From Wartime Disruption to Systemic Resilience: Applying the SEA Model and SDGs to Ukraine's Post-War Recovery Strategy

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Abstract

Ukraine's post-war recovery extends beyond physical rebuilding to encompass institutional renewal, economic restructuring, and societal reintegration amid risks of prolonged fragility. This study integrates the United Nations Sustainable Development Goals (SDGs) with Manafi's Stability–Efficiency–Adaptability (SEA) framework to analyze how Ukraine can achieve sustainable transformation. The SDGs offer normative developmental priorities, while the SEA model provides a diagnostic lens for balancing three interdependent capacities: stability (institutional coherence and social trust), efficiency (resource optimization and productive systems), and adaptability (innovation, learning, and resilience to future shocks).

Drawing on qualitative data from semi-structured interviews with six experts in sustainability, public policy, and international development (conducted June 2025–February 2026), the analysis synthesizes recurring themes into a thematic mapping of the 17 SDGs across the three SEA dimensions. Results indicate that stability-oriented goals (e.g., No Poverty, Peace and Strong Institutions) form the foundation for social cohesion and legitimacy; efficiency-focused goals (e.g., Decent Work, Industry and Infrastructure) ensure resource viability and functional reconstruction; and adaptability-oriented goals (e.g., Quality Education, Climate Action, Partnerships) enable long-term modernization and ecological integration.

Findings underscore that effective recovery requires dynamic equilibrium among these dimensions rather than isolated pursuit of individual SDGs. By aligning global development targets with systemic conditions for viability, the combined SDG–SEA approach offers a robust conceptual foundation for policy design, helping Ukraine transition from crisis response to resilient, future-oriented development. This framework holds broader implications for post-conflict societies, suggesting that sustainable reconstruction depends on structural relationships among stability, efficiency, and adaptability.

Keywords: SEA Model, SDGs, Ukraine, Stability, Efficiency, Adaptability, Post-war recovery

1.Introduction

The end of large-scale armed conflict does not automatically mark the beginning of stability. For Ukraine, the post-war period will require not only physical reconstruction but also institutional renewal, economic restructuring, and long-term social reintegration. Rebuilding infrastructure, restoring public trust, revitalizing industry, and ensuring inclusive governance will be decisive

for determining whether recovery leads to sustainable development or prolonged fragility. In this regard, the United Nations Sustainable Development Goals (SDGs) provide an essential framework for guiding Ukraine's future trajectory. Goals such as decent work and economic growth, resilient infrastructure and innovation, sustainable cities, peace and strong institutions, and international partnerships are particularly relevant, as they address both the structural and human dimensions of post-war recovery.

Yet reconstruction is not simply a technical process of rebuilding what was destroyed. Post-conflict societies often face institutional fatigue, resource constraints, fragmented governance, and competing priorities between urgent relief and long-term reform. These conditions require a framework capable of explaining how systems stabilize, how they use resources effectively, and how they adapt to rapidly changing conditions. Without this balance, recovery efforts risk producing temporary improvements that lack durability or efficiency.

This article approaches Ukraine's post-war future through Manafi's SEA model (also known as Collapse Model), which emphasizes the interaction between stability, efficiency, and adaptability as the core dimensions of sustainable system development. Stability refers to the ability of institutions and social structures to provide continuity, security, and predictability. Efficiency concerns the effective use of resources, coordination of policies, and productivity of economic and administrative systems. Adaptability captures the capacity of a society to respond to new challenges, integrate innovation, and redesign institutions in response to shifting realities.

Applying this model to Ukraine allows reconstruction to be understood not only as rebuilding infrastructure or restoring governance, but as a dynamic balancing process among these three dimensions. Excessive focus on stability may slow innovation and reform, while prioritizing efficiency alone can undermine social resilience or legitimacy. Similarly, adaptability without institutional grounding may generate volatility rather than sustainable progress. The SEA framework therefore offers a structured lens for evaluating how Ukraine's post-war policies can align with the SDGs while maintaining long-term institutional viability.

By linking the SDG agenda with the SEA framework, this study explores how Ukraine's future depends on its ability to effectively integrate stability, efficiency, and adaptability into a coherent recovery strategy. The SDGs provide the overarching developmental direction, while the SEA framework elucidates the structural conditions necessary for realistically achieving those goals. Together, they offer a robust conceptual foundation for analyzing Ukraine's transition from wartime disruption to sustainable reconstruction and long-term societal resilience

2. Collapse (SEA) Model

The SEA model (Manafi, 2025; 2026) conceptualizes systems through three interacting capacities: stability, efficiency, and adaptability. Stability refers to the ability of a system to maintain coherence, identity, and functional continuity over time, ensuring that structures do not fragment under pressure. Efficiency concerns how well the system uses resources, coordinates processes, and produces outcomes without excessive waste or friction. Adaptability, meanwhile, reflects the system's capacity to adjust to changing internal and external conditions, incorporating feedback and reorganizing when existing arrangements become insufficient. The model assumes that long-term viability depends not on maximizing one dimension but on balancing all three, since excessive stability can produce rigidity, excessive efficiency can reduce resilience, and unchecked adaptability can dissolve coherence.

In application, the SEA framework can be used to analyze organizations, institutions, or societies by diagnosing where imbalance occurs and how corrective action might be structured. A system facing disruption, for example, may need to strengthen stability through institutional trust, improve efficiency through better coordination of resources, and expand adaptability through learning mechanisms and policy flexibility. By mapping these dimensions, the model offers a practical lens for evaluating reform strategies, guiding leadership decisions, and anticipating trajectories of recovery or decline. Rather than predicting a single outcome, SEA functions as a diagnostic and strategic tool, helping decision-makers identify which capacity must be reinforced to support sustainable development and systemic renewal.

3. Method and Results

This study adopts a qualitative exploratory approach to examine how the Sustainable Development Goals can inform Ukraine's post-war reconstruction and long-term development trajectory. Semi-structured interviews were conducted with six experts drawn from the fields of sustainability research, public policy, and international development practice. The interviews took place between June 2025 and February 2026 and focused on identifying priority development dimensions, structural risks, and policy directions for Ukraine's recovery. Rather than treating the SDGs as a checklist, the analysis sought to understand how experts conceptually grouped them in relation to systemic needs such as social stability, institutional performance, and adaptive capacity. The resulting thematic synthesis, summarized in Table X, reflects a convergence among participants that Ukraine's reconstruction strategy should balance social stabilization, efficient resource use, and long-term adaptability, with the SDGs serving as an integrated policy framework rather than isolated targets.

Interview questions used to derive the table

Q1. From your perspective, which Sustainable Development Goals are most critical for Ukraine's post-war recovery, and why?

Q2. How should Ukraine prioritize rebuilding social stability and institutional trust, and which SDGs best support this process?

Q3. What economic and infrastructure reforms are necessary to ensure that reconstruction resources are used efficiently and sustainably?

Q4. In what ways should Ukraine prepare for long-term transformation rather than simple reconstruction, particularly in education, innovation, and environmental policy?

Q5. How can international partnerships, governance reforms, and social inclusion policies be integrated into a coherent post-war development strategy?

Q6. If you were to group the SDGs into broader strategic dimensions for Ukraine's future, how would you categorize them and what would be the rationale for that grouping?

The interview data were analyzed using qualitative content analysis in order to identify recurring themes related to Ukraine's post-war development priorities. Responses from the six participants were coded, grouped, and synthesized into broader conceptual categories reflecting shared perspectives on reconstruction strategy. To enhance the reliability of interpretation, the

preliminary findings were subsequently returned to the interviewees for confirmation and feedback. Minor clarifications were incorporated, and the final structure reflects the validated thematic consensus. Table 1 presents the consolidated results of this process, organizing the SDGs into three interrelated dimensions: stability, efficiency, and adaptability.

As shown in Table 1, participants consistently emphasized that stability-oriented goals form the foundation of post-war recovery, highlighting poverty reduction, public health, inclusive urban reconstruction, and strong institutions as prerequisites for restoring social trust and preventing renewed fragility. At the same time, the experts stressed that reconstruction must be economically viable, which explains the clustering of efficiency-related SDGs around infrastructure, energy systems, employment generation, and sustainable production. These goals were seen as ensuring that financial resources and international aid translate into tangible development outcomes rather than short-term recovery gains.

The interviews further revealed strong agreement that Ukraine's future cannot rely solely on restoring pre-war structures. Instead, the experts framed long-term success in terms of adaptability, emphasizing education reform, environmental restoration, and international partnerships as mechanisms for future-proofing the state. This dimension reflects a shared view that reconstruction should serve as a turning point toward modernization rather than a return to past vulnerabilities. Together, the three dimensions illustrate how the SDGs can function not merely as individual policy targets but as an integrated framework for guiding Ukraine's transition from recovery to sustainable transformation.

4. Conclusion

This study set out to explore how Ukraine's post-war recovery can be understood through the combined lens of the Sustainable Development Goals and the Stability–Efficiency–Adaptability (SEA) framework. The findings suggest that reconstruction should not be approached merely as a technical rebuilding process, but as a systemic reconfiguration requiring balance among institutional stability, productive efficiency, and long-term adaptability. The SDGs provide the normative direction for recovery—defining what a sustainable future should include—while the SEA model offers an analytical structure for understanding how such a future can be achieved. When stability is strengthened through inclusive governance and social protection, efficiency improved through coordinated infrastructure and economic policy, and adaptability fostered through education, innovation, and environmental transition, post-war recovery becomes a pathway to structural transformation rather than a return to pre-war vulnerabilities.

Table 1. Integrating All SDGs into the SEA Framework for Ukraine's Post-War Recovery

SEA Dimension	SDGs Included	Functional Role in Post-War Ukraine	Strategic Contribution
Stability	SDG 1 No Poverty SDG 2 Zero Hunger SDG 3 Health and Well-Being SDG 5 Gender Equality SDG 10 Reduced Inequalities SDG 11 Sustainable Cities SDG 16 Peace, Justice, and Strong Institutions	Restores the social foundations of the state, reduces grievances, supports population recovery, strengthens social trust, and prevents renewed conflict or fragmentation	Social cohesion, institutional legitimacy, human security, and durable peace
Efficiency	SDG 6 Clean Water and Sanitation SDG 7 Affordable and Clean Energy SDG 8 Decent Work and Economic Growth SDG 9 Industry, Innovation, and Infrastructure SDG 12 Responsible Consumption and Production	Ensures that reconstruction resources translate into productive systems through infrastructure, energy resilience, employment generation, and sustainable resource use	Productive reconstruction, fiscal sustainability, and functional public systems
Adaptability	SDG 4 Quality Education SDG 13 Climate Action SDG 14 Life Below Water SDG 15 Life on Land SDG 17 Partnerships for the Goals	Builds long-term resilience by fostering learning capacity, environmental restoration, international cooperation, and institutional flexibility for future shocks	Structural modernization, innovation capacity, ecological recovery, and global integration

Beyond its immediate application to Ukraine, this research contributes to broader discussions on post-conflict development by demonstrating how global development frameworks can be operationalized through systemic models such as SEA. The approach suggests that sustainable recovery depends not only on the selection of policy goals but on the structural relationships among them. Future studies could extend this work by empirically testing the SEA–SDG alignment across different post-conflict contexts, conducting longitudinal research on how these dimensions evolve during reconstruction, or developing quantitative indicators to measure stability, efficiency, and adaptability in real time. Additional research may also examine how governance quality, regional disparities, and international partnerships mediate the balance among these three dimensions. Such directions would deepen understanding of how systemic frameworks can guide recovery strategies and help transform crisis-affected societies into resilient and future-oriented systems.

AI Disclosure: *The authors declare that generative artificial intelligence tools (ChatGPT and Grok) were used solely for the purpose of improving the clarity, grammar, and academic English of the manuscript. These tools were not used for data analysis, interpretation of results, theory development, or the generation of original scientific content. All conceptual contributions, analyses, and conclusions presented in this article are entirely the responsibility of the authors.*

5. References and Bibliography

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