RESILIENT HOUSING FOR RESILIENT CITIES

FLOOD RISK AND HOUSING PRICES
1% increase in the yearly probability of flooding is associated with a 0.6% decrease in housing prices. If the chance that a home will be affected by flooding this year is 1 in 100, over a period of 25 years, the chance is 1 in 5.

HUMAN CAPITAL LOSSES
The loss of income in a country for an occupied person dead in an earthquake: > 50x GDP per capita
Earthquakes cause 44,585 deaths on average per year.

SHARE OF HOUSING ON TOTAL PRIVATE DAMAGES AND LOSSES
ANTIGUA AND BARBUDA 2017 hurricane: 36%
ST. VINCENT 2013 floods: 93%
GUATEMALA 2010 tropical storm: 44%
HAITI 2010 earthquake: 37%

ASSET LOSSES
US$ 327 billion on average per year.

WELL-BEING VS ASSET LOSSES
60% higher. People in the bottom 20% experience 11% of total asset losses but 47% of well-being losses. Are 1.8 times more likely than the average person to live in highly vulnerable buildings.

THE NEED TO REBALANCE HOUSING POLICIES
Does not have a housing problem
Can purchase formal housing with a mortgage
Can purchase formal housing with a mortgage and government subsidy
Lives in informal and/or low-quality housing
98% of housing price increases explained by rising land prices.

AFFORDABLE AND RELIABLE HOUSING ASSESSMENTS
WHERE CAN RESETTLEMENT OR RETROFITTING INVESTMENTS SAVE AND IMPROVE LIVES?
How could we harness imagery taken from the sky and from the ground to mimic the expert eyes of a Structural Engineer and operate at scale and low cost?

Mimic the Structural Engineer’s expert eye by:
- Distance to neighboring buildings
- Number of floors
- Slope of the ground
- Size of the rooftop
- Roof material
- Window/wall ratio
- Garages
- Land use

THE NO-REGRETS STRATEGY
Prevent people to occupy hazards areas:
• Self-construction strategy proved to be successful.

ARGENTINA
Guarantees Public benefits
• By building trust and respecting history and cultural issues, it is possible to work with indigenous communities

NEW HOUSING IN SAFER AREAS
BRAZIL
Large vertical solutions in same neighborhoods
• Successful housing solutions are those compatible with the circumstances of the beneficiaries

SAINT LUCIA
Self-construction strategy proved to be successful.

HAUSING = A MATTER OF LIFE AND DEATH | FAMILIES’ MOST IMPORTANT, AND SOMETIMES ONLY, ASSET | A SOURCE OF ECONOMIC GROWTH OR INSTABILITY.