3_4 PROJECT / PROCESS

The bottom-up approach, which can be triggered by a gradual credit distribution mechanism and define an urban cell settlement model, requires a completely innovative design approach capable of controlling rapid urban transformation. It is a design approach that moves away from the certainty of fixed projects to instead embrace the uncertainty and dissonance entailed by a process of progressive definition of the urban form in space and in time. The processual approach starts from the comprehension and acceptance of the impossibility of outlining a fixed design solution and rather embraces the role of the designer as a definer of settlement principles (GREGOTTI 1966) and controller of urban metamorphosis (ALBRECHT AND BENEVOLO 1990; BENEVOLO 1996) within a range of infinite variations. The designer becomes the shaper and controller of a set of parameters able to define the ever-changing borders of the possible modifications of the urban form.

The processual approach sees not only space but most importantly time as a central factor in the design mechanism. Time becomes a design factor, and the definition of the different phases contributes to the progressive shaping of spaces accounting for direct interventions and for the fluid responses to them. Rather than working through layers, design operates through phases where all of the different elements are present at various intensities, and the evolution of each element is inserted into a common logical framework, aiming not at the definition of a fixed condition but rather at the continuous renegotiation of a fluid and dynamic equilibrium (SALE 1985). It is fundamental to abandon rigid tools, such as the master plan, the manifesto of the demiurge architect of modernity, to instead embrace the evolutive nature of the city in a vision that aims to create urban environments capable of ensuring safety, personal well-being, good health, and fruitful communitarian relationships. Urban design can be rediscovered as the control mechanism of the dynamic equilibrium: outlining a blurred scenario of the reconstruction process, foreseeing the possible tactics that allow one to reach an approximation of such a model, and defining malleable technical and conceptual tools that enable the initial vision to be achieved.

One notion emerges as central: the designer needs to abandon the search for a final stable solution in favor of the continuous exploration of a set of futures, all possible but none necessary. The design process becomes a practical manifestation of a *pensiero debole* [weak thought] (VATTIMO AND ROVATTI 1983) and attempts a definition of the slippery borders of a *progetto debole* [weak design] (NICOLIN 1989) or *progetto minore* [minor design] as defined by Camillo Boano: “a project idea that is able to scratch reality, engrave it and overcome it, but also to outline the best possible form of the world. One that also allows a constant redesign of its transformations, which strenuously resists by opposing its reduction and normalization” (BOANO 2020). It is a sensitive design approach that embraces humbleness and aims to act

as a seismographer of reality, accepts the impossibility of defining urban forms as absolute truths, and rediscovers the continuous states of disorder of urban environments as the main work material.

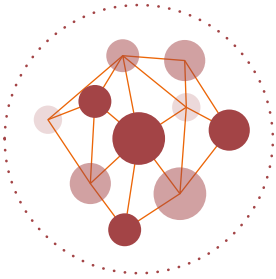
3_5 RECONSTRUCTION LABORATORY

It is almost impossible for current professionals to operate in a processual vision, for the relationship with power structures and administrative bureaucracies binds present-day organizations in the architecture and urban planning professions to top-down mechanisms. In order to operate with a different vision, it is necessary to define pragmatic and flexible operational systems (WORLD BANK 2020) so as to be able to account for rapid and unexpected changes. Reconstruction can be initiated through the establishment of an on-site laboratory, an organization capable of identifying drivers and enablers of sustainable peace and prosperity; the laboratory must be centered around communities and their livelihoods, around their access to services and their exercise of rights and opportunities, within a notion of community security that includes physical, personal, social, economic, and political security (ADLER AND BARNETT 1998).

Reconstruction laboratory is an evolution, and a substantial adaptation to contemporary technological and social innovation, to the "progressive development approach" policies (PAPPALARDO 2021) that have been defined, but scarcely applied, by international organizations as a response to the global housing crisis. There is a broad range of examples of alternative operational mechanisms for urban design: "Aided self-help" in Puerto Rico in the 1940s (CRANE 1944); the "roof loan scheme" and "core housing" mechanisms in Ghana, the Philippines, and Singapore in the 1950s (ABRAMS AND KOENIGSBERGER 1956, 1959, 1963); the "builder's yard approach" in Mexicali (ALEXANDER 1985); "open work mechanisms" in PREVI Lima (TURNER 1976); "interim urbanization" in Dandora (CAMINOS 1973); the "district laboratory" in Otranto (DINI 1984) in the 1970s; "site and service" in Aranya, India (DOSHI 2019); the "incremental development scheme" in Khuda-ki-Basti (ISMAIL 2002); "slum upgrading" in the Favela-Bairro program in Brazil (MACHADO 2003); and "open building supports" in the Netherlands (HABRAKEN 1999) in the 1990s.

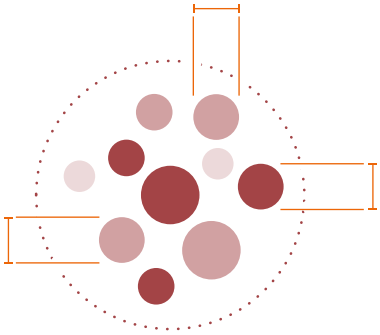
The reconstruction laboratory is an organization (and perhaps a physical structure) that acts as a collector of ideas and a coordinator of intervention with one simple but extremely complex goal: the reconstruction of an urban environment matching high quantitative performance to a high quality of life for the community and its members. The laboratory can host multidisciplinary dialogues and local community participation, test small-scale components, recycled materials, and prototypes, initiate reconciliation activities while understanding needs and expectations, negotiate with the different administrative levels, teach the skills needed and

AUTONOMOUS CELLS BOTTOM-UP STRATEGY / ADVANTAGES



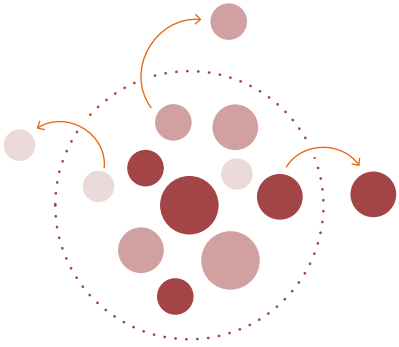
COORDINATION

The process involves citizens, institutions, productive chains, and communities in the design process, thus reducing blind spots.



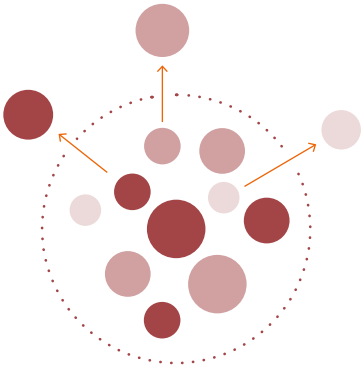
CONTROL

The cellular features of the strategy allow for immediate measurability and adaptability in terms of materials, techniques, typologies, etc.



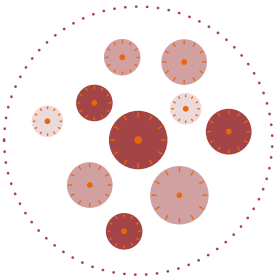
EMULATION

The design solutions are immediately replicable in other cells and neighborhoods, learning from mistakes and enhancing positive choices.



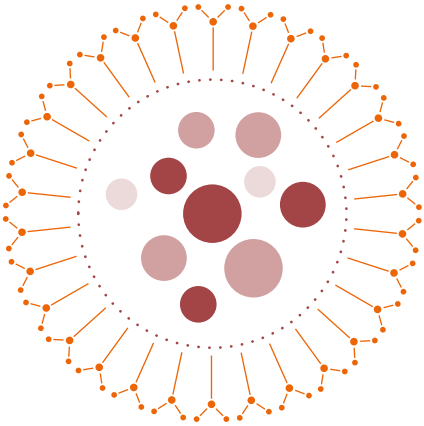
SCALABILITY

The strategy is applicable at different scales (building, cell, city, territory) through the application of the same concepts and operative tools.



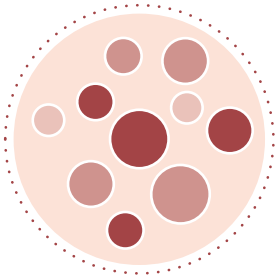
SECURE TIME FRAME

The strategy allows one to assess time frames by considering multiple variables and by setting goals for short, medium, and long periods.



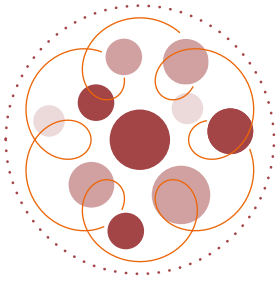
INVOLVEMENT

The local communities can participate actively in self-produced reconstruction, activating a laboratory of reconstruction for the triggering and control of design processes.



PLACE ATTACHMENT

The emotional bond between person and place can be an engine for local reconstruction, ensuring the reestablishment of material and immaterial heritage.



COMMUNITY DESIGN

A collaborative process allows one to react to internal and external changes and to quickly discharge fixed schemes and recurring errors.

promote innovative research, define positive economic cycles and favor redistribution, give voice to marginalized groups, et cetera. The aim is not the substitution of design experts with amateur self-organized groups, but rather the construction of a new perspective that allows designers to understand their role within a complex process and to continuously reorient their actions in light of a series of interactions. The reconstruction laboratory moves away from any authorial claim to architecture and assumes the task of the continuous care of urban metamorphosis, steering it toward a dynamic equilibrium (BLEWITT 2018).

Possible disciplines interacting within the reconstruction laboratory include but are not limited to: agriculture, anthropology, art, automation, civil engineering, construction technology, cultural heritage, data science, demography, ecology, economics, energy, environmental studies, finance, food production, fundraising, health, history, law, management, materials, political science, pollution and waste, psychology, real estate, restoration, social science, sociology, statistics, structural engineering, sustainability, telecommunications, topography, transportation, tourism, water, and sanitation. The architect's role becomes that of collector and interpreter of infinite input, greatly enhancing the importance of its unicity as the only expert capable of immediately transforming concepts into living spaces.

3_6 OPERATIONAL PHASES

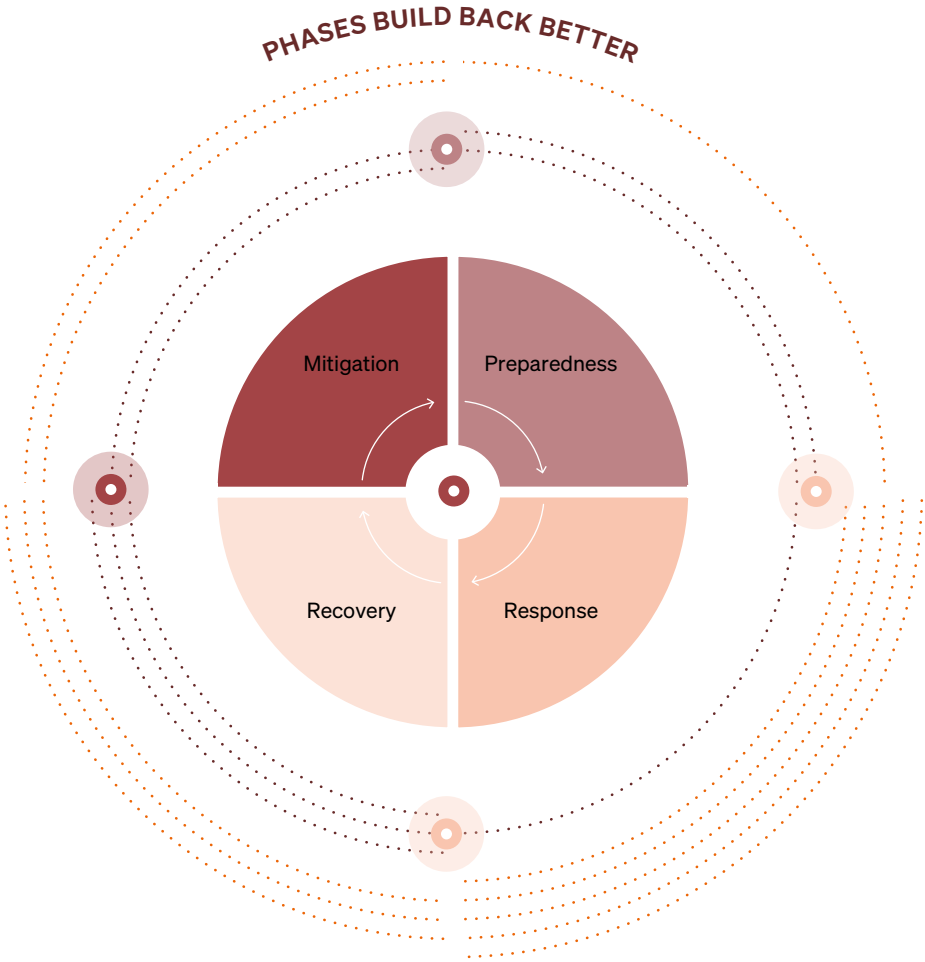
Post-disaster experts have proposed various subdivisions into phases of the complex emergency process following extreme events (UNDRR 1994, 2015, 2019; UNITED NATIONS 2008; EPA 2018). This can be roughly summarized in a circular process consisting of four phases: mitigation, action taken to prevent or reduce the cause, impact, and consequences of disasters; preparedness, planning, training, and educational activities for events that cannot be mitigated; response, operations conducted in the immediate aftermath of a disaster to quickly ensure safety and well-being; and recovery, restoration, efforts that ensure a return to a stable condition (FEMA 2020). The four phases are seen as segments of a cycle where the return period of each event dictates the general time frame that is then subdivided into significantly different intervals ranging from the continuous work of mitigation to the shortest possible duration of immediate response. In the current paradigm of emergency response, urban designers participate in all the phases but are more involved in the mitigation and recovery actions. In mitigation, they are called to anticipate and ensure the resilience of the built environment in the face of multiple pressures, while in recovery they are required to provide spatial solutions able to restore the state of dynamic equilibrium. Post-disaster frameworks can be partially adapted to conflicts and social and economic risks, but some differences emerge in the capacity of the local communities to actively participate in the process:

while natural disasters tend to strengthen community bonds (ALDRICH 2011; IRENI-SABAN 2012), wars act in exactly the opposite way by fracturing societies and generating dangerous grievances that can lead to conflict recurrence (VAUGHN 2011).

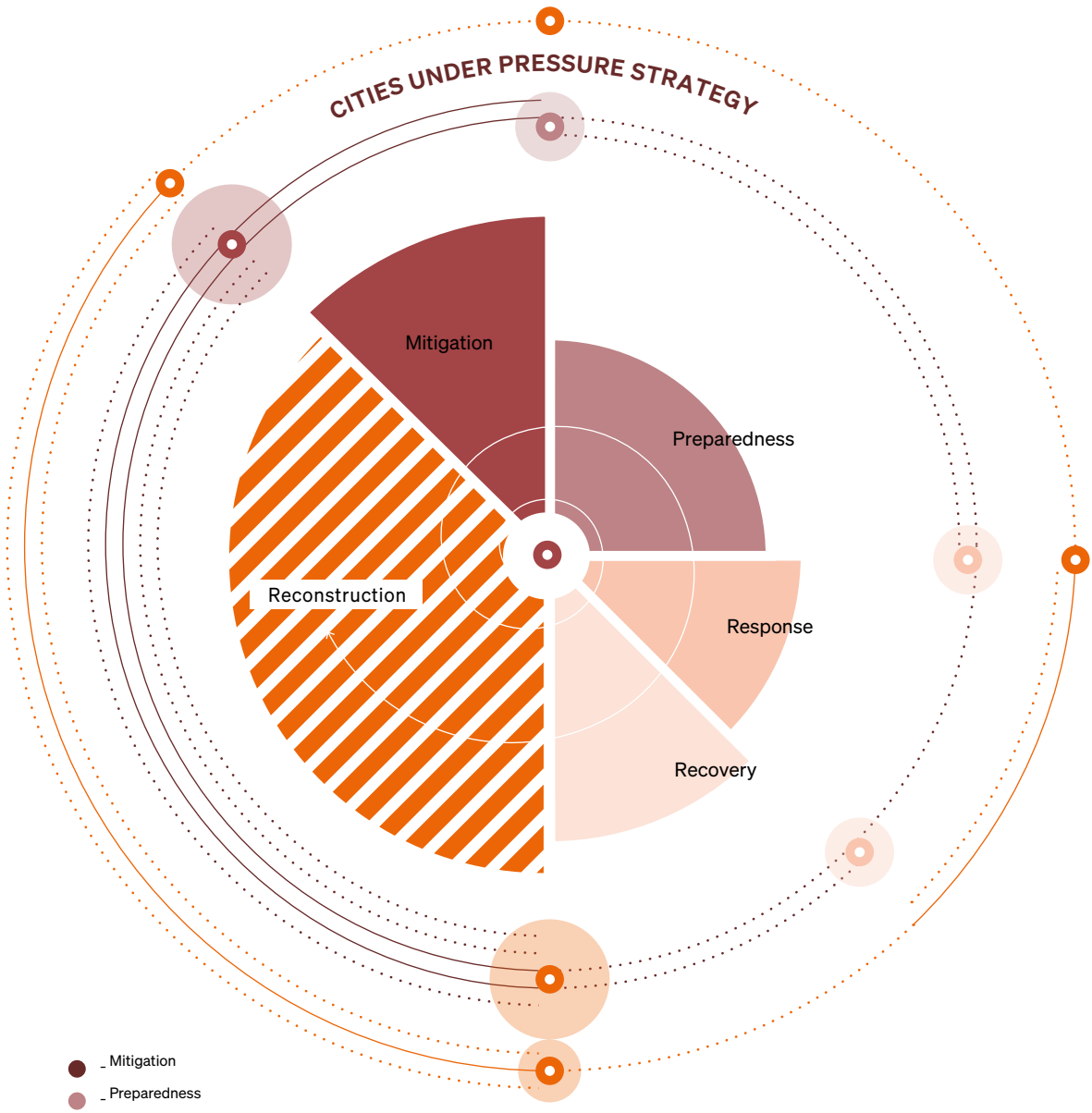
The proposed strategy partially challenges this division into phases by defining a system that, rather than working in a cycle, tends toward a linear modification of the built environment aiming at the definition of urban spaces that are different from the ones that have witnessed, and often favored, the impact of the extreme event. The Build Back Better paradigm defined as "the use of the recovery, rehabilitation and reconstruction phases after a disaster to increase the resilience of nations and communities through integrating disaster risk reduction measures into the restoration of physical infrastructure and societal systems, and into the revitalization of livelihoods, economies, and the environment" (UNGA 2016) must be criticized in terms of urban vision since it denies any chance for a radical modification of the urban environment. The critical issue of modifying the profound settlement principles of urban patterns, in order to make them resilient to major pressures, cannot be achieved by a strategy that is deliberately aimed at the restoration and amelioration of a pre-event condition.

The bottom-up cellular strategy, applied through laboratories of reconstruction, is instead aimed at the definition of a new urban pattern that analyses and considers the existing conditions, but at the same time is not blind to their a-critical repetition. In this vision, reconstruction does not necessarily imply a restoration of the existing urban form, which is often lacking urban qualities and technological performance, but only the search for a dynamic equilibrium capable of providing local communities with safe and qualitative urban spaces. The strategy reaffirms the necessity for preparedness and response but sees mitigation and recovery as a single element directed at the modification of the urban form and varying only in terms of intensity. Once the alternative urban model has been defined and its features understood, mitigation becomes a slow process of transformation, while recovery—or, for a better definition, reconstruction—is only to be intended as the extraordinary chance, applied in extreme situations, to significantly increase the speed of intervention and the pace of metamorphosis.

PHASES OF EMERGENCY



The scheme shows the necessary switch from current emergency intervention systems following extreme events to future approaches in the cities under pressure paradigm; the red cycle identifies the involvement of design experts and the orange cycle the required financial support. Current mechanisms operate with a build-back-better approach, constructing a cycle aimed at the reestablishment of pre-disaster conditions. The cities under pressure strategy starts from the assumption that the reconstructed city might vary significantly from the destroyed city and alters time frames, expert involvement, and financing systems accordingly.


CITIES UNDER PRESSURE STRATEGY
Mitigation
Preparedness
Response
Recovery
Reconstruction
_ Mitigation
_ Preparedness
_ Response
_ Recovery
_ Reconstruction
_ Involvement of urban designers
_ Financial resources