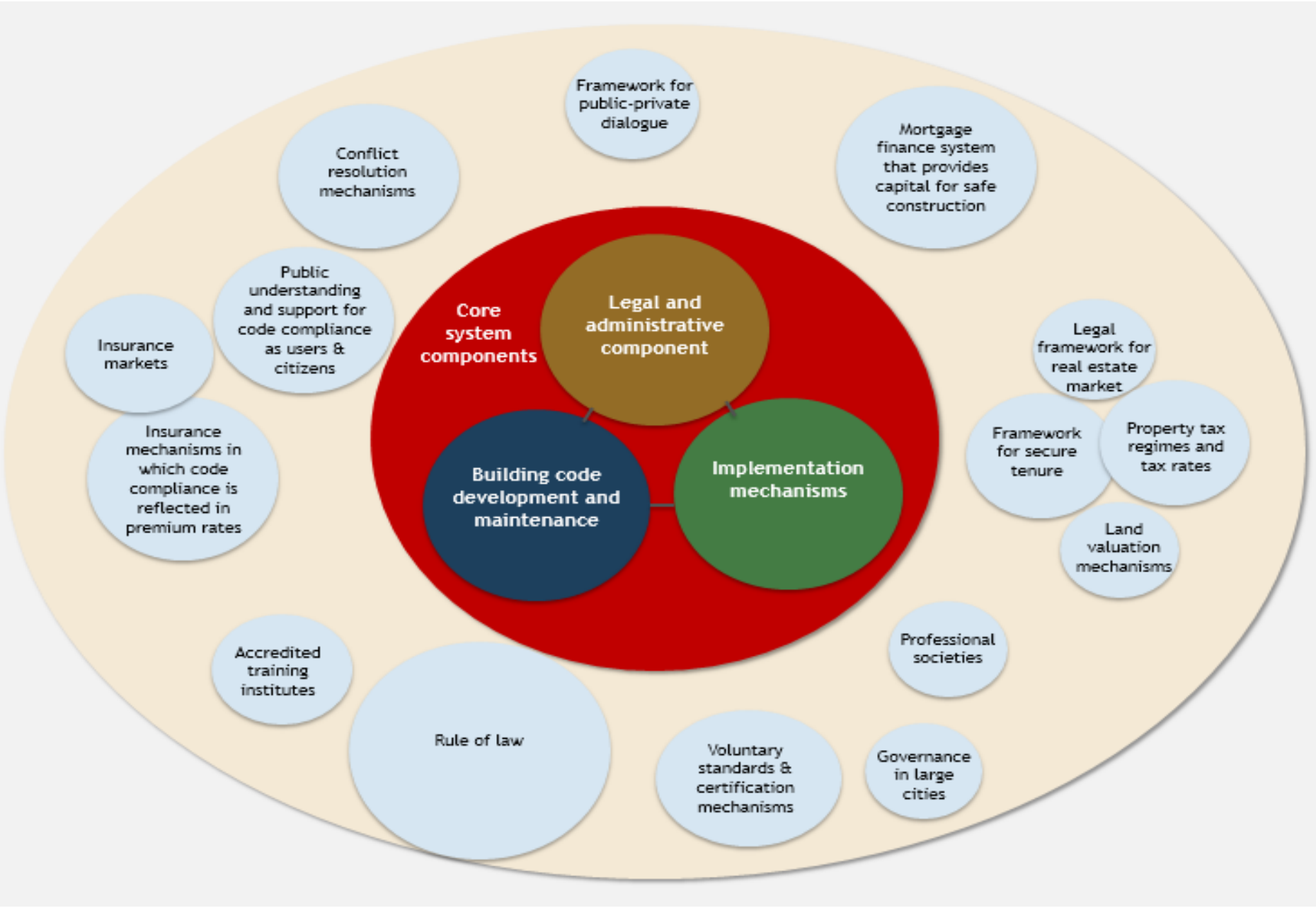
3. They encompass non-engineered construction to support gradual improvements in quality and safety.

4. They establish a proportional response to risk through hazard maps and occupancy importance factors

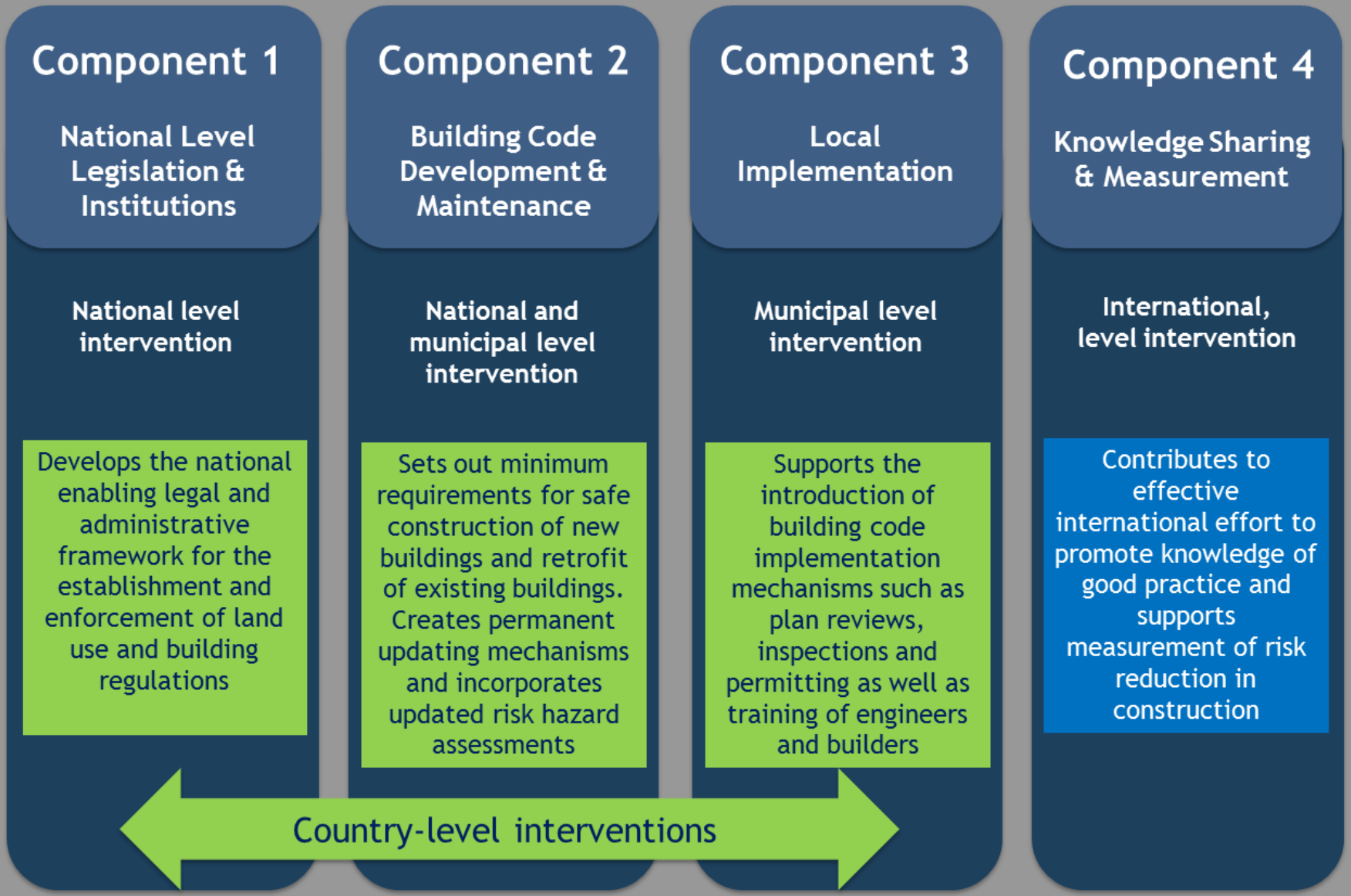
5. They allow alternative compliance solutions to support innovation or traditional practices that meet safety requirements.

6. They are accessible, clear, and understandable for building practitioners.

7. They are regularly updated to reflect changes in surrounding circumstances such as new building technology and materials, emerging risks, and evolving economic conditions.


Framework for public-private dialogue
Conflict resolution mechanisms
Mortgage finance system that provides capital for safe construction
Public understanding and support for code compliance as users & citizens
Insurance markets
Core system components
Legal and administrative component
Legal framework for real estate market
Framework for secure tenure
Property tax regimes and tax rates
Land valuation mechanisms
Insurance mechanisms in which code compliance is reflected in premium rates
Building code development and maintenance
Implementation mechanisms
Accredited training institutes
Professional societies
Rule of law
Voluntary standards & certification mechanisms
Governance in large cities

Building & Land Use Implementation Program



Establish a Sound Legislative and Administrative Foundation at the National Level

Develop Building Code Suitable to Local Social and Economic Conditions that Facilitate Safe Use of Local Building Materials and Practices

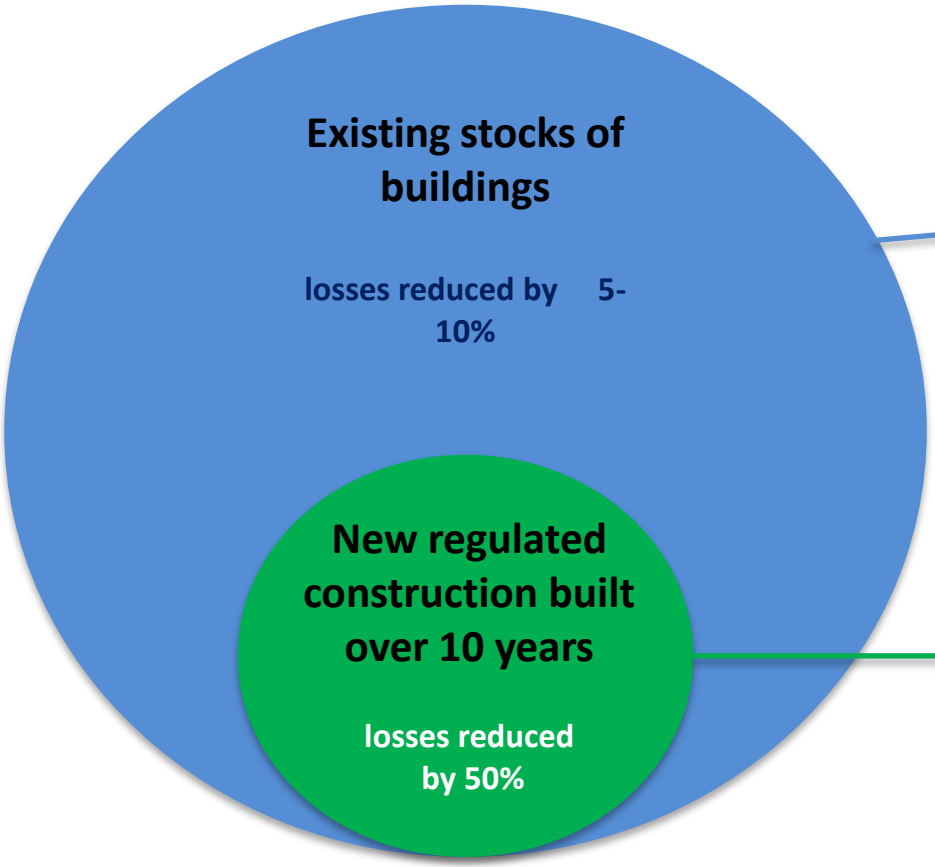
Strengthen Implementation of Building Code Through Plan Review, Site Inspection and Permitting at the Local Level

Provide Advisory Services to Support Code Compliance in Additions to Inspection and Enforcement

Take Advantage of Opportunities for Regulatory Intervention

Clearly Identify Hazards Zones and Restrict Development According to Exposure

Advance Supporting Institutions



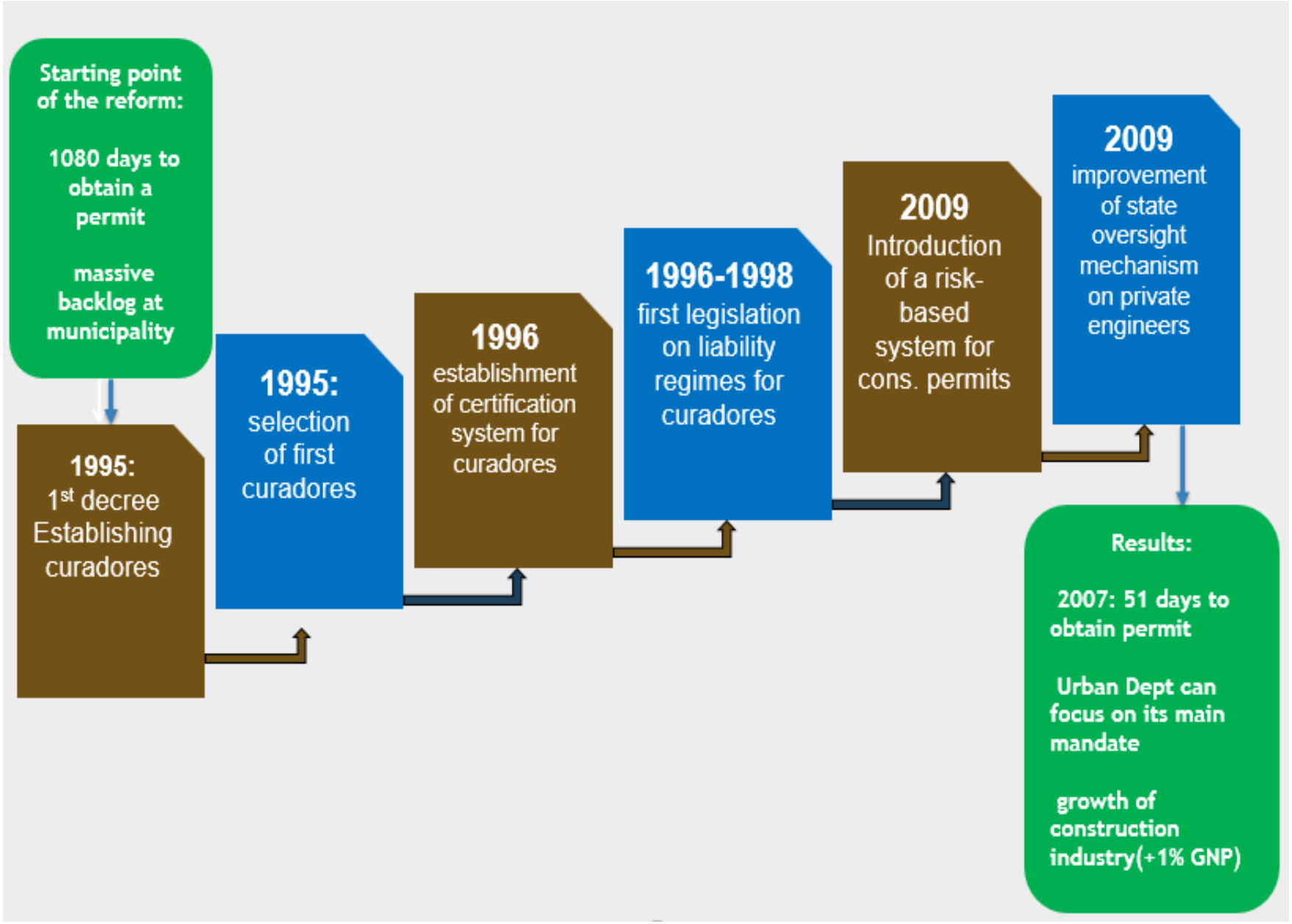
Existing stocks
Loss reduction of 5-10%

Some effective actions can be initiated with existing construction, but it involves the complexity and costs associated with retrofit and removal, therefore the goal should be more modest

New regulated construction
Loss reduction by 50%

We compare losses in future informal and formal settlements and aim for a more ambitious target as we assume the introduction of effective building and land use regulation

GFDRR
Global Facility for Disaster Reduction and Recovery


Starting point of the reform:
1080 days to obtain a permit
massive backlog at municipality
1995: 1st decree Establishing curadores
1995: selection of first curadores
1996 establishment of certification system for curadores
1996-1998 first legislation on liability regimes for curadores
2009 Introduction of a risk-based system for cons. permits
2009 improvement of state oversight mechanism on private engineers
Results:
2007: 51 days to obtain permit
Urban Dept can focus on its main mandate
growth of construction industry(+1% GNP)

Process vs. Product

- Legal Foundation
- Administrative Structure
- Participatory Consensus Process
- Professional Certification
- Agency Accreditation
- Dispute Resolution
- Maintenance and Revision
- Adaptation to Local Conditions/Culture

Cases

- Chile
- Turkey
- Indonesia
- Pakistan
- Nepal

Regulation and Reconstruction

- Learning from Loss
- Pattern of Progress
- Institutionalization and Continuity
- Necessity of Urban Management

Regulatory Studies

- Technical/Engineering Component
- Legal Component
- Economic Component
- Public Policy Component
- Social Component
- Cultural Component
- Public Health Component