



From Fragility to Resilience

Following the 2023 earthquake, the village of Izloullene faces the challenge of rebuilding its fragile masonry fabric while preserving its social structure, productive landscape, and vernacular identity. Rather than replacing the existing settlement, the project proposes a strategy of precise and incremental interventions that reinforce what already exists.

A simple modular timber frame is inserted within damaged houses, transforming fragile masonry into a safer and more resilient structure. This system works as an independent structural skeleton that reduces seismic vulnerability while allowing the use of local materials and traditional construction techniques. Designed for low-tech assembly, the frame can be built collectively using community labor and locally available resources.

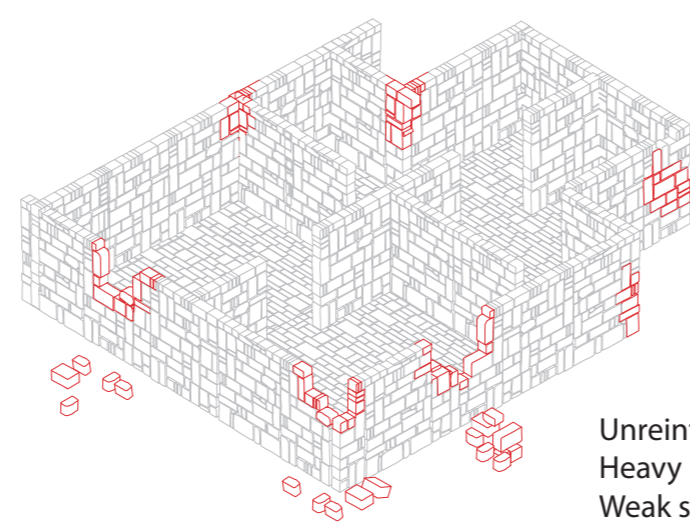
Beyond structural repair, the proposal reconnects housing, craft production, and agricultural terraces through a new collective hub and a network of shared spaces. Roof terraces become productive landscapes, public spaces reactivate social life, and workshops support local textile production.

Post-Seismi



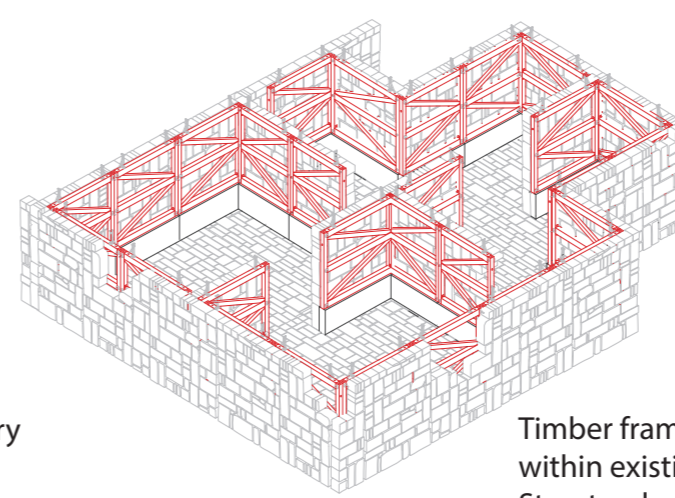
From individual repair to collective resilience

Vulnerability



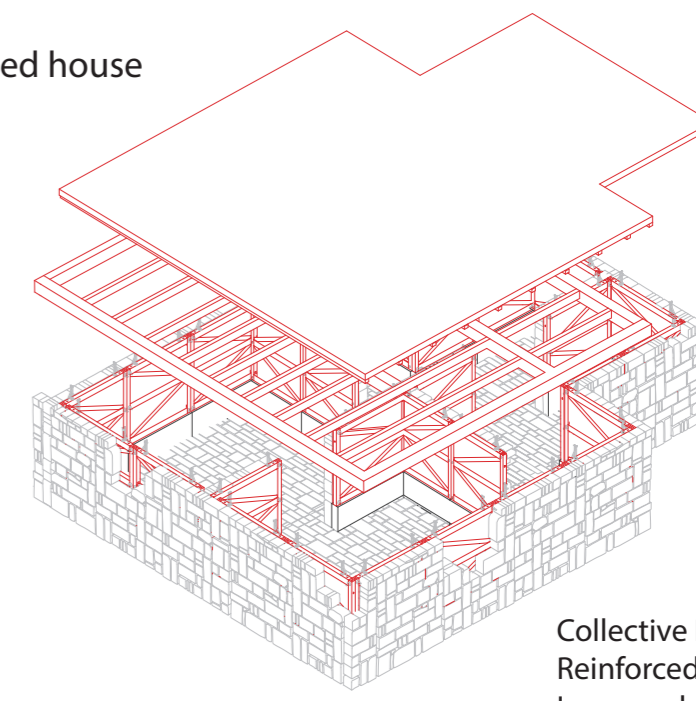
Unreinforced earthen masonry
Heavy roofs
Weak structural connections

Frame insertion



Timber frame inserted
within existing walls
Structural reinforcement

Reinforced house



Collective Reconstruction
Reinforced house
Improved seismic resistance

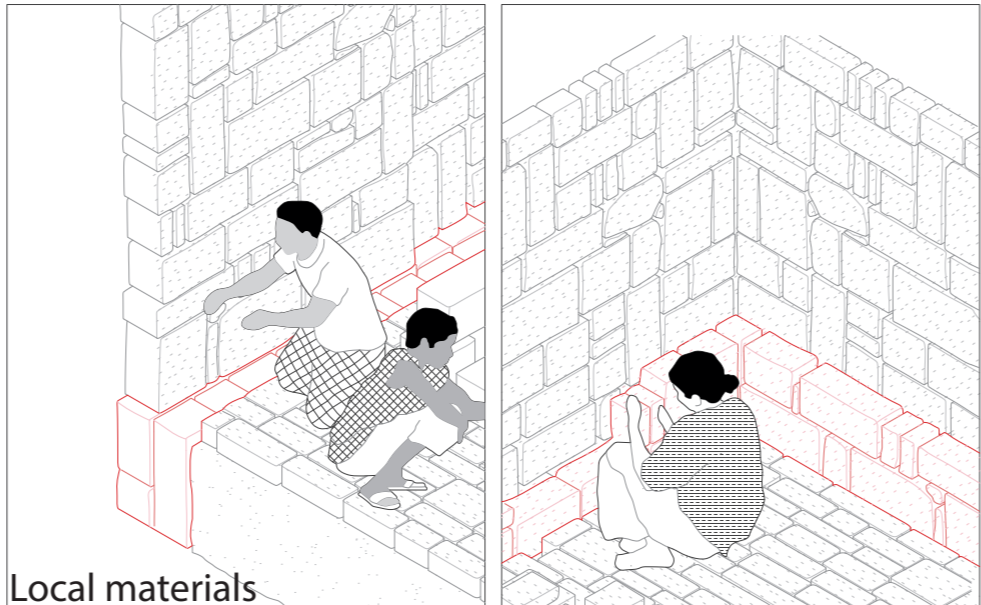


Community-led construction system

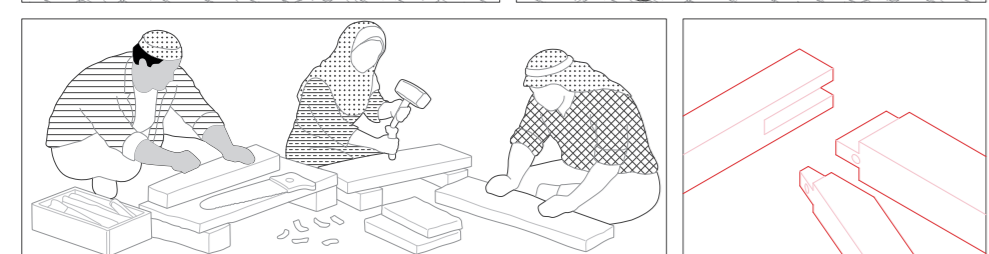
Uses locally available materials and community labor to reduce costs and enable local construction capacity.



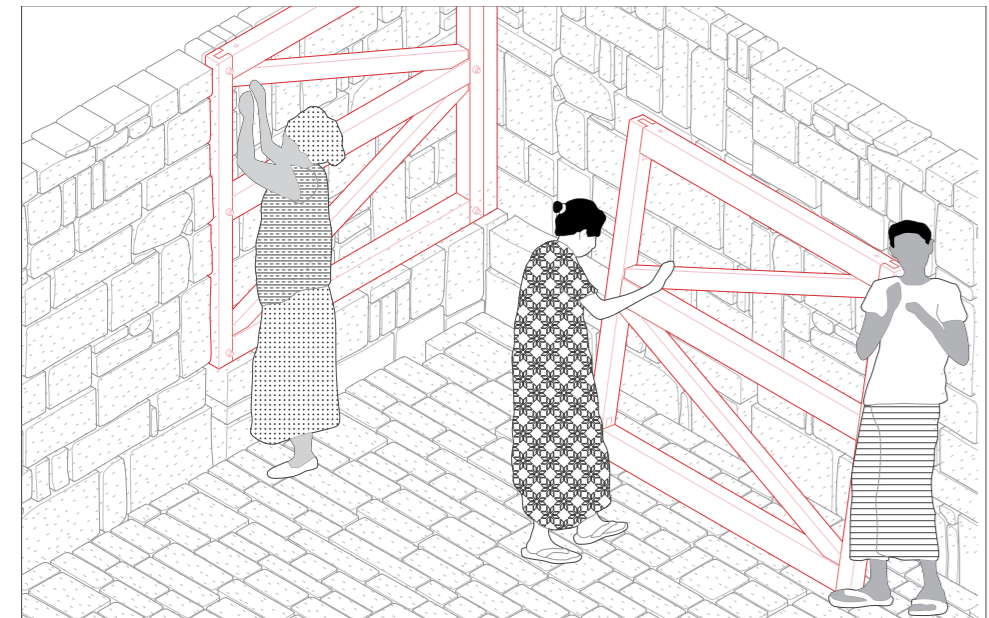
Local materials



Community participation



Local workers are trained to fabricate and assemble the timber frames, enabling a scalable and affordable rebuilding strategy.



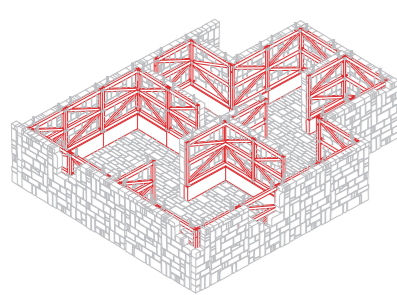
Simple techniques



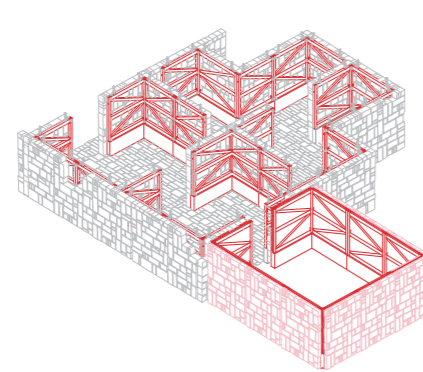
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Scalable Applications of the Collective Frame

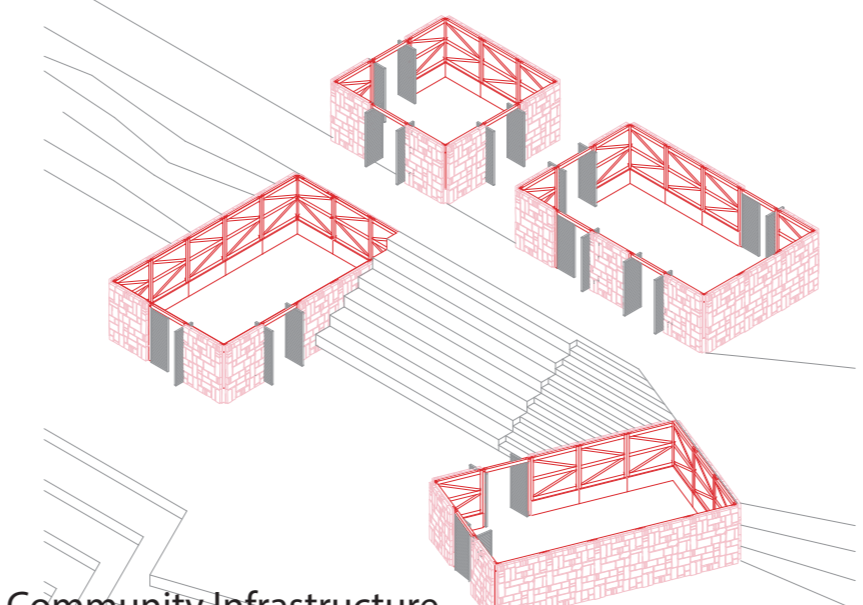
A modular system adaptable to different village needs



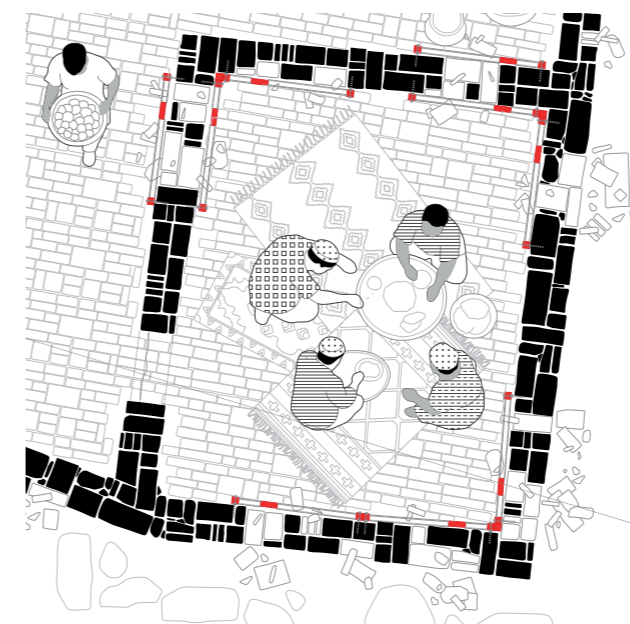
Housing Reinforcement



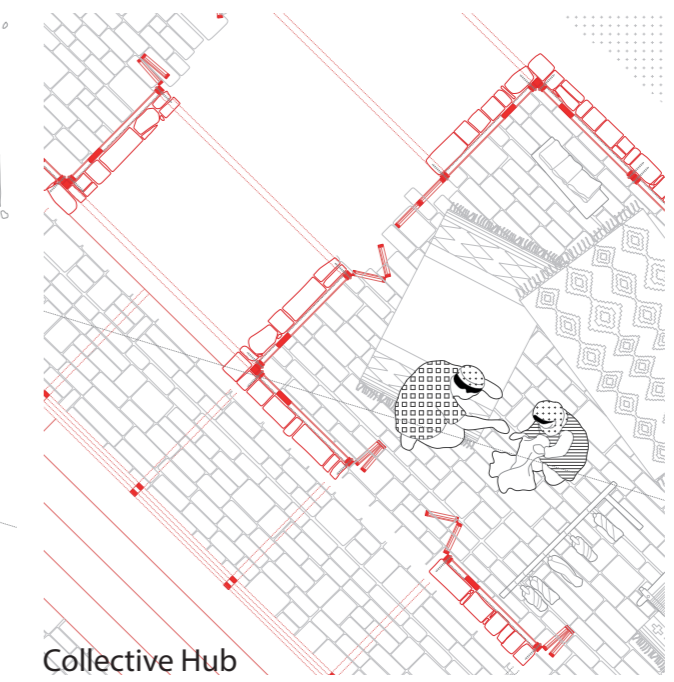
Incremental Housing Expansion Frame



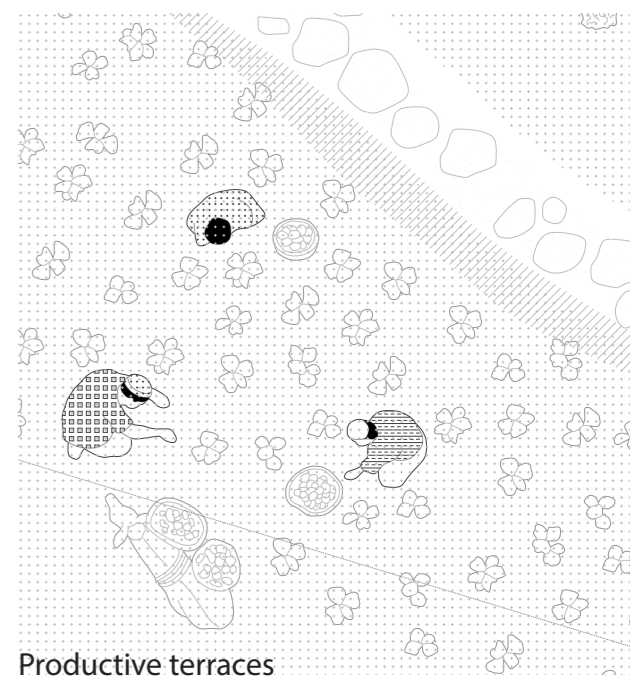
Community Infrastructure



Reinforced Houses



Collective Hub



Productive terraces



References

1. Community Production and Exchange Hub
2. Textile Workshop
3. Community Reconstruction Lab
4. Seasonal Gallery
5. Community Plaza
6. Social Cohesion Forum
7. House of Fire - Community Oven
8. Water Governance
9. Productive Terraces
10. Resilience Axis
11. Shared Productive Courtyard
12. Housing Reinforcement

The Modular System

Locally adapted seismic frame
Low-tech seismic reinforcement

1. Adobe block reinforced with plant fibers, variable dimensions
2. Horizontal cedar stud, section 80x200 mm
3. Stone masonry foundation with lime mortar, h=600 mm
4. Threaded anchor bolt Ø12 mm
5. Sloped cedar stud, section 60x200 mm
6. Elastic seismic isolation bearing
7. Vertical oak stud, section 80x200 mm
8. Metal nail Ø16 mm
9. Interior clay and plant fibers finish
10. Elastic seismic isolation bearing
11. Cedar ring beams, section 140x240 mm
12. Solid wood dowel Ø16 mm
13. Threaded anchor bolt Ø16 mm
14. Solid wood dowel Ø20 mm
15. Cedar roof beams, section 80x100 mm
16. Cedar wood panel, A = 300 mm, e = 50 mm
17. Cedar wood panel, A = 350 mm, e = 50 mm
18. Cedar joints, section 40x120 mm
19. Cedar wood panel, A = 300 mm, e = 35 mm
20. Threaded anchor bolt Ø20 mm
21. Clay and plant fiber compression layer e = 50 mm.

