

From Rubble to Resilience: A Phased Model for Sustainable Urban and Food-Secure Reintegration in Palestine

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Abstract

This research presents a comprehensive, phased shelter and urban redevelopment model tailored to the unique conditions of post-conflict Palestine. The approach addresses both the urgent humanitarian need for emergency shelter and the long-term goal of sustainable, dignified reintegration of displaced populations into resilient urban environments. At its core is the innovative reuse of war debris—such as crushed concrete, stone, and steel—to construct transitional and permanent housing, transforming destruction into a vital resource for renewal.

To further strengthen community resilience, especially under conditions of border lockdowns and restricted mobility, the model integrates farm-enabled shelter units. These include rooftop gardens, vertical planting systems, and compact hydroponics, enabling households to grow essential crops on-site. This contributes to household food security, reduces dependence on external aid, and fosters psychological and social well-being.

The model progresses in three interconnected phases: emergency response, transitional shelter, and permanent sustainable neighborhoods. Each stage incorporates material circularity, cultural continuity, food self-sufficiency, and community participation. Urban design is informed by spatial memory, while architecture draws from Palestinian vernacular traditions, reinforcing identity and dignity.

By combining regenerative construction, humanitarian design, and integrated urban farming, this model offers a scalable, context-sensitive roadmap for rebuilding Palestinian cities and villages devastated by conflict. From Rubble to Resilience is more than a shelter strategy—it is a framework for food sovereignty, post-displacement justice, and long-term self-reliance.