

Built-In-Resilience:

Learning from Grassroots Coping Strategies to Climate Variability

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Climate change will **disproportionately increase the vulnerability** of the **urban poor**

Significant attention has been given to exploring **'traditional' coping strategies** in the **rural context** with less work in the urban context

Lessons can be drawn from examining how the urban poor are **already coping with conditions of increased vulnerability** to existing environmental hazards (floods, heavy rains, landslides, heat and drought)

Knowledge of these existing coping capacities for disaster risk reduction can **help to strengthen planning strategies** for adaptation to climate change in cities because they draw on **existing grassroots governance mechanisms and support the knowledge systems of the urban poor**

*Context/ **Questions**/ Methods/ Findings/ Policy Implications*

- What is the **current understanding** of local coping strategies?
- How are the urban poor currently **developing and adapting** coping strategies?
- How can these strategies can be **mainstreamed** into urban planning responses to climate change adaptation?

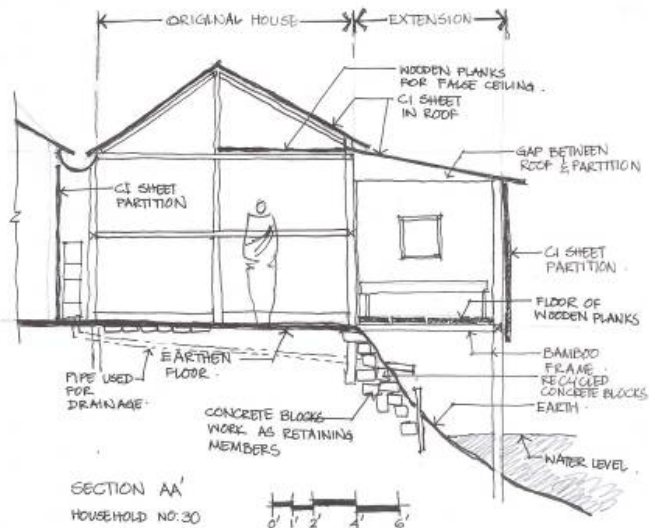


Context/ Questions/ **Methods**/ Findings/ Policy Implications

both 'coping capacity' (disasters) and 'adaptive capacity' (climate change) are determined by a **community's or a system's abilities to take actions** that will help them to withstand hazardous events

local coping strategies in the built environment:

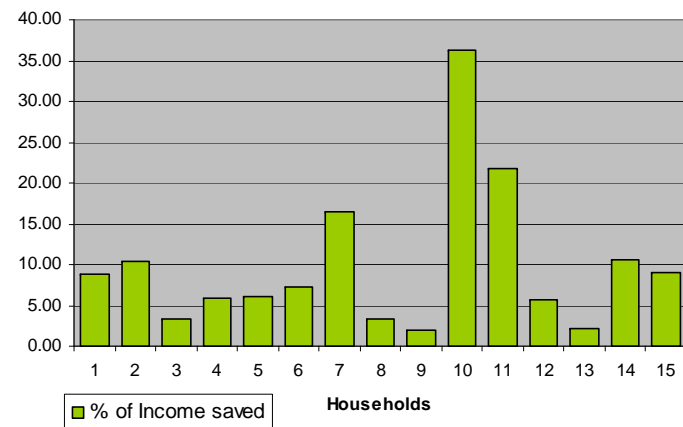
how people adapt their houses, living spaces, streets, open spaces and infrastructure to cope



socio-economic strategies:

what are the economic and social measures poor communities adopt in household and community level

Income and savings pattern



Coping strategies are often **complex** depend on the assumption that ***an event will follow a familiar pattern***, and that ***actions taken before to cope are a reasonable guide for similar events***

They operate within different scales: individual (e.g. household), community (e.g. neighbourhood) or institutional (e.g. city-wide or beyond)

- > Preventative strategies
- > Impact minimising strategies
- > Asset accumulations
- > Economic strategies
- > Development of social support networks

In physical and built environment operate at different scales

- > Arrangements within the house
- > Modifications to the house structure
- > Modifications around the house
- > Improvements at the neighbourhood level

*Context/ Questions/ **Methods**/ Findings/ Policy Implications*

Korail, Dhaka Bangladesh

qualitative survey of 30 households

chosen randomly based on criteria of location, condition of houses, ownership and period of tenancy

interview with pre structured questionnaire of 2 household members (male/ female) in two different times

documentation through notes, pictures and sketches

Limitations: Small sample size comparing to the population and time of year



Context/ Questions/ Methods/ **Findings**/ Policy Implications

Korail, Dhaka Bangladesh

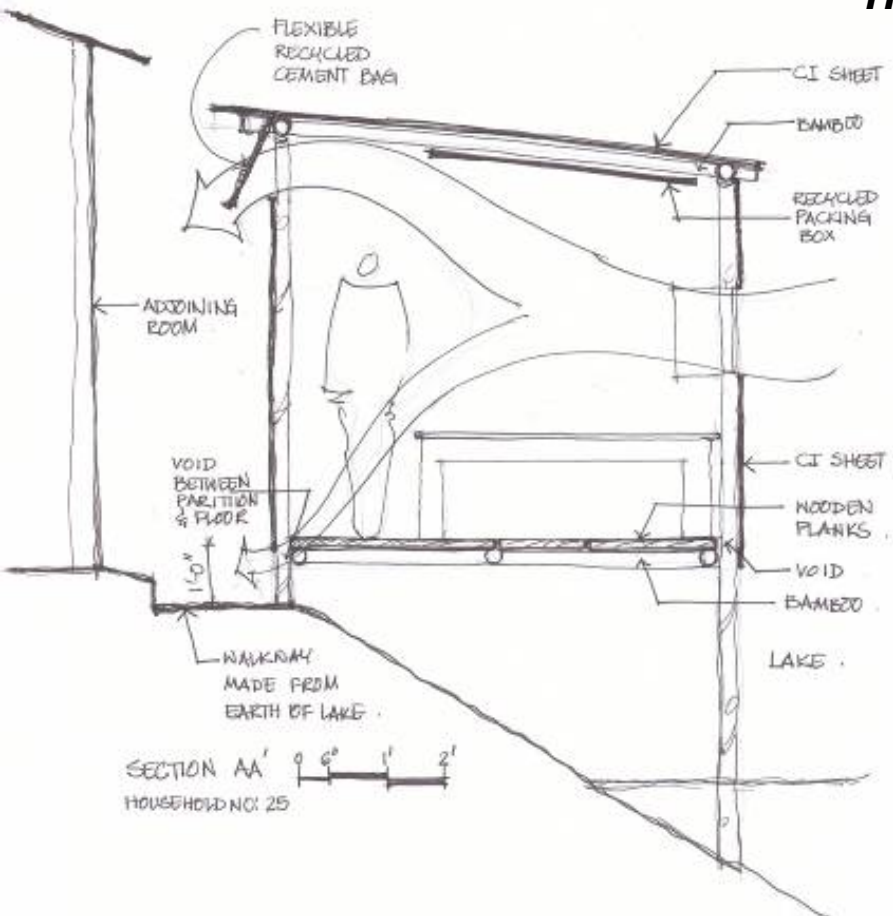
- > considered being the biggest slum
- > area: approximate 90 acres
- > estimated population: over 100,000
- > experienced major floods of 1988, 1998 & 2004
- > mostly self employed & in service jobs

Out of surveyed 30 households of 163 members

- > **40% population are under the age of 10**
- > **40% are earning to support the rest**
- > **No one has legal security of tenure**
- > **For tenants takes 5 years to become squatters or buy possession**
- > **Pay as high as 30% of income as rent**
- > **73% experienced water clogging from excessive rainfall and flooding**
- > **73% households suffered from water borne diseases**
- > **87% households needed to repair houses after climatic disasters**
- > **86% recognized increased heat as a problem**
- > **63% lost working days during disaster**



01 Physical modifications



Higher storage

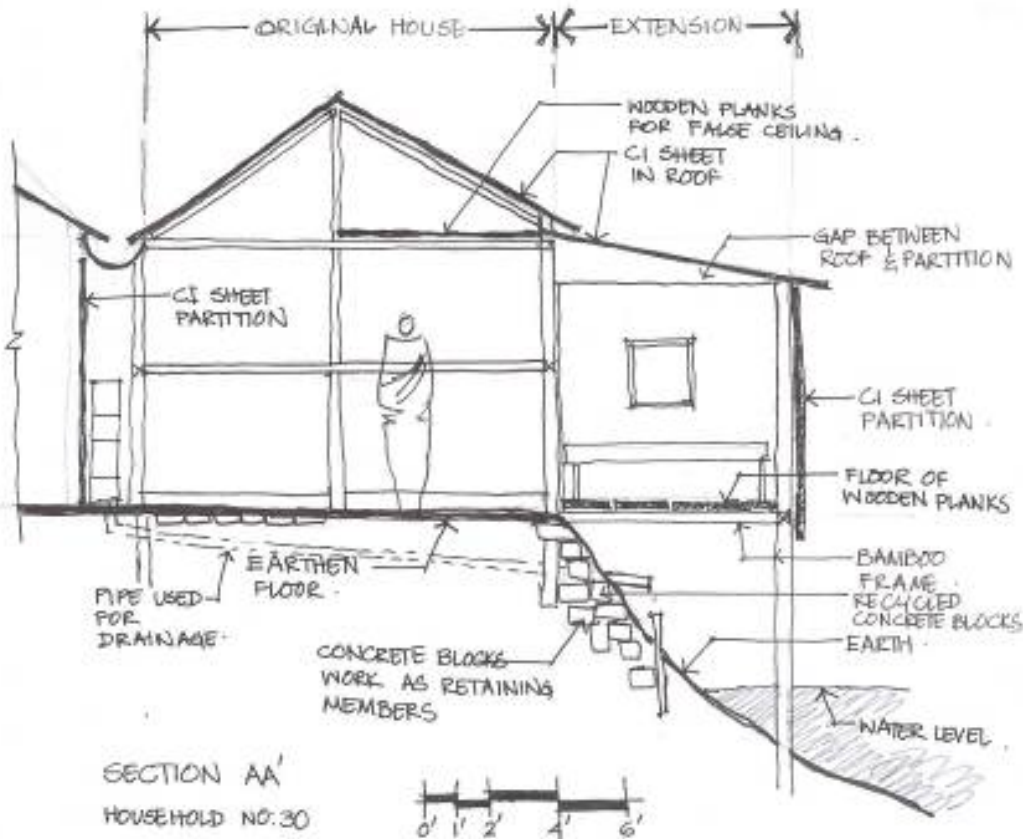


Better ventilation reducing heat

Window at bed level



01 Physical modifications



Rain gutter



Furniture height



Weather resistant column base

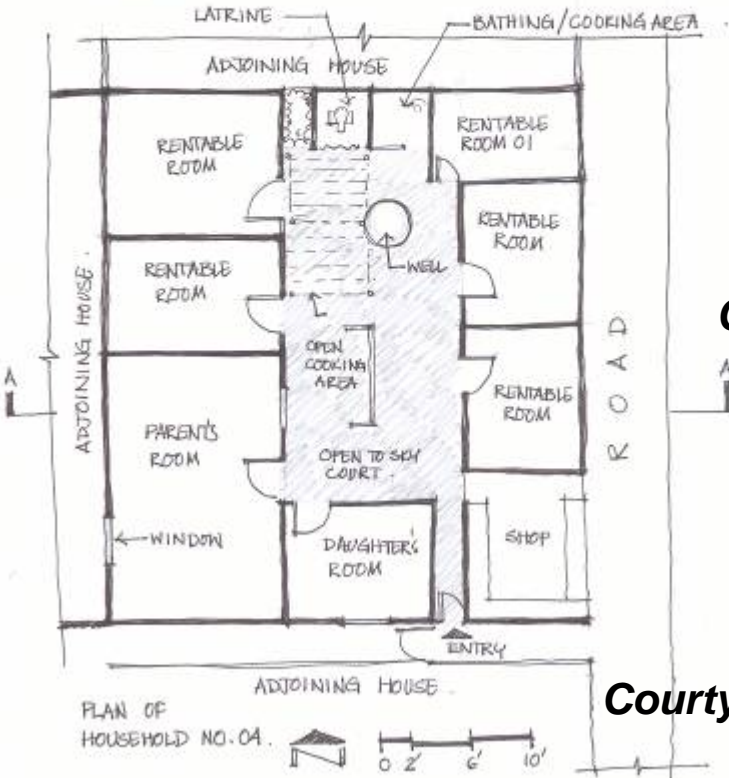


Barrier at door

01 Physical modifications



Creepers in roof



Courtyard houses



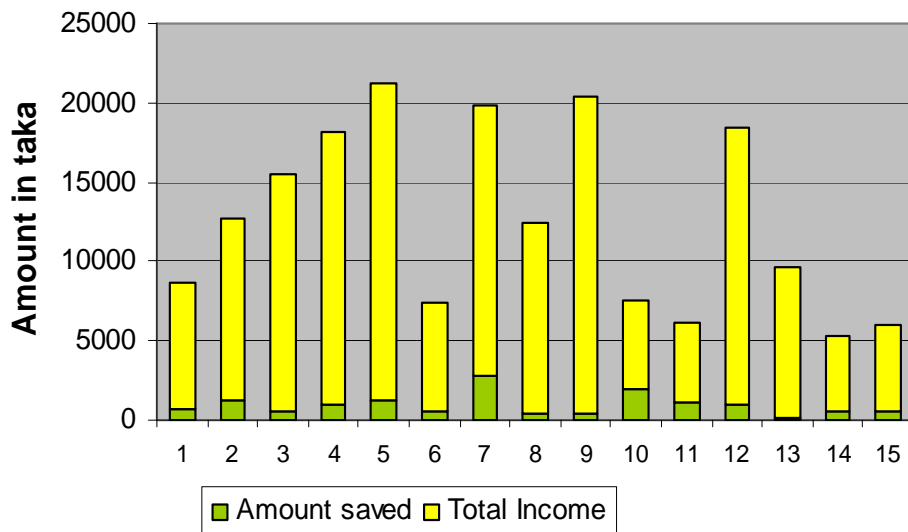
02 Savings and access to credits

50% of the households are member of monthly savings groups and have access to credit from savings

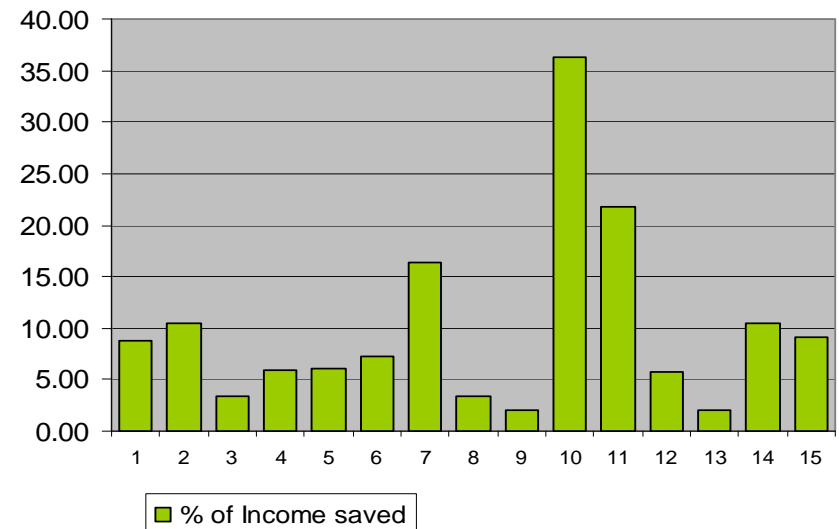
16% households have personal savings (may or may not access to credits)

Savings on average form 5-10% of the household income

Income and Savings pattern



Savings pattern



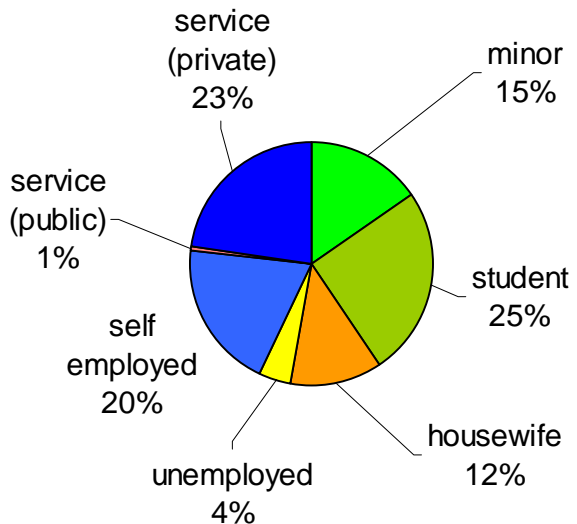
03 Diversified income sources

Households who have diversified income sources are less vulnerable

Examples include

Renting rooms/ Small shop owners/ Ready made Garments worker/ Household help/ Guard/ Vendors/ Rickshaw pullers/ Motor mechanics

Occupation pattern



04 Very strong social network

37% households are part of some form of social network and can seek assistance in case of emergency

16% shared food with neighbours to tackle hardship

30% shared services of the unaffected neighbours during disasters



Pattern of social asset among households

Aspects	hh that have		can seek assistance in case of emergency	
	number	percentage	number	percentage
Relatives/ friends living in the area	13	43.33	7	23.33
Relatives/ friends living in the city	23	76.67	14	46.67
Relatives/ friends from original location	17	56.67	14	46.67
Member of social group	12	40.00	11	36.67
Member of professional group	14	46.67	11	36.67
Member of political group	7	23.33	7	23.33

05 Accumulation of Assets

Most of the households accumulates assets in some form, for example:

- > Saleable household assets
- > Building materials
- > Investing in children's education



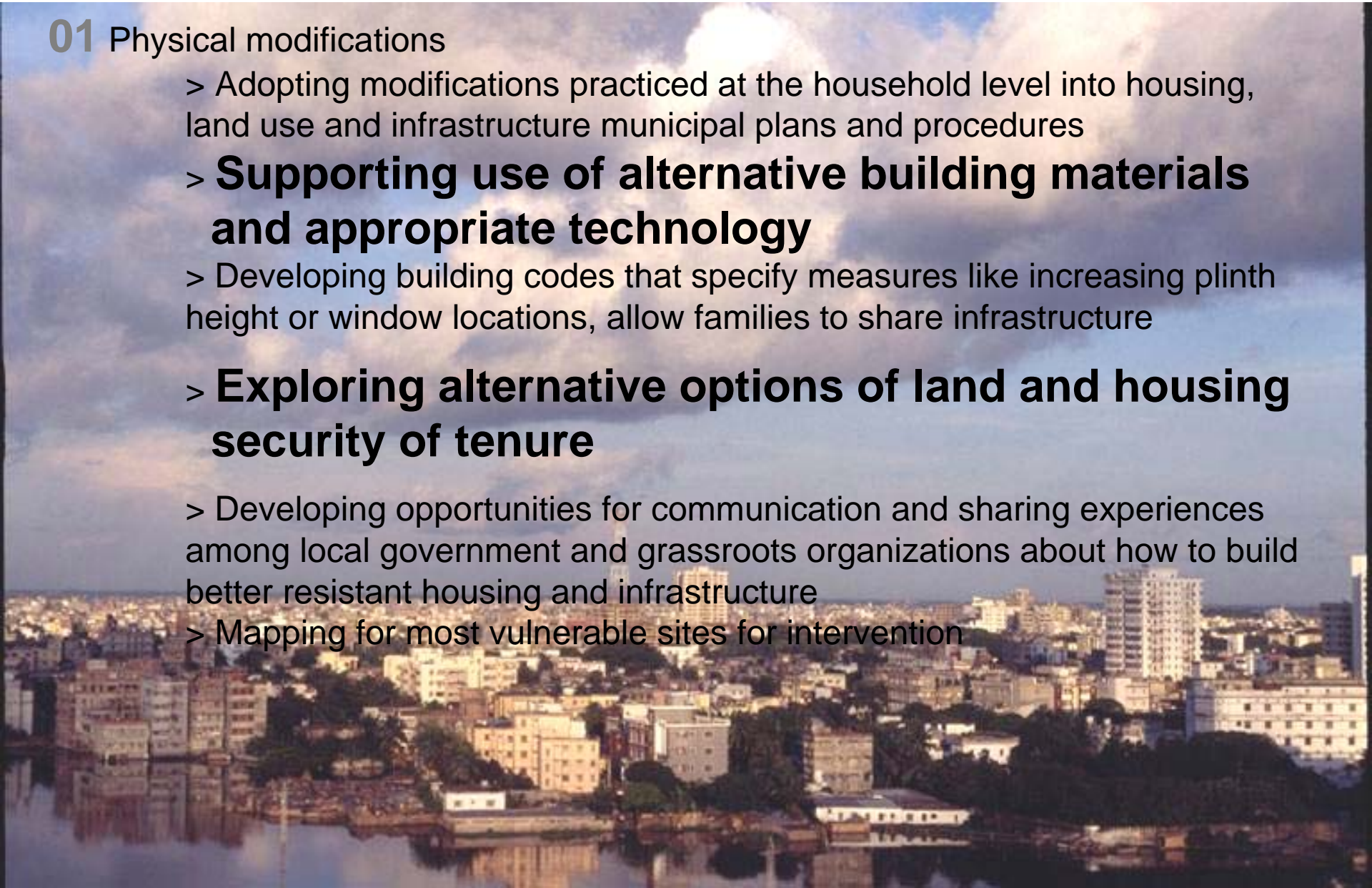
Building up stores of saleable assets

In order to find ways to mainstream these coping strategies into urban planning responses to climate change adaptation, certain conditions are **pre-requisite** for supporting the strategies

- 01 **pro poor policy environment** promoting democratic and accountable local governance structures and engage key stakeholders from the private and civil society spheres to raise awareness, ensure the exchange and integration of various knowledge and skills, identify needs and priorities, evaluate scenarios and build collectively negotiated strategies
- 02 **presence of a strong local government** with capacity to develop framework for future investments; land use management and possibility to incorporate climate change adaptation measures
- 03 **bridging spontaneous and planned adaptation** to address both the immediate and long term challenges posed by the increased vulnerability of the urban poor to climate variability

01 Physical modifications

- > Adopting modifications practiced at the household level into housing, land use and infrastructure municipal plans and procedures
- > **Supporting use of alternative building materials and appropriate technology**
- > Developing building codes that specify measures like increasing plinth height or window locations, allow families to share infrastructure
- > **Exploring alternative options of land and housing security of tenure**
- > Developing opportunities for communication and sharing experiences among local government and grassroots organizations about how to build better resistant housing and infrastructure
- > Mapping for most vulnerable sites for intervention



02 Savings and access to credits

- > Support saving schemes of the urban poor facilitating access to financial institutions
- > Link with national and international networks of savers (this may be non-governmental)

03 Diversity of income sources

- > Encourage and support programmes for skill development including training, internships and market networking



04 Social networks

- > Support existing and new community associations
- > Facilitate security of tenure to allow residents to stay longer and develop stronger ties to the community and better networks

05 Asset accumulation

- > Support accumulation of “basic assets” – education, healthcare, economic activities, clean environment, social networks, etc with a specific focus on women and children



Future Research

Expand comparative data possibilities to other settlements

Use existing data to identify **characteristics of vulnerability** for urban poor

How can local government and other actors address the issues of adaptation within their **existing programs and projects** as an **integral part of development plans** rather than creating separate adaptation plans



Certainly the urban poor are vulnerable to hazards induced by climate variability, however they also have certain level of built-in-resilience which must be recognized and which can be better supported by planning initiatives at local level

Thank you

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