



REGIONAL SERIES

SUSTAINABLE RECONSTRUCTION

A Framework for Inclusive Planning and Financing to
Support Green Transition in the Arab States Region

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Acknowledgements

“The framework paper benchmarks the immense promise a sustainable reconstruction holds for the Sustainable Development Goals and building forward better, highlighting emerging insights on inclusive planning and financing. The research was enriched by knowledge and insights of policy makers and government officials as well as experts and practitioners in the field of sustainable development and green transition. Their dedication and commitment to creating a sustainable future for the Arab States Region are commendable. The finalization of the paper benefitted from the discussions with the participants at World Urban Forums, the Policy Roundtable by the League of Arab States-Japan-UNDP, as well as the Arab Forum for Sustainable Development, providing valuable feedback. Finally, we would like to thank all colleagues who have contributed from UNDP, UN-Habitat, and Oliver Wyman, and have worked tirelessly to bring this framework paper to fruition. Their dedication, professionalism, and collaborative spirit have been instrumental in every stage of this endeavor, from research and analysis to writing and editing.

I. INTRODUCTION

Urban areas are the “dominant organizing principle of human coexistence,”¹ bringing people together within communities connected through physical, social, and economic networks. Urban areas - including cities, towns, and semi-dense areas - provide the context for human settlements, where concentrated infrastructure is critical for meeting the needs of people, through provision of services, enabling effective governance, and supporting economic activities.² However, when urban areas are affected by conflicts or crises that fractures infrastructure, the residents are exposed to risk, and are often left without basic services such as food, water, and shelter. In the aftermath of conflicts or crises, the ensuing competition for resources and services may even exacerbate simmering tensions. Without attention to sustainable reconstruction of urban infrastructure, people and communities may remain unable to resume their lives with normalcy and reconnect the social, political, and economic fabric of human settlements.

In countries, such as some in the Arab States region, where more people live in urban areas than outside them, the challenge of linking people and places to services is significant. Yet in an affected urban context³, reconstructing infrastructure offers both hope and opportunity: hope of re-uniting people and communities, of restoring normalcy and building peace by providing shelter and improving services, and an opportunity to reconstruct the backbone of urban settlements so that the needs of people and planet are put first. But to achieve all of this, a shift in how we define infrastructure may be needed. One useful definition suggests moving away from the traditional view of infrastructure as physical assets, to one where infrastructure is “understood as systems comprised of assets, institutions, culture, and knowledge, which, when combined, enable the sustainable provision of public services.”⁴

More than half the world’s population lives in cities, while a quarter of this urban population resides in slums. The United Nations estimates that in 2050 – less than three decades from now – two-thirds of the world’s population will be living in cities.⁵ In the Arab States region, urbanization has been particularly rapid: in 1950, just two cities in the region had a million people, and by 2025 this is expected to be 31.⁶ Throughout the region, some 59 per cent of people already live in urban areas, but in some countries this figure is much higher: for example, in Jordan it is 92 per cent, Lebanon 89 per cent, Saudi Arabia 85 per cent, Libya 81 per cent, and Iraq 71 per cent.⁷

City living has its own set of challenges. The sheer numbers of people who live in them, and their interconnectivity through transport and service infrastructure, can leave cities particularly vulnerable in the event of crises, such as pandemics, extreme weather events, and natural or human-induced disasters. In affected areas, where infrastructure for essential service delivery may already have been damaged, crises bring additional strain and deepen the multidimensional challenges of urbanization to an alarming

¹ UN-Habitat, DESARAT and UNDP (2020). *The State of Arab Cities 2020: Financing Sustainable Urbanization in the Arab Region*.

² UN-Habitat (2022). *World Cities Report*.

³ Affected urban context refer to urban areas affected by protracted, active, or post conflict, natural, climatic, and man-made disasters.

⁴ Fantini C, Morgan G, Kumar S, Adeoti T, Reese A, Schouten P, Crosskey S & O’Regan N. (2020) *Infrastructure for Peacebuilding: The role of infrastructure in tackling the underlying drivers of fragility*. UNOPS, Copenhagen, Denmark (p5)

⁵ UNDESA (2018) *World Urbanization Prospects*.

⁶ UN-Habitat, DESARAT and UNDP (2020). *The State of Arab Cities 2020: Financing Sustainable Urbanization in the Arab Region*.

⁷ World Bank (2021). <https://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS?locations=1A>. Last accessed 29 January 2023.

degree. Yet, with urban economies accounting for 80 per cent of global GDP, the economic impacts of crisis can stretch far beyond cities to also be felt in rural areas and across national boundaries.

Sustainable, resilient infrastructure should be at the core of the development of cities. Infrastructure is the foundation of the built environment, central to the functioning of urban societies and economies, and critical to addressing inequalities and inclusion, along with enhancing social cohesion. It includes systems of roads, bridges, buildings, transportation hubs, and public spaces, and the provision of basic services such as energy, water, housing, education, health, waste management and telecommunications. Well-designed infrastructure can be built to accelerate the greening of reconstruction and the attainment of the Sustainable Development Goals (SDGs), which have been agreed to by the world's nations as part of the 2030 Agenda.

The 2030 Agenda cannot be achieved without rebuilding infrastructure in places where it has been damaged by conflict, natural, climatic, or man-made disasters, or just in need of upgrading and maintenance. Infrastructure projects can be catalytic and generate multiple impacts across several SDGs, that can help to achieve up to 92 per cent of their targets.⁸ In particular, networked service infrastructure (water, waste, energy, digital communications, and transport) directly influences 72 per cent of SDG targets, while non-networked infrastructure (buildings and facilities) influences 81 per cent of targets, reinforcing the pivotal role that infrastructure can play towards attaining the SDGs.⁹ However, across the world, infrastructure development has been outstripped by population growth, exacerbating inequalities and environmental challenges, and highlighting inadequate decision-making and planning.

Globally, an estimated USD 90 trillion is expected to be invested in infrastructure by 2040.¹⁰ Investment in infrastructure reconstruction during the post-COVID recovery era will be a priority for many countries, not only to advance their socio-economic recovery but also to ensure long-term development gains. In addition to prolonged climate-related hazards, the Arab region experiences depletion of natural resources, causing heatwaves, drought, and floods. Many countries within the Arab States region¹¹, such as Algeria, Bahrain, Egypt, Iraq, Jordan, Libya, Qatar, Saudi Arabia, Sudan, Syria, Tunisia, United Arab Emirates, and Yemen¹², are among the world's most water-stressed nations. In particular, some of these countries, namely, Lebanon, Libya, Sudan, Syria, and Yemen, have suffered prolonged conflicts or crises. Significant investment in infrastructure is expected where reconstruction is a need. In Yemen alone some \$25 billion is estimated to be necessary to restore or rehabilitate damaged core infrastructure and service delivery.¹³ Robust policy and institutional underpinnings, as well as adopting a holistic governance structure, will be crucial to unlocking investment and engaging partners and stakeholders. If these investments are made in a sustainable manner, using a systemic, sustainable, and inclusive approach, a country or a local area could accelerate development progress.

⁸ UNOPS. ['New Oxford University-UNOPS report stresses infrastructure as key to unlocking Sustainable Development Goals.'](#) 22 October 2018.

⁹ Ibid.

¹⁰ G20 Global Infrastructure Hub (<https://www.gihub.org/>).

¹¹ UNDP refers to 17 countries as Arab States Region which are Algeria, Bahrain, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, State of Palestine, Qatar, Kingdom of Saudi Arabia, Somalia, Sudan, Syrian Arab Republic, Tunisia, United Arab Emirates, and Yemen. While UN-Habitat refers to Arab States Region for the following 18 countries: Algeria, Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, State of Palestine, Oman, Qatar, Saudi Arabia, Syria, Sudan, Tunisia, the United Arab Emirates, and Yemen.

¹² Arab Human Development Report 2022

¹³ Taylor Hanna, David K. Bohl, Jonathan D. Moyer (2021). *Assessing the Impact of War in Yemen: Pathways for Recovery*. UNDP Yemen (<https://www.undp.org/yemen/publications/assessing-impact-war-yemen-pathways-recovery>).

Infrastructure is by its nature a long-term investment. It is built to last a lifetime, sometimes generations. Yet decisions about its construction can be short-term, subject to political and financial expediency. In affected contexts, humanitarian needs are the primary concern, while building infrastructure and socio-economic assets are companion activities, necessary to reduce the mounting economic losses and social inequalities, and to prevent new and consequent risks. But recent multiple crises, or so-called poly-crisis, – the confluence of conflicts, global pandemic, natural disasters, and climate change – show the multifaceted risks and impacts faced by countries (for example, inflation, debt, and increased demand on infrastructure) and will require integrated and multi-faceted solutions. This presents a rare opportunity for some countries, as they recover, to not only build infrastructure that delivers services, thereby improving lives and livelihoods, but also respond to communities' needs in a participatory way that serves to unite and sustain.

Countries emerging from conflict go through an intense process of infrastructure reconstruction, one that is usually not linear, and which could be stalled by fragility after active conflict ceases. In a favourable scenario, the immediate post-conflict phase is one of stabilization through relief measures. There is a transition phase that involves putting in place temporary infrastructure and short-term problem solving, which is followed by a longer and more permanent process of rebuilding.¹⁴ The measures put in place during these three stages are known respectively as absorptive, adaptive, or transformative. Sustainable reconstruction in a post-conflict setting may require additional considerations (e.g., through the Humanitarian-Development-Peace¹⁵ nexus, or HDP), of “escaping the fragility trap” of reconstructing in traditional manners¹⁶ and integrating infrastructure reconstruction with peacebuilding, thus tackling inequalities, while rebuilding resilient and inclusive institutions, social cohesion, mutual trust, and re-establishing trust in the government in the post-conflict period.

The coronavirus pandemic led to significant changes in transportation (including mass transit), health and education services and more, posing new requirements for sustainable reconstruction that are considered and developed in this Sustainable Reconstruction Framework (SRF).

A significant investment in urban infrastructure would enable a recovery that drives development for generations to come. Infrastructure is key to ensuring food security, through resilient supply chains and distribution networks. If managed properly, infrastructure augments peacebuilding, stabilization, and legitimacy and inclusion, as citizens participate in shaping the built environment of their communities and cities. It is critical for governments to take the lead in adopting a holistic governance approach to ensure greener infrastructure to accelerate social, economic, and environmental development that presents opportunities for inclusive and green development.

Some of that investment in infrastructure may be achieved using “blended financing” – where public development funding is used to leverage additional private commercial investment in projects that might otherwise be perceived as too risky. Strategic partnerships, between governments, international financial institutions, and the private sector, are needed and, upon their successful implementation, can help prove the viability of sustainable development projects, increasing their impact and helping “crowd in” private funding to expand or replicate good practice projects.

¹⁴ These are not watertight compartments or a linear process but often overlapping. For further guidance see the Sustainable Relief and Reconstruction Policy by UN-Habitat (<https://unhabitat.org/humanitarian-affairs-and-the-role-of-un-habitat-strategic-policy-on-human-settlements-in-crisis-and>)

¹⁵ The Human-Development-Peace nexus is a process where humanitarian needs, development outcomes, and the peacebuilding elements of a crisis are addressed simultaneously through coordinated, coherent and collaborative responses.

¹⁶ Building for Peace Reconstruction for Security, Equity, and Sustainable Peace in MENA, 2020

What would sustainable reconstruction look like? A holistic approach incorporates a green recovery, people-centric and participatory planning, and digital transformation, which are pivotal areas that should be approached in an integrated manner. Investing in sustainable reconstruction implies balancing the requirements of infrastructure with the needs of people and the planet. It encompasses not just large-scale projects that focus on the built environment, but should also include people-centred and nature-based solutions¹⁷ that are cost-effective and resource-efficient. Sustainable infrastructure protects the natural environment and biodiversity and helps reduce carbon emissions that are warming our world and leading to climate change.

The goal of the Sustainable Reconstruction Framework (SRF) is to provide insights on how to re-build, while focusing on improving livelihoods and services, and contributing to resilience, social cohesion, environmental performance, disaster preparedness, peacebuilding, and conflict prevention. In short, the aim of the SRF is to provide a comprehensive framework for strategic engagement and help countries build forward better, even as they emerge from challenging contexts.

The SRF presented here is the result of a partnership between UNDP, UN-Habitat, and the management consultancy firm Oliver Wyman. It proposes an integrated approach to sustainable reconstruction, drawing on examples from countries in the Arab States region. Sustainable reconstruction rebuilds the economy and systems of governance, offers real returns in GDP, makes countries environmentally sound, and ensures growth that impacts all levels of society, including the most vulnerable and excluded to ensure no one and no place is left behind. It embodies a holistic view that encompasses the whole of government and the whole of society approaches.

II. THE FRAMEWORK

The objective of this document is to provide a practical framework for countries, cities, and regions, in particular those in an affected context, to design and implement sustainable reconstruction that accelerates building back better. However, it may also provide useful insights for strengthening or rebuilding infrastructure found to be inadequate in the face of multiple crises, or poly-crisis, and for updating infrastructure in a sustainable manner.

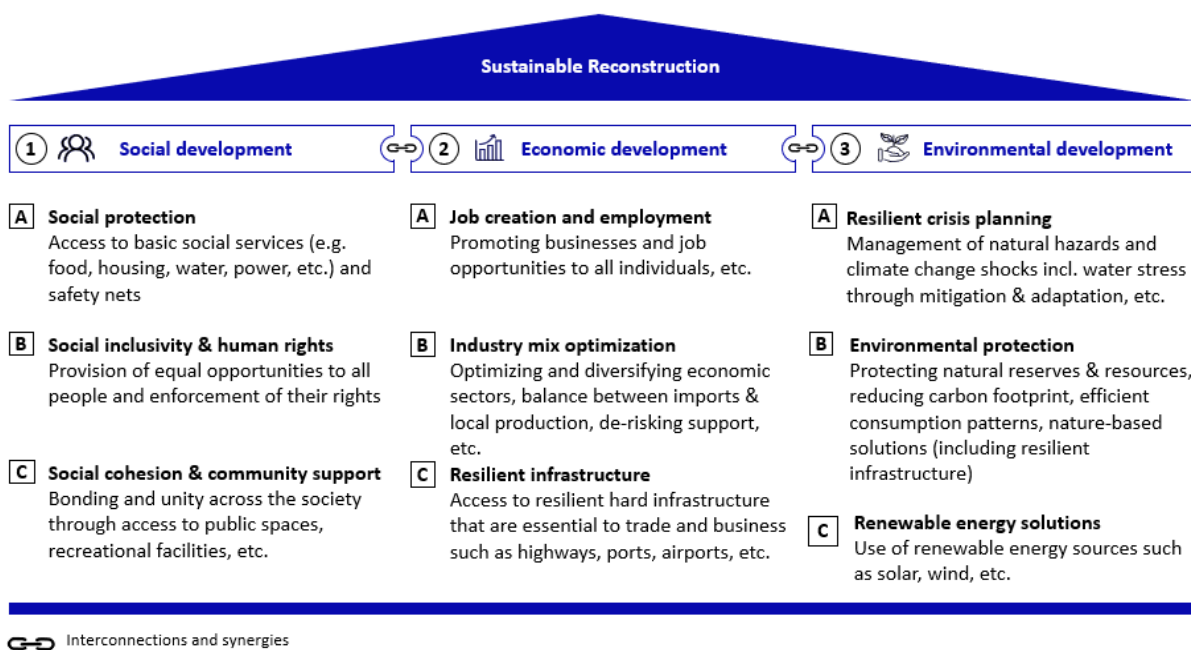
The SRF is an operational tool based on the ground realities of affected countries and cities regarding the reconstruction of infrastructure in a sustainable manner. It draws on the analysis of over 100 reports and consultations with cross-sectoral stakeholders – government officials, planners, investors, and others – in Iraq, Libya, State of Palestine, Syria, Sudan, and elsewhere. It is intended to be used by stakeholders involved in infrastructure planning and development, policy makers, organizations involved in reconstruction, the private sector, and academia. In post-conflict political realities, a careful approach will be required, owing to sensitivities of impacted and other countries, about the shift towards reconstruction. Entry points for policy dialogue need to build upon existing efforts that foresee a gradual shift from recovery to reconstruction, while ensuring that sustainable development objectives can be met and significant gains can be achieved as a part of a Humanitarian-Development-Peace nexus.

¹⁷ Examples of nature-based rebuilding include mangroves for protection from erosion and coral reefs as a protective barrier against tsunamis, storms, floods and rising sea levels.

A framework for sustainable reconstruction

The framework for sustainable reconstruction rests on three key pillars that promote development and the achievement of the 2030 Agenda and the SDGs: (1) re-establish jobs and livelihoods; (2) reduce future vulnerabilities; and (3) build resilience. These three pillars are linked to social, economic, and environmental development, while also being interconnected and influenced by each other.

Figure 1. The three pillars of sustainable reconstruction



Source: Oliver Wyman analysis

Under each of the three pillars, concerted policy changes can originate and be driven by conducting needs assessments and identifying issues across the sub-pillars.

Social development and services

- 1. Social protection¹⁸ and services:** Providing citizens or displaced individuals (refugees and IDPs) with universal access to essential quality services and basic rights (e.g., food, water, housing, sanitation, energy, information technology networks, education, healthcare, transportation, tenure security, and addressing housing, land, and property rights violations).
- 2. Social inclusivity and human rights:** Providing equal opportunities and rights to all, regardless of gender, race, colour, religion, disability, **sexual orientation**, social class, age, marital status, or family responsibilities to emphasize social integration and diversity, while promoting and

¹⁸ Social protection is also a cross-cutting theme in the three pillars. For example, see UNDP's Social protection offer 2.0: <https://www.undp.org/publications/undps-social-protection-offer-20>

protecting natural and legal rights. It is integral to facilitate access to public discourse and civic participation and representation at all levels. Inclusive reconstruction planning and community participation, along with conflict sensitivity, can also be addressed.

3. **Social cohesion and community support:** Ensuring social bonding and unity across communities through access to public spaces, community services, recreational facilities, and community-led development.

Economic development

1. **Job creation and livelihoods:** Promoting measures to increase remunerative and productive employment opportunities that are compatible with national and local comparative advantage across various sectors. This should also cover the safety and security of workers. Furthermore, the measures should not only consider jobs that have been generated during construction, but also longer-term jobs to operate and maintain (O&M) infrastructure. For any infrastructure to be sustainable, it should have an O&M plan, which should be supported financially by the government in national budgets. A financial model for the infrastructure is essential for sustainability to ensure return on investment, contribution to the economy, and short and long-term jobs. This financial model can be used as a baseline or a monitoring mechanism for delivery of services.
2. **Industry mix optimization:** Empowering and promoting certain industries and economic sectors to reach their full potential and contribute to local and national economic growth, while achieving the right balance between local production and imports, and diversifying this mix to reduce economic dependence on any one sector (e.g., oil). Further, local production goes beyond local consumption to reach export markets, where exports will be vital for sustaining growth and to build up foreign exchange reserves in the post-conflict period.
3. **Resilient Infrastructure:** Providing hard infrastructure, such as roads, highways, ports and airports, as well as water, energy, waste management, and digital connectivity that are able to absorb, adapt, and recover while building forward better to improve inclusive access and enhance lives and livelihoods by supporting growth in operations of businesses, enterprises, and other economic activities.

Environmental development

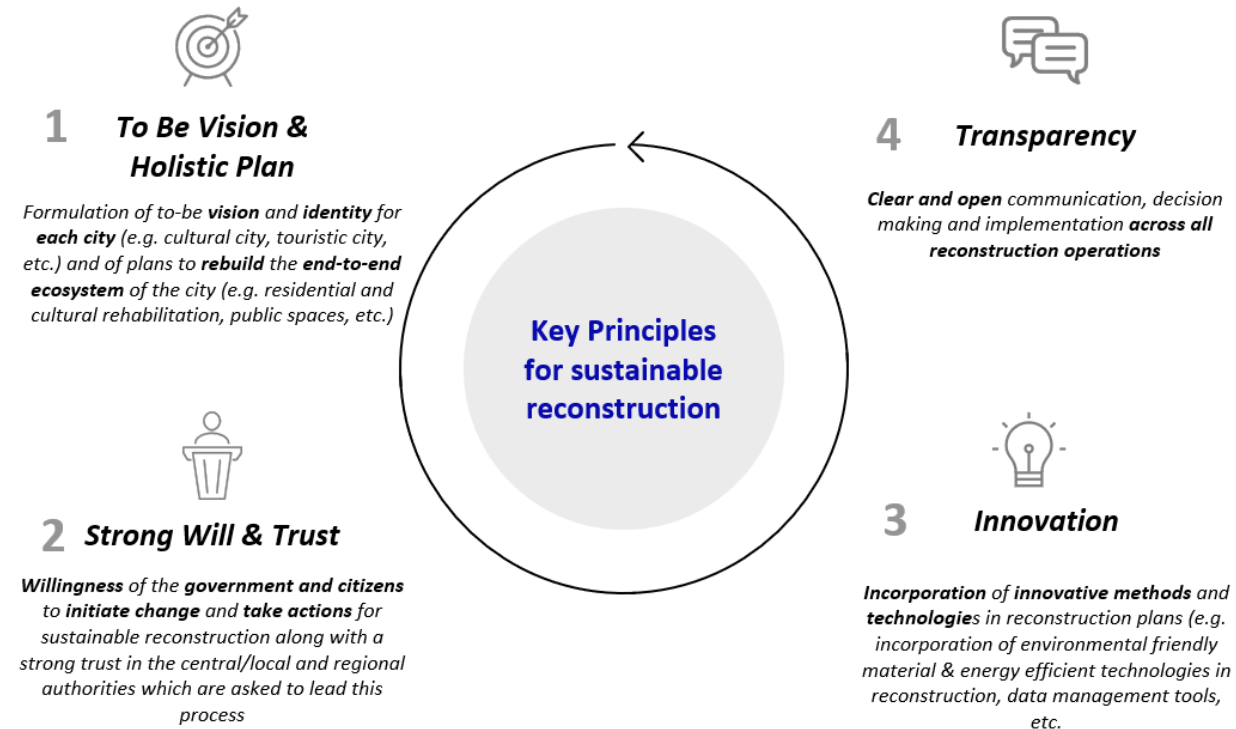
1. **Resilience and crisis planning:** Strengthening the ability to absorb, recover, and integrate disaster risk measures in the planning and handling of natural disasters, along with climate-related and man-made hazards.
2. **Environmental protection:** Managing and minimizing pollution of all forms (e.g., water, air, and soil) to eradicate health risks and environmental contamination, conserving and managing natural resources to ensure healthy ecosystems, adapting efficient production and consumption of resources (e.g., lower greenhouse emissions, and the deployment of recycling methods) and establishing solutions that facilitate a circular economy.
3. **Renewable energy solutions:** Providing access to affordable, reliable, and efficient renewable energy sources (e.g., solar and wind), while increasing the share of renewable energy sources in total energy consumption.

Principles for successful reconstruction

Countries, territories, and/or cities will first need to understand and adopt the following set of principles without which sustainability will not be possible. These ensure commitment to and the robust planning

of sustainable reconstruction. Setting up tools and a guiding framework can only follow when these commitments are in place. This paper uses the language under the Sustainable Development Goal 5 as its reference for interpretations of issues of gender equality.

Figure 2. key principles of sustainable reconstruction



Source: Oliver Wyman analysis

Mechanisms to implement sustainable reconstruction

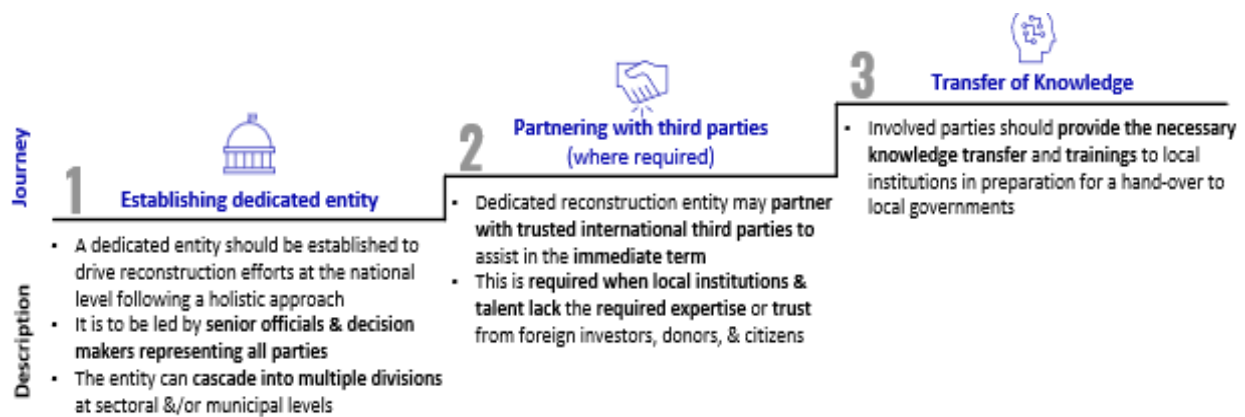
The first step towards establishing a dedicated mechanism to implement sustainable reconstruction involves the identification or formation of an entity to drive reconstruction efforts on the national or local level.¹⁹ This entity should be focused on rebuilding, which includes setting targets, coordinating multiple stakeholders, monitoring implementation, and tracking funding and progress. Otherwise, it will be difficult, if not impossible, to manage the complexity of this process in a manner that is holistic and in keeping with the end-to-end vision of the city, while ensuring that all reconstruction efforts are completed in a timely fashion.

¹⁹ Centralized structures could be challenging in some contexts both from the perspective of political acceptance and also to ensure that the basic building blocks for decentralization are not impinged by a powerful central reconstruction authority. An independent fund may be considered that ensures donor funding is carefully managed without full control of the central authorities, with appropriate due diligence mechanisms in place. This could be designed to mirror an inter-governmental fiscal transfer system for local authorities, which could be transferred to the concerned government when sufficient confidence has been achieved. But empowerment of local authorities and communities should be prioritized.

A new and empowered entity would require a clear mandate and role that avoids duplication of responsibilities with existing institutions. It would also be critical to install a sufficient spatial planning system, based on new or existing assessments, to address any urban challenges that may be contributing to social conflicts in the region. This system should help the institution to incorporate green and sustainability measures in the reconstruction planning.

Figure 3 outlines the importance of establishing a dedicated entity for reconstruction, preferably led by senior officials and decision-makers, which brings together all key stakeholders to encourage and incorporate multiple perspectives. This will help achieve consensus, build social cohesion, and ensure the efficient implementation of reconstruction plans and policy changes. Depending on the country context, a local or sub-national authority may be more appropriate.

Figure 3. Journey of setting up dedicated reconstruction entity at national or local level, considering multi-level governance and spatial development



Source: Oliver Wyman analysis

In addition, Figure 3 also highlights the second major tool to drive sustainable reconstruction, which is the active formation of partnerships by a dedicated reconstruction entity. In cases where there is a dearth of expertise and trust among local institutions, donors, citizens, and foreign investors, the reconstruction entity can forge partnerships with trusted international third parties to ensure the effective implementation of reconstruction efforts. This will allow the entity to leverage the skills and capabilities of the third party, attract funds and investments, and build the confidence of local communities. Such was the case in Iraq, where the Government partnered with the Japan International Cooperation Agency (JICA) and UNDP to monitor the implementation of projects funded by a \$17 billion loan from Japan. An online data portal was also established by the Ministry of Planning, in collaboration with UN-Habitat, to monitor the implementation of reconstruction projects.

Figure 3 also emphasizes the role of third parties, which partner with the dedicated reconstruction entities, in facilitating a complete hand-over of responsibilities to local authorities and institutions in the long-term through training, capacity-building, and the transfer of knowledge.

When setting up a dedicated entity, associated risks must be carefully identified and managed. For instance, the local government/third party and the national government may not agree on recommendations provided; the local government/third party does not receive support from the national

government (the entity); and the local government/third party might not be in the best position to answer to the needs of beneficiaries.

In all the cases highlighted in Figure 3, the dedicated entities fulfil these key roles:



Set vision and targets for reconstruction.



Map out the reconstruction efforts and plans.



Define priorities.



Coordinate among stakeholders (vertical and horizontal coordination)



Establish information and data platforms.



Manage different sources of funding (including international and private-sector funding, donations, grants and loans)



Monitor implementation of the reconstruction process at all levels



Track progress and performance

BOX: Infrastructure and gender equality

Mainstreaming of gender considerations across all stages of the SRF and the three pillars of social, economic, and environmental development remains central to guaranteeing an inclusive and sustainable recovery for all.

Incorporating gender into infrastructure design and all stages of the infrastructure life cycle has the power to address gender inequalities and empower women by responding to diverse needs in society and can accelerate the socio-economic mobility of women, girls, and other underserved or disadvantaged groups.²⁰

²⁰ Morgan G, Bajpai A, Ceppi P, Al-Hinai A, Christensen T, Kumar S, Crosskey S & O'Regan N. Infrastructure for gender equality and the empowerment of women. UNOPS, Copenhagen, Denmark (<https://www.unops.org/news-and-stories/news/infrastructure-for-gender-equality-and-the-empowerment-of-women>).

Several tools and methodologies support mainstreaming gender into reconstruction and crisis response:

- [UNDP Gender and Recovery Toolkit](#) (2020). This provides guidance on how to enable the leadership of women and girls while making sure that their specific needs are met. It consists of seven thematic guidance notes covering UNDP's main areas of work in crisis and recovery contexts.
- The World Bank's [Gender Dimensions of Disaster Risk and Resilience: Existing Evidence](#) (2021). Gender inequalities can result in gender-differentiated disaster impacts, and differentiated impacts can influence gender dynamics, which in turn affect future resilience to shocks. Disaster risk management policies are designed to maximize results, taking local conditions – including gender dynamics – as fixed. An improved understanding of the gender dynamics of disaster risk and resilience allows for better policy and programme design, which benefits all stakeholders.
- [Her City – A Guide for Cities to Sustainable and Inclusive Urban Planning and Design Together with Girls](#) (2021) supports urban development from a girl's perspective through a step-by-step methodology and tools that provide an open and digitally accessible platform for project implementation. It is a joint initiative by UN-Habitat and Global Utmaning (Global Challenge). It is financed by the Swedish Innovation Agency (Vinnova) with contributions from the Block by Block Foundation, White Architects, the Swedish Union of Tenants, and MethodKit.
- [COVID-19 and Gender Monitor](#) (2020) is a compilation of indicators that will inform gender-responsive policy action on COVID-19. It is an inter-agency collaboration with inputs from the International Labour Organization, the International Telecommunication Union, the United Nations Conference on Trade and Development, UNDP, UN-Habitat, the United Nations High Commissioner for Refugees, the United Nations Children's Fund (UNICEF), the United Nations Office on Drugs and Crime, the World Food Programme, the World Health Organization, and many others.
- [Global Land Tenure Network Gender Strategy \(2019–2030\): Towards Securing Women's and Girls' Land and Property Rights](#) (2019), by UN-Habitat and the Global Land Tenure Network (GLTN), provides a framework for designing land tenure and governance interventions around women's and girls' land and property rights.
- [Cities Alive: Designing Cities That Work for Women](#) (2022), published by UNDP, Arup, and the University of Liverpool, examines ways to include the mainstreaming of gender equality across urban planning projects.

The SRF goes hand-in-hand with the Urban Recovery Framework, or URF, developed by UN-Habitat. The URF outlines a comprehensive approach to rebuilding throughout all stages (absorptive, adaptive, and transformative) of the recovery process, whether from conflict or natural or human-induced disaster, in a cost-effective manner, while the SRF has a specific focus on reconstructing infrastructure amidst or at the end of conflict and crises, and after immediate humanitarian needs have been met (the transformative phase) in a sustainable and inclusive manners. The Sustainable Reconstruction Framework (SRF) complements the UN-Habitat's Urban Recovery Framework (URF), which provides tools for identifying priorities in the reconstruction areas in cost-efficient matters, by providing guidance for the reconstruction to be sustainable and inclusive. It is highly recommended that the SRF be applied in tandem with the URF. Additional tools, methodologies and in-depth guidance notes are included in the suite of tools (*see Appendix 11 and Annex*).

The SRF's core uses are to assist the baseline assessment and planning, identifying key elements that construe a sustainable reconstruction, and adopting best practices.

Box: Urban Recovery Framework

The Urban Recovery Framework (URF)²¹ is a joint effort by UN-Habitat, the World Bank, and the European Union to enhance response to urban crises. The aim of the URF is to create an enabling environment for more effective recovery in urban areas affected by natural or man-made crises, including conflict. It consists of institutional and multi-level governance arrangements, policies, and plans, along with the coordination mechanisms and the financing instruments that are needed to drive and steer the implementation of immediate and medium-term urban recovery interventions, while laying the foundations for longer-term resilience.

The URF is based on urban profiling, a tool that supports a better understanding of displacement patterns, integrating various sectoral assessments of damage and pre-existing vulnerabilities into a spatial analysis of the city. It helps to unpack the complexity of urban areas and systems, preparing the ground for a tailored area-based response. As such, the URF is a tool to work across the humanitarian-development-peace nexus.

Humanitarian needs in cities resulting from natural and man-made crises are enormous and will grow because of climate change-related disasters and continuing state fragility in some areas. The URF responds to the need to formulate common positions, advocacy, and principles for urban recovery, while recognizing the progress made in the past years, both conceptually and in practice. The need for urban-adapted models to respond to crises has resulted in multi-partner collaboration in the development of urban analysis and area-based response approaches, novel regional funding modalities, and a growing academic literature on urban recovery. The URF is built on the learning from these efforts and has been tested and refined through implementation in crises-affected cities in the Arab States.

The approach has been developed with three broad strategic objectives:

1. To strengthen institutional arrangements and guide investments to optimize recovery impact and to deliver cost-efficient urban recovery.
2. To contribute to integrated response within the humanitarian-development-peace nexus, from stabilization, early recovery, resilience, and reconstruction programming, addressing root causes and crises impacts.
3. To improve urban governance, including strengthening local capacities and participatory mechanisms, promoting local ownership, accountability, and restoring the social contract.

To address the complex, compounded, and protracted nature of urban crises, including risks and short- and long-term impacts of shocks, the URF stresses a transformative approach to build back better – or even bounce forward. By bringing together multiple stakeholders and prioritizing actions at the national, city, and neighbourhood levels, URFs are useful to guide funding decisions for implementation and make aid effective and impactful.

²¹ UN-Habitat, “Urban Recovery Framework: An enabling institutional and policy framework to support resilient urban recovery at scale and the renewal of the social contract in urban crisis contexts”, March 2022.

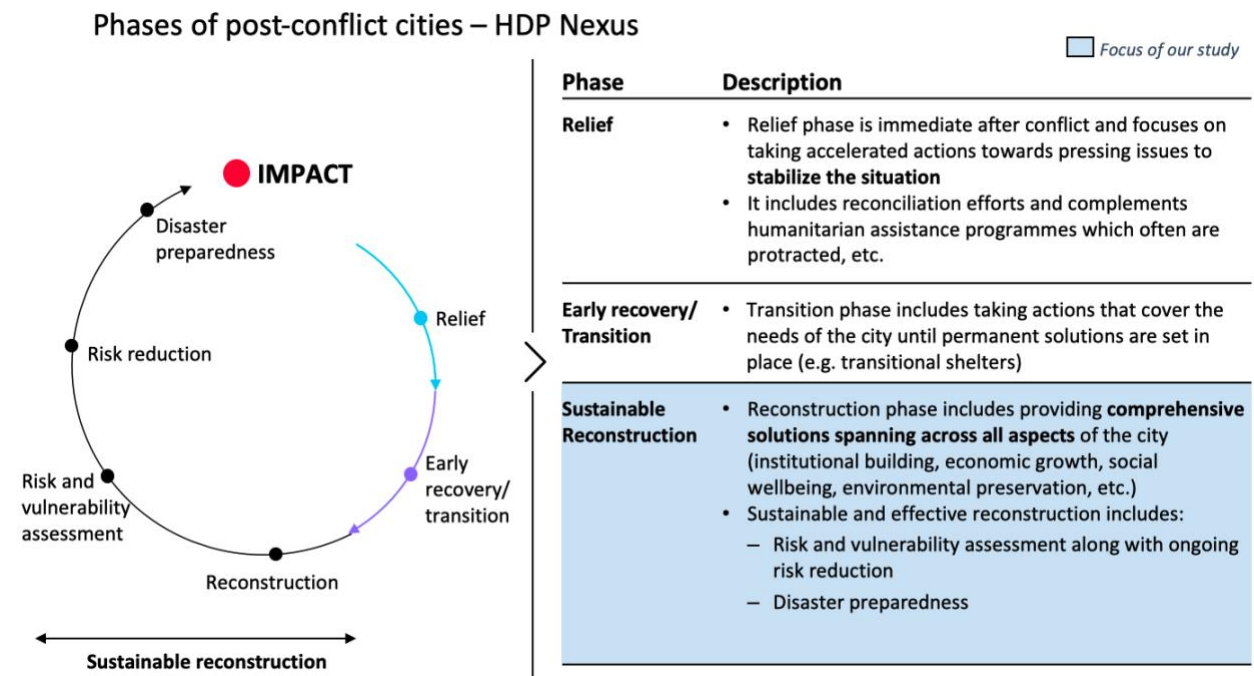
Humanitarian-Development-Peace nexus at the core of reconstruction

There is increasing recognition that focusing on humanitarian needs alone can undermine development outcomes and may even exacerbate a humanitarian crisis, or, in conflict-affected contexts, undermine the achievement of sustainable peace. For this reason, it is necessary to address the humanitarian, development, and peacebuilding elements of a crisis simultaneously. As these three elements often have inter-related root causes, they require coordinated, coherent, and collaborative responses. This approach is referred to as the Humanitarian-Development-Peace (HDP) nexus, and it underpins the work of both UNDP and UN-Habitat in the Arab States region.

As countries begin to recover, whether from direct and indirect consequences of shocks, it is critical that all three aspects of the nexus are worked on from the outset of any humanitarian response, including reconstruction. This approach is further supported by both the URF and the SRF, which promote urban resilience and sustainability.

Typically, the crisis periods involve a phased non-linear process from recovery towards rebuilding. The first phase puts in place measures that provide relief and help cities or local areas stabilize the situation as they emerge from conflict. This could be followed by a transition period of early recovery, where temporary solutions are put in place for infrastructure needs, like housing rehabilitation and other immediate needs, followed by a third phase when long-term reconstruction begins. In the URF, measures put in place in these three stages are known respectively as absorptive, adaptive, and transformative measures.

Figure 4. Focus of the Framework



Source: UN, Oliver Wyman analysis.

The reconstruction phase delivers long-term, comprehensive, and sustainable solutions, and planning for them should align with the goals of the HDP nexus. This should start in the stabilization phase and will

require a long-term outlook. Given the often-protracted nature of conflict, and recovery from it, reconstruction may be about more than rebuilding; it may also be about saving lives and providing protection.

The shift from recovery to reconstruction may take years, or could be immediate, following a political settlement, political transition, or the end of an event that caused a natural disaster. But a holistic process that responds to a needs assessment, or urban analysis under a URF, should be considered. It is also important to involve the private sector and foreign direct investors in this process to ensure they also abide by the principles of sustainable reconstruction. (See Appendix 11).

Risks should be considered in the earlier recovery stage, including appropriate due diligence mechanisms. This is a major theme that must be addressed in post-conflict realities.

The economic and socio-environmental case for sustainable reconstruction

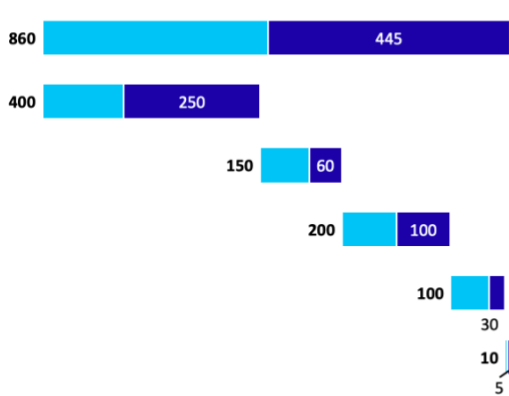
THE ECONOMIC CASE

Countries embarking on sustainable reconstruction have big economic growth opportunities, including growth in annual GDP (ranging from \$250 billion to \$845 billion of incremental GDP per year in the Arab States region as estimated in Figure 5), which leads to job creation and improved livelihoods, and potential reduction of poverty and inequalities. Globally, by 2040, an estimated \$90 trillion will be invested in urban infrastructure.²² In the Arab States region, the infrastructure sector can generate many immediate and medium-term jobs, particularly if investments, estimated at between \$445 billion and \$860 billion in the countries listed in Figure 5 below, are leveraged efficiently and are based on policy changes that are made to meet SDGs. Attracting this investment is especially important in the Arab States region, where revenues from oil may be at risk as the world's fight against climate change prompts a shift towards greater use of renewable energy technologies.

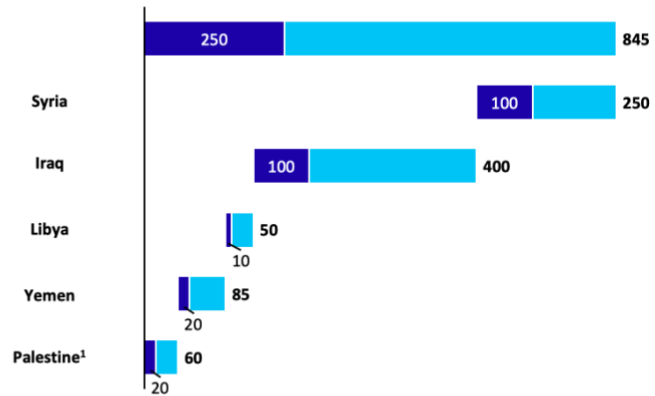
Figure 5. Estimated GDP increase due to sustainable reconstruction

²² G20 Global Infrastructure Hub (<https://www.gihub.org/>).

Reconstruction investment required
Billion, USD, by country, 2018



Annual GDP increase in a sustainable state
Billion, USD, by country



Conservative scenario (minimum range) Aggressive scenario (maximum range)

GDP increase is conditional on policy changes to meet the Sustainable Development Goals

Source: Oliver Wyman analysis, based on the data made available by Christian Science Monitor 2019; World Bank 2018; Al Sahid Witness 2018; Reuters 2014; Debriefier 2019, Al-Awsat 2019;.

Note: Includes Gaza only. The GDP increase is based on attaining 50-100% of the GDP per capita of a benchmark country. Assumptions include a 60% lower bound for Libya due to the country’s comparative advantage, and the attainment of 10-25% of the GDP per capita of a benchmark country for Yemen. This study does not entail support and/or acknowledgement of reconstruction activities and efforts in the above-mentioned countries.

THE SOCIO-ENVIRONMENTAL CASE: INCLUSIVE DEVELOPMENT AND PEACEBUILDING

Sustainable reconstruction is about balancing the needs of people, the economy, and the environment to build back better than before. It is about more than just rebuilding infrastructure with expanded green space; instead, it should look ahead to meet longer-term needs and promote stability. In the past, reconstruction that focused on short-term or limited goals rarely had lasting impact, particularly in mitigating conflict. Water is a prime example of this in the Arab States region where the evidence shows that we need to prioritize focusing on water infrastructure to mitigate future crisis. (See Figure 6).

Figure 6. Water management challenges resulting from sub-optimal reconstruction

Impact of sub-optimal reconstruction on conflict – Example on poor water management

Selected case studies



Source: European Council of Foreign Relations, Atlantic Council, Oliver Wyman Analysis

As Figure 6 illustrates, sustainable water management involves thinking across a range of issues, including governance, climate change, and energy. Sustainable reconstruction takes an inclusive and holistic approach, and in doing so it ensures that the gains are felt throughout society, particularly among the most disadvantaged, where tensions may simmer as competition for resources grows.

Box. Prioritizing Water infrastructure

Water scarcity is one of the most pressing issues in the Arab States. The Middle East and North Africa is the world's most water-scarce region, where 60 per cent of people have little or no access to clean drinking water.²³ Falling below the water poverty line of 1,000 cubic metres per capita per year, the region suffers from persistent water scarcity.²⁴ Indicators estimate that, by 2050, water resources in the region will drop even further to 11 times less than the global average.²⁵ In fact, water consumption by humans is only a fraction of overall water consumption: the bulk of it goes to food production and industry.

Conflict can destroy water and sanitation infrastructure, exacerbating water scarcity and increasing the risk of water-borne diseases. In Syria, half of the water infrastructure was destroyed or made dysfunctional due to conflict, with supply rates falling to 5-30 per cent of pre-crisis levels. In Iraq, the estimated cost of damage to water and sanitation infrastructure due to conflict is more than \$600 million.²⁶ In the crisis-affected countries, infrastructure may also be damaged or inadequate because of an absence of maintenance or degradation of the natural environment.

²³ Ibrahim Al-Zu'bi. ['Water scarcity is a growing problem across the Middle East. Is this how we solve it?'](#) (2019). World Economic Forum. 29 March 2019.

²⁴ UNDP and GEF (2018). [Climate Change Adaptation in the Arab States: Best Practices and Lessons Learned](#).

²⁵ World Bank. (2014). [Water in the Arab world: from droughts to flood, building resilience against extremes](#), 21 March.

²⁶ UNDP, ESCWA (2018). Conceptual Framework for Moving Towards Water Security in the Arab Region.

Rebuilding damaged water infrastructure in the Arab States is essential as the region cannot depend on rain, the uncertainty of which is aggravated by climate change. In this context, an integrated approach to water management and reconstruction of infrastructure for water storage, distribution, and access is essential. Yet, institutional roles related to policies around water are not always clear in certain governance structures, and regulations related to water may at times be divergent. Water, climate, and clean energy are often under the Ministry of Environment, and are not integrated with urban planning, which may be the responsibility of ministries in charge of housing, planning, local governments and public works, and municipalities.²⁷ An integrated approach to water management is recommended to ensure a holistic approach to infrastructure reconstruction that balances social, economic, and environmental priorities.

Box: Prioritizing people-centric reconstruction after the Beirut explosion

Reconstruction must be informed by the social, cultural, economic, and political trends shaping urbanization in a locale. UNDP published an assessment arguing for a participatory, community-based, approach to the reconstruction efforts after the Beirut port explosion of 4 August 2020 that acknowledges people's voices and demands and engages them in decision-making. It calls on those involved in recovery efforts to ensure people's human rights are protected and fulfilled. Lebanon continues to face a socio-economic crisis, which has been further exacerbated by the COVID-19 pandemic and the war in Ukraine that has impoverished more than 2.7 million people, qualifying 55 per cent of Lebanese as poor and forcing 86 per cent of families in greater Beirut to live on less than \$200 a month. The economic impacts of the explosion have affected the whole country. Sustainable reconstruction in Lebanon, therefore, demands addressing various vulnerabilities and prioritizing social groups with the most intersecting disadvantages.²⁸

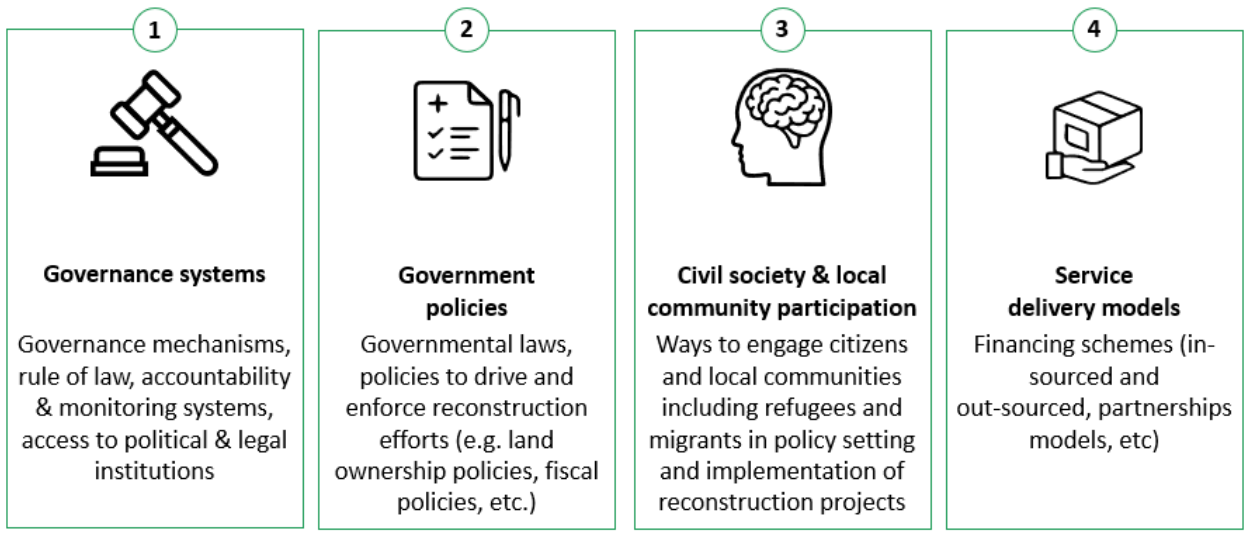
THE ENABLERS: PRE-REQUISITES FOR SUCCESS

For any framework of action to be effective, certain enablers should be in place at the levels of government (systems and policies), civil society and local communities, and service delivery.

Figure 7: Enablers that are key to an effective framework.

²⁷ Ibid.

²⁸ UNDP (2020). [Leaving No One Behind for an Inclusive and Just Recovery Process in the Post-Blast Beirut](#).



** Local, sub-national, and international partnerships are cross-cutting enablers for infrastructure reconstruction.*

Source: Oliver Wyman analysis

Governance systems: This requires setting up multilevel governance mechanisms for the delegation of authority (as necessary), monitoring and accountability, and transparency. It also includes the presence of and access to political and legal institutions, such as courts and judiciary systems, ministries, governmental organizations, committees, etc.

Government policies: Policies and decrees that will drive and enforce reconstruction efforts, such as property ownership, and fiscal and monetary policies, will be required.

Civil society and local communities’ participation: Local groups and communities must have a stake in decision-making, reconstruction planning, prioritization of interventions, implementation, and decentralization towards area-based recovery, through focus groups, civil committees, and other adequate means for participatory local governance.

Service delivery models: Financing schemes must be in place to fund reconstruction. These include domestic resource mobilization, public-private partnerships, direct local or foreign investments, loans, grants, and direct investment by communities.

BOX: The digital case in the SRF

Digital infrastructure has the potential to connect physical spaces, information assets, and individuals. After conflicts and crises, digital connectivity is critical for enabling public access to information. It also speeds up the aggregation and dissemination of risk information, allowing for development practitioners and local authorities to mobilize resources efficiently.

Structural barriers for the development of digital infrastructure include a lack of stable connectivity and significant initial investment costs. According to estimates from the International Telecommunication Union (ITU), around 195 million people in the Arab States, or [45.4 per cent](#) of the region's population, do not have stable internet connectivity. An urban-rural divide is further evident.²⁹

Information technology and digital infrastructure are nonetheless of relevance for the SRF. Areas where digital solutions might have a direct impact include:

- **Facilitation of contingency planning and dissemination of risk information**
In the reconstruction of Beirut, Lebanon, UNDP together with the European Union and volunteers from Frontline Engineers [digitized and tailored the Household and Building Damage Assessment](#). This sped up ground surveys of debris and damage using a mobile application.
- **Sustained delivery of social protection and aid services**
Digital communications are also vital in sustaining the continuity of essential services, like social protection and remote legal assistance. Using cloud computing and big data analysis, for instance, a partnership between Microsoft and the UN Office of the High Commissioner for Human Rights, enabled large volumes of [data on rights violation](#) in specific countries to be collected in real-time.
- **Increased cost-efficiency in local resource planning**
Geospatial information infrastructure and community-level mapping techniques offer cost-efficient means to collect granular data, and consequently for local responses to be more representative of population needs by area or territory. In Syria, for instance, there were plans for UNDP, UN-Habitat, and the United Nations Population Fund (UNFPA) to build an [integrated Municipal Information System](#) and urban risk matrix in response to the COVID-19 pandemic, with the use of relevant spatial databases and data collection tools.
- **Improved local governance and accountability**
In Iraq, the Estonia e-Governance Academy is supporting a [digital landscape assessment](#) to evaluate digital strategies and regulatory frameworks. This is aligned to broader efforts for digital transformation of the public sector and enhancing public services provided to citizens. Specifically, there are plans to convert Karbala city to a “Smart City”, using e-governance tools to enable efficient local and central government services for Karbala citizens and visitors. In addition, an e-learning platform for the local police was conceptualized, to provide access to fundamental training courses on standard operating procedures, but also more specialized training, such as first response, crime scene management, and forensics, to strengthen governance of the security and justice sector.
- **Accelerated socioeconomic recovery and restoration of livelihoods**
In the Lahj governorate of Yemen, a [waste-to-energy initiative](#) is expected to convert up to five tons of municipal and agricultural solid waste into 100 kilowatts per hour of electricity. Estimations are that this would provide affordable electricity access (\$2 for 12 hours, in comparison to \$20 for 12 hours by conventional sources of fossil fuel) to about 100 small businesses and generate close to 7,500 job opportunities in maintenance and operations.

²⁹ ITU estimates in the region suggest that 74 per cent of urban households are connected to stable broadband internet, as compared to 38 per cent of the rural population.

Informal workers who were formerly involved in solid waste collection could also gain a more consistent income stream.

Key lessons from the deployment of digital infrastructure include:

- A multi-stakeholder partnership or collaboration allows for risk-sharing when building up digital infrastructure, and the design of reconstruction to address significant pre-existing gaps in access.
- Resource and funds optimization could be achieved by establishing functional interagency linkages.
- Targeted planning of common digital infrastructure and “building blocks” of hardware and software systems that may be shared and interoperable across local and central government agencies and development can cut costs.
- Clear objectives, business needs, and indicators for impact assessment have to be defined at preliminary stages.

A notable example is the Airband Initiative by Microsoft, which brings together internet service, energy access, and telecommunications service providers with non-profits and local entrepreneurs. Besides direct investment in infrastructure for fixed broadband networks, a hybrid approach was taken to leverage fixed wireless, TV white space, and satellite coverage for expanded delivery of last-mile connectivity.

III. EXAMPLES FROM THE FIELD

The following examples (Table 1) are of specific policy measures that were successfully implemented in the Arab States region during reconstruction in a post-conflict or post-crisis phase.

Table 1. Examples from the field

Pillar	Measure/sector/impact	Country	Action
Social development	<p><i>Measure:</i> Inclusive policies</p> <p><i>Sector:</i> Water, electricity, sewerage, removal of rubble; rehabilitation of schools, health centres, and government buildings; and housing for returnees</p> <p><i>Impact areas:</i></p> <ul style="list-style-type: none"> • Inclusivity • Vulnerable groups and people with disabilities • Disaster risk response and recovery 	Iraq (areas liberated from ISIL)	In collaboration with the Government of Iraq and through the Funding Facility for Stabilization (FFS), UNDP supported the reconstruction of infrastructure, including public-service delivery infrastructure (water, electricity, sewerage, and the removal of rubble), rehabilitation of schools, health centres, and government buildings, and housing for returnees. Since 2015, more than 3,000 projects have benefited an estimated 15.8 million people and facilitated the return of five million IDPs.
	<p><i>Measure:</i> Integration of public spaces</p>	State of Palestine	UN-Habitat ensured that master plans of cities under reconstruction

	<p><i>Sectors:</i> Green infrastructure: Integration of public spaces Roads</p> <p><i>Impact areas:</i></p> <ul style="list-style-type: none"> • Gender • Inclusivity • Vulnerable groups and people with disabilities • Climate change adaptation • Disaster risk mitigation and preparedness 		<p>met the recommendation that 45 per cent of the total city area was allotted to public spaces (including streets and open spaces).</p>
	<p><i>Measure:</i> Housing reconstruction strategy</p> <p><i>Sectors:</i> Electricity, health, waste, water</p> <p><i>Impact areas:</i></p> <ul style="list-style-type: none"> • Inclusivity • Vulnerable groups and people with disabilities • Climate change adaptation • Disaster risk mitigation, response, and preparedness 	<p>Iraq</p>	<p>UN-Habitat developed the Planning Framework for Reconstruction of Mosul after liberation from the Islamic State of Iraq and the Levant (ISIL) in collaboration with UNESCO, and the Housing Reconstruction Strategy in collaboration with the Ministry of Construction and Housing. This included reconstructing damaged homes for about 15,000 families so that they could return, supporting the expansion of the rental market through cash-for-repair vouchers for landlords who sign 12-month leases with homeless people, and cash-for-rent vouchers for vulnerable families. Other priority actions included rehabilitating hospitals and health facilities, restoring the electricity network and substations, re-establishing solid waste collection services, and repairing the water network.</p>
	<p><i>Measure:</i> Integration of public spaces</p> <p><i>Sectors:</i> Housing, health, sanitation, transportation.</p> <p><i>Impact areas:</i></p> <ul style="list-style-type: none"> • Gender • Inclusivity 	<p>Yemen</p>	<p>UN-Habitat developed the State of Cities Report and City Profiles for eight cities, which incorporated recovery plans. For example, in Aden, priorities included building and repair of housing stock, reconstruction of healthcare and sanitation facilities, and rehabilitation of transportation systems.</p>

	<ul style="list-style-type: none"> • Vulnerable groups and people with disabilities • Climate change adaptation • Disaster risk mitigation and recovery 		
	<p><i>Measure:</i> People-centric reconstruction</p> <p><i>Sectors:</i> housing, health, waste management, energy</p> <p><i>Impact areas:</i></p> <ul style="list-style-type: none"> • Vulnerable groups and people with disabilities • Disaster risk mitigation and recovery • Inclusivity 	<p>Lebanon</p>	<p>Much of the damage from the Beirut post blast in 2020 occurred in the Karantina district, which is home to vulnerable population groups of migrants, refugees, and impoverished families. Considerable damage was inflicted on the public hospital, leaving residents with no access to healthcare. UNDP set in place a two-part strategy, splitting work into dealing with immediate needs, followed by the longer-term requirements and priorities of the community. This included:</p> <ul style="list-style-type: none"> • Restoring and repairing damaged buildings, including historical buildings, and homes. • Supporting small businesses through renovation, replacing lost items, and assisting in rebuilding stocks. • Setting-up a physiotherapy unit and providing medical equipment and supplies to meet the health needs of vulnerable groups, particularly persons with disabilities. • Access to legal aid through the establishment of a legal helpdesk. • Psycho-social support to the youth, women, and the elderly from diverse backgrounds, engaging them in trauma healing activities. • Supporting waste and rubble removal and

			providing households and public institutions with sustainable energy systems.
Economic development	<p><i>Measure:</i> Strengthening private small and medium-sized enterprises (SME)</p> <p><i>Impact areas:</i></p> <ul style="list-style-type: none"> • Inclusivity • Disaster risk mitigation and recovery 	State of Palestine	\$250 million was provided to microfinance institutions for SMEs, general trade, etc.
	<p><i>Measure:</i> Strengthening private small and medium-sized enterprises (SME)</p> <p><i>Sectors:</i> Roads and highways, transportation</p> <p><i>Impact areas:</i></p> <ul style="list-style-type: none"> • Inclusivity • Vulnerable groups and people with disabilities • Disaster risk mitigation and recovery 	Iraq	In Mosul, after the end of ISIL's occupation, bridges, roads, and railway infrastructure were destroyed, which increased the costs of doing business, for example, through increased freight costs. Under the Planning Framework for Reconstruction of Mosul, and in partnership with the Government of Iraq, plans were made to improve mobility by restoring eight main transportation stations, repair road networks along regional trade corridors, rebuild railways, and construct a new airport.
	<p><i>Measure:</i> Regeneration of employment</p> <p><i>Sectors:</i> Sanitation, water, electricity</p> <p><i>Impact areas:</i></p> <ul style="list-style-type: none"> ▪ Inclusivity ▪ Vulnerable groups and people with disabilities ▪ Disaster risk response and recovery 	Syria	<p>In Aleppo, UNDP rehabilitated 11 km of sewage network and 31 km of water network in residential areas to improve basic infrastructure for more than 80,000 residents and provide 1,153 emergency job opportunities.</p> <p>In Deir Ezzor, 10,000 m³ of debris were removed from the city's main commercial thoroughfare, rehabilitating water, sanitation, and electricity infrastructure, and creating jobs for 100 vulnerable people under a cash-for-work scheme.</p>

<p>Environmental development</p>	<p><i>Measure:</i> Environmental planning</p> <p><i>Sectors:</i> Energy, water, green infrastructure</p> <p><i>Impact areas:</i></p> <ul style="list-style-type: none"> ▪ Vulnerable groups and people with disabilities ▪ Climate change adaptation ▪ Disaster risk mitigation 	Somalia	<p>UNDP focused on enhancing institutional frameworks for climate change adaptation, increasing the adaptive capacity of vulnerable farmers, and piloting ecosystem-based strategies. Response plans were developed based on climate vulnerabilities and customized measures for women (who are responsible for the provision of food, water, and energy in households, which is becoming scarcer due to climate change, as well as riskier to secure in conflict settings). At the policy level, the project developed a gender-sensitive National Disaster Management Policy and local disaster preparedness plans.</p>
	<p><i>Measure:</i> Environment-friendly reconstruction</p> <p><i>Sectors:</i> Housing, water, green infrastructure, energy</p> <p><i>Impact areas:</i></p> <ul style="list-style-type: none"> ▪ Climate change adaptation and mitigation ▪ Disaster risk mitigation 	State of Palestine	<p>People were provided with extra cash payments for housing if they incorporated environmental practices, such as planting trees around the house and installing rainwater harvesting and heat insulation systems.</p>
	<p><i>Measure:</i> Environment-friendly reconstruction</p> <p><i>Sectors:</i> Energy, education, health, sanitation, water</p> <p><i>Impact areas:</i></p> <ul style="list-style-type: none"> ▪ Gender ▪ Inclusivity ▪ Vulnerable groups and people with disabilities ▪ Climate change adaptation ▪ Disaster risk mitigation 	Yemen	<p>UNDP and partners developed a low-cost solar microgrid that offered alternative, clean, renewable energy for rural homes, reducing energy costs by 65 per cent. A solar microgrid now powers small individual businesses that offer women and young people with opportunities to support their families, and the education sector has benefited through an increase in students and fewer student dropouts. Solar power meant more than half of the health facilities in targeted areas reported an 82 per cent increase in the number of treated patients, and water and</p>

		sanitation systems have expanded, improving water collection efficiency, and reducing operation and maintenance costs.
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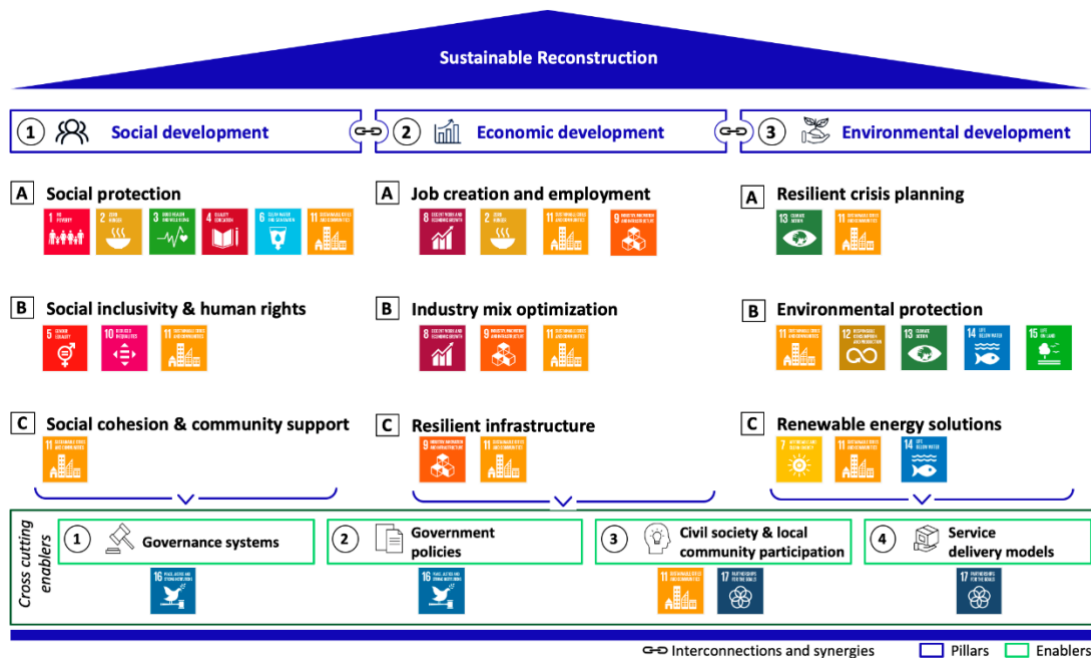
IV. ALIGNMENT WITH THE SUSTAINABLE DEVELOPMENT GOALS

Efficient infrastructure is vital for the achievement of Agenda 2030 and the SDGs through the provision of services. Infrastructure reconstruction can help accelerate or impede progress across many SDGs. Infrastructure investment will lock-in patterns of development for future generations. Understanding the interdependencies of infrastructure investment across sectors is critical to support a sustainable, equitable, and resilient development pathway. There are many issues to consider, including:

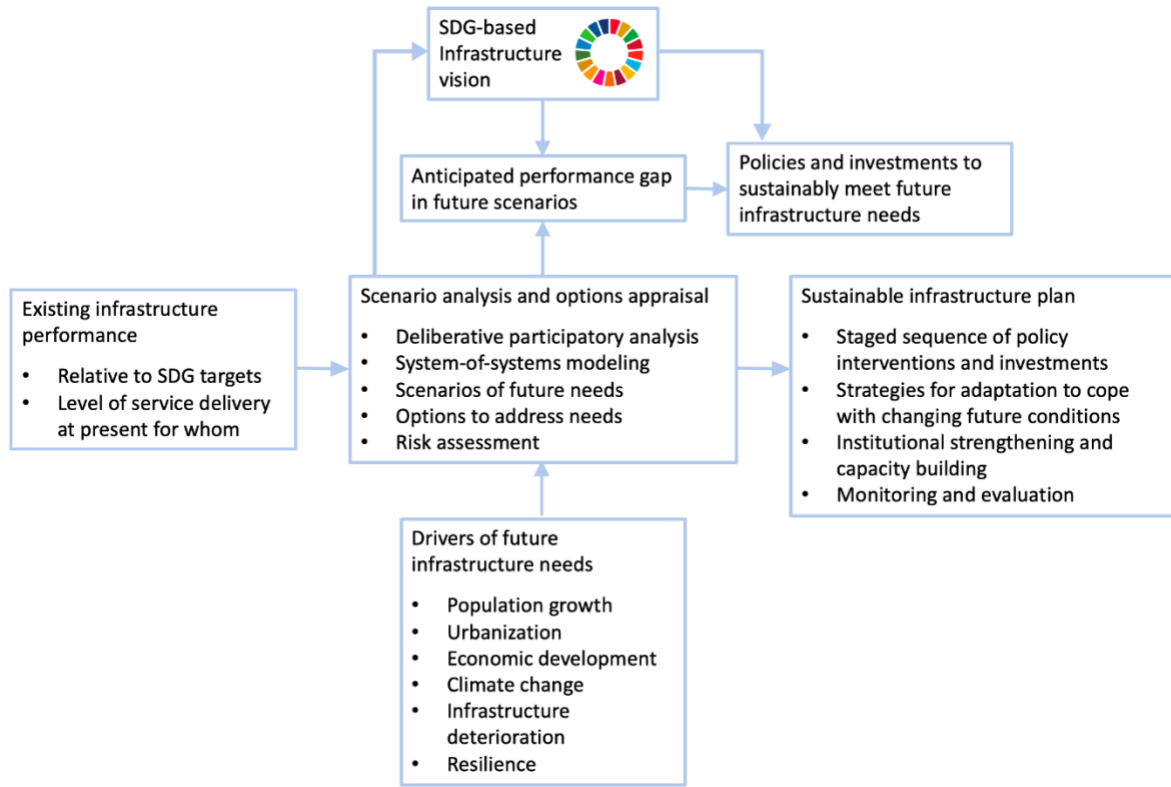
- (1) Understanding infrastructure trade-offs. Countries will require better systems to assess trade-offs for infrastructure investments and how this relates to issues of quality, reliability, resilience of infrastructure services, and environmental impacts (e.g., carbon emissions, air and water pollution).
- (2) The built environment influences inequalities and social cohesion, in particular, when facilitating access by specific population groups to opportunities and services (e.g., the built environment needs to be designed with the needs of all groups in mind – for instance, women and girls, and people with disabilities).

The three pillars of the sustainable reconstruction framework, supported by the cross-cutting enablers, are directly aligned with the SDGs and their targets (as illustrated below).

Figure 8: Alignment of sustainable reconstruction pillars with SDGs and targets



Source: Oliver Wyman analysis

Figure 9. Process for infrastructure prioritization to meet the SDGs³⁰

Schematic of the components necessary for the strategic development of infrastructure to support achievement of the SDGs.

Source: Thacker, Scott et al (2019). Modified by the author.




V. MEANS OF IMPLEMENTATION

A. Setting targets

In aspiring to achieve the SDGs across the framework pillars, post-conflict cities should understand the key characteristics of a sustainable city, outlined in Figure 10, as targets to aim for.

Figure 10. Select characteristics of sustainable cities, with special attention to the needs of vulnerable population groups, such as women, children, persons with disabilities, the elderly, migrants, refugees, and internally displaced persons (IDPs), among others.

³⁰ Thacker, Scott et al (2019). Infrastructure for Sustainable Development, *Nature Sustainability* 2, 324–331.

Social development 	<p>Living conditions</p> <ul style="list-style-type: none"> • Zero poverty rate • 100% access to clean water, sanitation, transportation, electricity & ICT infrastructure <p>Housing</p> <ul style="list-style-type: none"> • 100% access to safe and affordable residential spaces and land tenure security <p>Healthcare</p> <ul style="list-style-type: none"> • 100% healthcare access and coverage <p>Education</p> <ul style="list-style-type: none"> • 100% literacy rate • 100% access to primary, secondary and tertiary education <p>Inclusivity</p> <ul style="list-style-type: none"> • Zero gap in access to social & public services across ethnicities, religion, gender, etc. • Social safety net programmes and social protection coverage to protect the poorest and most vulnerable <p>Community support</p> <ul style="list-style-type: none"> • 40% share of public & green spaces from total city area • 100% preservation of cultural and religious monuments
Economic development 	<ul style="list-style-type: none"> • >=7% GDP growth per annum with diverse economic sectors share • <3-5% unemployment rate, with equal employment & income distribution across genders & ethnic groups • Positive trade balance
Environmental development 	<ul style="list-style-type: none"> • Healthy air & land quality indices (e.g. AQI of 0 to 50) • Increased recycling share from total waste • Increased share of renewable energy from total energy consumption, with equal access & affordability • Preservation of all existing natural reserves • Adaptation of climate change mitigation policies and laws (e.g. Paris climate agreement, etc.) • Increased use of Nature-Based Solutions • Provide access to safe, affordable, accessible, and sustainable transport systems for all, improving road safety, notably by expanding public transport

Source: United Nations SDG targets

B. Setting up a baseline assessment

A baseline assessment at the sub-pillar level is the starting point (e.g., developing Urban Resilience Programmes - URPs, along with city and neighbourhood profiles in places where a voluntary local review has been undertaken). This helps to prioritize areas for action as follows:

- a) Absorptive measures for the most pressing challenges that require immediate action, and are therefore high priority.
- b) Adaptive measures for moderate challenges that require short-term action and are medium priority.
- c) Transformative measures for medium-to-low challenges that require medium- to long-term action and are low priority.

It is important to note that the process of prioritization in a post-conflict setting requires a very nimble approach. There are many factors that influence the prioritization process, e.g., displacement/returnee context, time of the year, water/shelter needs, access of services and goods, and conflict sensitivity.

Some of the key urban challenges that have been identified through baseline assessments at the sub-pillar level have been highlighted in the table below. Baseline assessments can be conducted through a combination of maps that show the affected areas, accompanied by qualitative and quantitative information.

Table 2. Key challenges identified for each sub-pillar, affecting urban spaces and systems, through baseline assessments conducted in Iraq, State of Palestine, and Libya

Pillar	Sub-Pillar	Key Challenges
Social Development	Social Protection	<ul style="list-style-type: none"> • Inaccessibility to food, water, sanitation, and energy. • Lack of access to adequate housing or safe shelter, lack of tenure security. • Poor healthcare. • Lack of access to transportation. • Lack of affordable, quality and accessible education and health
	Social Inclusivity & Human Rights	<ul style="list-style-type: none"> • Gender discrimination. • Under representation of minorities. • Lack of human rights provision. • Disability insensitivity
	Social Cohesion & Community Support	<ul style="list-style-type: none"> • Lack of security and safety in public spaces. • Lack of free public or green places. • Lack of community and recreational facilities.
Economic Development	Job Creation & Employment	<ul style="list-style-type: none"> • Lack of employment opportunities. • Youth unemployment • Low level of participation of women in the labour force
	Industry Mix Optimization	<ul style="list-style-type: none"> • Low or poor business/ private sector activity.
	Resilient Infrastructure	<ul style="list-style-type: none"> • Destruction of hard infrastructure.
Environmental Development	Resilient Crisis Planning	<ul style="list-style-type: none"> • Unreadiness to combat wildfires. • Lack of flood control measures. • Lack of earthquake preparedness.
	Environmental Protection	<ul style="list-style-type: none"> • Soil and land pollution and degradation. • Water contamination. • Water scarcity. • Air pollution. • Damage to natural reserves. • Inefficient consumption patterns.
	Renewable Energy Solutions	<ul style="list-style-type: none"> • Excessive reliance on non-renewable energy. • Lack of expertise in renewable resources.

Note: Appendices 1 through 9 highlight detailed cases of specific issues that have been identified under each key challenge presented above.

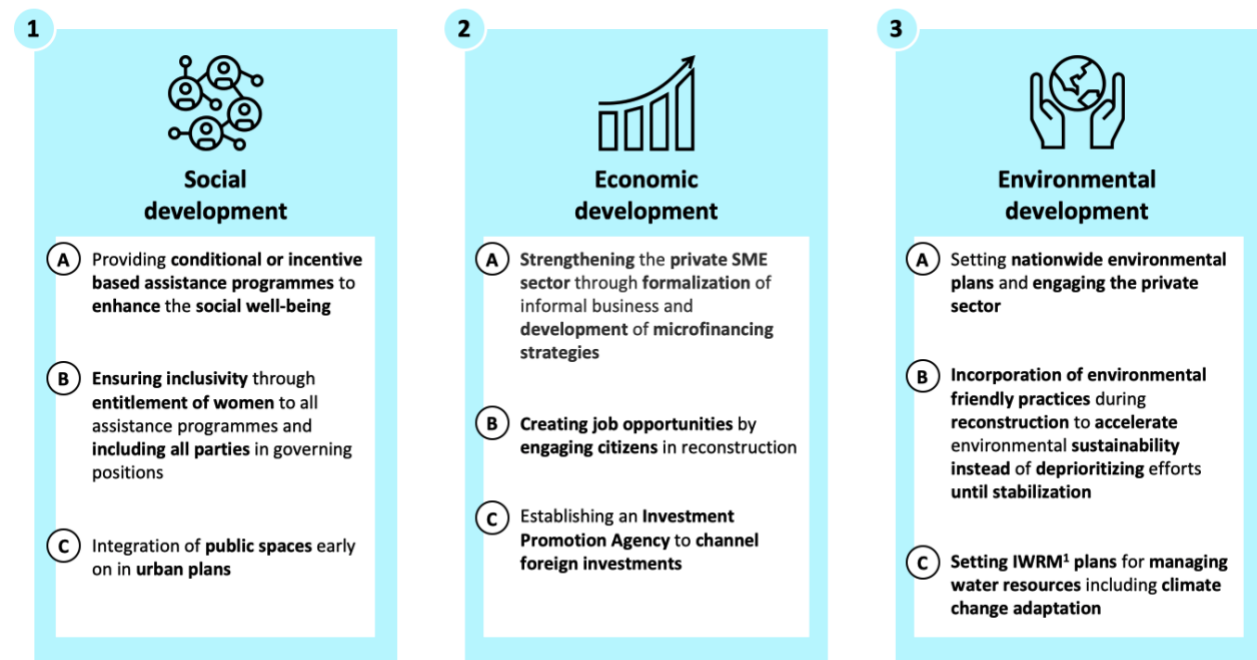
(BOX) A quick guide to implementing the SRF

- I. **Identify the specific area of intervention in infrastructure** (e.g., energy, water, housing, education, health, waste, green, digital/telecommunications) and align it with sustainability pillars.
- II. **Assess and prioritize** physical intervention measures according to the following criteria:
 - a. Level of impact
 - b. Timeframe for implementation
 - c. Responsibilities for implementation
 - d. Threats and challenges of implementation
- III. **Prioritize and develop** policy interventions.

C. Setting up policies to target identified challenges

The experience of benchmark countries show how to set up policies to target challenges identified in the baseline assessment. It should be noted that policies that succeed in one city may not succeed in another. Recommendations should be tailored to a city’s unique context (e.g., nature of local governments, the integration of infrastructure and services, and the way in which they define neighbourhoods, and the structure of the city).

Figure 11. Examples of successful policies to address identified challenges in sustainable reconstruction



1. Integrated water resources management

Source: Oliver Wyman analysis

In addition, a list of key recommendations for sustainable reconstruction has been formulated for the challenges identified through the baseline assessments for each sub-pillar under Social Development, Economic Development, and Environmental Development. These recommendations could be incorporated into national development frameworks and development plans for different economic or industrial sectors.

The recommendations (see Appendix 10) have been grouped under each of the four core enablers (government structures, government policies, civil society and local community participation, and service delivery models) to the effective framework for sustainable reconstruction.

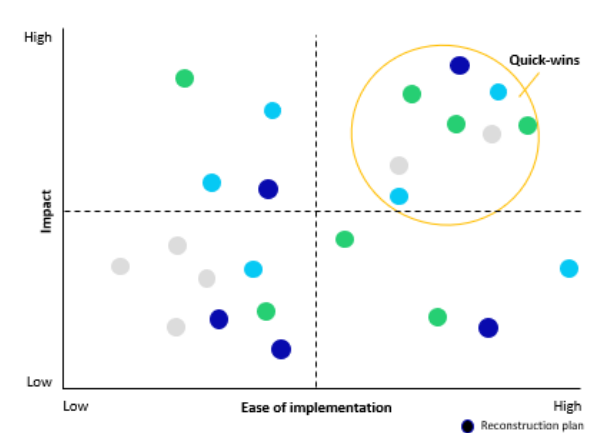
VI. TIMELINE OF RECONSTRUCTION

The reconstruction timeline must be planned such that, while all the elements of the framework are covered in the long run (for optimal sustainability), priorities are chosen based on feasibility and impact. It is assumed that the financing goals have been fully met for all the investments.

Feasibility and ease of implementation: This considers (a) existing resources, such as available capabilities, political will, skilled labour, and funding, and (b) complexity of the implementation and constraints. When these elements are not in place, implementation of specific projects should be set aside (deprioritized) until they become feasible. An incremental approach, using a theory of change, can be applied to prioritize interventions.

Impact: The impact is assessed by the expected return and benefits from reconstruction plans on the social, economic, and environmental level. Higher impact can be achieved by (a) addressing most pressing issues identified during the baseline assessment and (b) ensuring these priorities are in line with those of citizens. When citizens – and other beneficiaries such as migrants, refugees, IDPs, and sometimes stateless communities – are engaged in identifying priorities, it helps to establish trust, which is a principal tenet of sustainable reconstruction.

Figure 12. A prioritization matrix (illustrative)



Initiatives with high impact and ease of implementation can achieve quick wins for cities. Long-term implementation plans can start with initiating plans to overcome existing constraints early on.

Source: Oliver Wyman analysis

VII. RECOMMENDATIONS

While this framework for sustainable reconstruction has been primarily designed for post-conflict countries in the Arab States region, much of it is relevant to other country contexts and regions. The global challenges of climate change and the long-term impact of the COVID-19 pandemic only serve to underscore the framework's relevance. A transition that is low-carbon, resource-efficient, and socially just is all the more pressing given the severe impacts of COVID-19 and potential repercussions on oil revenues as countries step away from fossil fuels and embrace renewable technologies to meet energy needs, while averting climate change.

When planning for sustainable reconstruction, countries and cities must strike a careful balance between competing criteria so that the fundamental principles of sustainability – such as national and local ownership of reconstruction, and success across the three pillars of social, economic, and environmental development – are not compromised. Some key considerations are outlined here:

(1) Prioritize capacity building of key institutions

In conflict settings, institutions have suffered from a severe drain of expertise at both national and local levels, thereby highlighting the need to prioritize capacity-building interventions. While the central government has an important role to play, particularly in overseeing a whole-of-government approach to strategic decision-making and funding partnerships, some decentralization may be necessary to ensure the full participation of citizens. Funds management, for instance, must be delegated by central authorities across central and local entities. Decentralization may be required to effectively implement damage and needs assessments, inclusive planning, and efficient implementation. However, delegation depends on the capabilities and capacities of central and local entities. In certain contexts, municipal capabilities may be weak, and the centralized process may be necessary, underscoring the importance of coordinating between the national and sub-national levels. In addition, civil society and local communities must be engaged from the outset.

(2) Secure and strengthen civic engagement

The aftermath of conflict often leaves societies shattered, institutions weakened, and infrastructure destroyed. To ensure that reconstruction is indeed sustainable, the involvement of the local population, civil society, and other stakeholders in decision-making processes is crucial. By involving communities in the decision-making process and prioritizing their needs, post-conflict countries can build a foundation for lasting peace, stability, and development, which fosters inclusive participation with a focus on inclusion of women, youth, minority groups, and marginalized communities towards more comprehensive and equitable reconstruction plans. In order to build trust among citizens and ensure accountability among decision-makers, transparent mechanisms for sharing information about projects, funding sources, and decision-making processes, need to be put in place. In other words, a bottom-up approach is important in ensuring reconstruction efforts align with the actual needs of the people, ensuring effective coordination and high sensitivity to conflict.

(3) Identify short-term and long-term targets

This includes the even distribution and effective sequencing of resources across all projects, both immediate and further down the road. An example of balancing these two targets would be more immediate cash-for-work schemes in infrastructure projects versus long-term job creation, such as the construction of factories. To ensure the HDP nexus, and to support sustainable

reconstruction and the transition to green growth, it is important to invest in development work, even in the early recovery and stabilization phase, and prioritize reconstruction interventions that combine short-term relief with development targets.

(4) Link local investments with international aid

Context-specific local investments, along with the full engagement of citizens, can better promote local employment, strengthen local ownership, keep money within the country, and ensure better alignment with local agendas. Foreign aid and investment can bring in wider expertise and capacity, and speed up reconstruction.

(5) Promote integrated urban-rural continuum planning

With the trend of rapid urbanization globally, and specifically throughout the Arab States region, cities must strike a balance between rapid expansion and strengthening of rural areas. This includes promoting integrated planning, such as the role of rural areas and residents in agriculture and food security, for instance, and improving and building infrastructure that connects rural and urban areas.

(6) Identify long term financing mechanisms for infrastructure reconstruction

Establishing country-specific visions and priorities will be necessary, as well as putting in place an investment policy environment and appropriate investment mechanisms at the start of the recovery and reconstruction process. These will be crucial for a green and just transition, for an integrated approach to planning, and for the execution of investments by bilateral donors, IFIs, and the private sector. UN agencies are equipped to support governments with resources and tools for the process in coordination with all relevant players (see Appendix 11). Innovative development financing solutions, including finance guarantees, securities, and insurance schemes, should be deployed to address each country's priorities.

Suggested policies

While there is no one solution that will suit all situations, there are a number of policies that could be considered by countries and cities in determining what is right for them. These include:

- Establishing a responsible and accountable body to oversee reconstruction works: This body should be inclusive of all concerned parties and capable to coordinate among multiple stakeholders, including national governments, local governments, the private sector, community representatives and Civil Society Organizations, and relevant experts, while monitoring the transparent implementation of reconstruction efforts. The technical decisions should be planned using participatory approach, which incorporates the collective interest of citizens, with their engagement and for sustainable reconstruction. This will help ensure sustainability and reduce the potential for wasteful duplication.
- Promoting inclusivity by including the needs of diverse groups of vulnerable people – women and girls, children, the elderly, migrants, refugees and IDPs, and people with special needs or disabilities – in decision making, planning, and the implementation of reconstruction efforts.
- Including provisions for sustainable infrastructure, such as green public spaces and public transportation systems in urban plans.
- Using reconstruction projects to create decent job opportunities to improve the lives and livelihoods of local people and supporting local businesses to submit tenders for reconstruction projects.

- Engaging local communities in decision-making and participatory planning processes for infrastructure priorities to encourage social cohesion.
- Exploring options for additional fiscal space³¹ including public-private partnerships and private-sector investment³² from local and foreign sources.
- Supporting nature-based solutions by considering the environmental implications of reconstruction decisions, such as impacts on water and ecosystems, greenhouse gas emissions, and energy and resource efficiency, to ensure that the sustainable reconstruction process ensures long-term prosperity by contributing towards the attainment of the SDGs.
- As relevant, prioritizing reconstruction projects that balance immediate humanitarian needs with pathways towards long-term development gains in the future.

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APPENDICES

Appendix 1. Key challenges based on urban baseline assessments under access to services (*providing citizens or displaced individuals with universal access to essential quality services and basic rights*), e.g., food, water, energy, housing, education, healthcare, and transportation. Most of these key challenges suggest issues that stem from conflict, crises, or the pandemic. However, there are also other gaps that did not necessarily result from recent events, such as the lack of adequate development and services, residential urban plans, development strategies, and gaps in institutional capacities.

Key Issues	Description
Lack of access to food, water, sanitation, and energy	Damage to basic infrastructure such as water networks, reservoirs and pumping stations, sewage networks, electricity and telecom networks (e.g., shut-down of all seven water reservoirs of Al-Shura in Kufra, Libya, and the burning down of ground fibre optic network in Kufra).
	Strain on existing networks because of increased population and informal housing in certain locations (e.g., increase in population of Latakia, Syria, led to 40 per cent drop in water supply).
	Extension of informal housing outside the reach of existing sanitation, electricity, and water infrastructure (e.g., informal housing outside existing sewage infrastructure in Latakia).
	Inflation of food prices and inability of humanitarian assistance to reach certain districts (e.g., humanitarian assistance from Damascus to Aleppo seriously affected).
Lack of access to housing or safe shelter	Lack of proper residential facilities and social housing systems to provide shelter for families with low or no income, leading to expansion of camps, slums, and informal housing with hazardous living conditions (e.g., in Mosul).
	Sub-optimal property ownership leaving displaced people with no housing to return to (e.g., confiscation of property in Mosul).
	Rising rental costs, especially in districts that witnessed the influx of displaced people and increased demand (e.g., four-to-five times increase in rent price in Latakia and Aleppo).
Poor health care	Damage to health-care facilities such as hospitals, clinics, and pharmacies (e.g., more than 50 per cent loss of main bed capacity in Benghazi, and the closure of 70 per cent of Aleppo's pharmacies).
	Uneven geographical distribution of health-care facilities (e.g., more than an hour's drive in some districts of Kufra).
	Lack of medical specialists and staff due to displacement or immigration, and shortages in the supply of upcoming young specialists.
	Shortage of medicine and increased costs due to blockage of commercial access routes (e.g., main commercial routes in Aleppo).
	Lack of preventative care, such as vaccinations, awareness, and disease management campaigns, which lead to disease outbreaks especially in overcrowded shelters (e.g., skin diseases and lice in Latakia shelters, and scabies and lice in Aleppo schools).
Lack of access to transportation	Lack of access to secure roads due to physical damage or security conflicts preventing people from getting to work, schools, hospitals or other facilities (e.g., damage to roads and highways in Aleppo, and the spread of ISIL in Iraq and Syria).
	Lack of public transportation and shut down of formal taxi operations in main cities (e.g. in Aleppo).

	Increased transportation costs due to rising fuel/gasoline prices (e.g., transport costs in Aleppo have increased by four-to-five times).
Lack of affordable and accessible education	Physical damage to schools and colleges (e.g., destruction of Benghazi University).
	Uneven geographical distribution of schools across districts, coupled with security, safety, and health concerns, resulting in low attendance rates (e.g., 48 per cent of households are 6km from schools in Ubari; the control of school operations by ISIL in Mosul; and disease outbreaks in schools in Aleppo).
	Using schools for non-educational purposes (e.g., as shelters in Aleppo, because of a lack of other options).
	Non-affordability of tuition and educational materials due to poverty (e.g., in Deir Ez Zour and Aleppo).
	Child labour, especially in low-income families and for orphans, resulting in low literacy rates (e.g., families sending children to work due to poverty in Deir Ez Zour).

Source: Based on UN-Habitat City Profiles.

Appendix 2. Deep dive on key challenges based on urban baseline assessments under Social Inclusivity and Human Rights (*The provision of equal opportunities and rights to all individuals, regardless of their gender, race, colour, religion, disability, sexual orientation, social class, age, and marital status or family responsibilities to emphasize social integration and diversity*).

Key Issues	Description
Gender discrimination	Unequal educational opportunities (e.g., banning women in Mosul from science and engineering specialties during ISIL control).
	High unemployment rate among women (e.g., 50 per cent for women versus 28 per cent for men in Benghazi).
Under-representation of minorities	Under-representation of minorities in government positions, as well as public and legal institutions (e.g., in Mosul).
Lack of human rights provision	Lack of protection and discrimination in basic human rights: <ul style="list-style-type: none"> • Discrimination in provision of basic services, such as health care (e.g., in Mosul and Benghazi). • Lack of protection of property ownership rights and discrimination in land and housing policies against minority groups, preventing them from buying and registering land in their name, or reclaiming their property if displaced (e.g., in Mosul and Sinjar).
	Heavy censorship of media and lack of freedom of speech and press (e.g., closing down of press houses in Mosul during the ISIL regime).

Source: based on UN-Habitat City Profiles.

Appendix 3. Deep dive on key challenges based on urban baseline assessments under Social Cohesion and Community Support (*Ensuring social bonding and unity across communities through access to public spaces, community services, recreational facilities, etc*).

Key Issues	Description
Lack of security and safety in public spaces	Insecure and unsafe environment in and around public spaces, limiting use by citizens, especially women and children.
Under-representation of minorities	Under-representation of minorities in government positions, as well as public and legal institutions (e.g., in Mosul).
Lack of free public or green places	Reduction in green and public spaces due to the expansion of slums and informal settlements (e.g., in Latakia, Mosul, Aleppo).
	Lack of urban plans that account for securing free public spaces.

Source: based on UN-Habitat City Profiles.

Appendix 4. Deep dive on key challenges based on urban baseline assessments under Job Creation and Employment (*Promotion of measures to increase remunerative and productive employment opportunities compatible with a country's comparative advantage across various sectors*).

Key Issues	Description
Loss of employment opportunities	Closure of businesses or reduction in business operations resulting in numerous lay-offs due to: <ul style="list-style-type: none"> • Insecurity and physical damage to companies and businesses. • Limited business activity and shortages in liquidity (e.g., 64 per cent of Benghazi households had limited access to liquidity). • Rising operational costs and fuel prices affecting various services (e.g., 12-hour daily power outage in Latakia), driving businesses to close or reduce their workers.
	People forced to leave their jobs because of injuries and displacement (e.g., 7,000 IDPs in Al-Kufra).
	Lack of space and support for informal businesses, such as small shops and sole proprietorships, which are essential to promoting entrepreneurship and employment, especially for the poor and uneducated.

Source: based on UN-Habitat City Profiles.

Appendix 5. Deep dive on key challenges based on urban baseline assessments under Industry Mix Optimization (*Empowering and promoting certain industries and economic sectors to reach their full potential and contribute to the country's economic growth while achieving the right balance between local production and imports*).

Key Issues	Description
Lack of economic diversification	Heavy reliance on one industry to drive economic growth, resulting in economic vulnerability (e.g., in Iraq, about 94 per cent of exports are from petroleum and oil represents 65 per cent of GDP, and in Latakia, Syria, there is a large economic dependency on the tourism sector).
	Lack of promising and globally emerging industries, such as renewable energy and digital industries.

Source: based on UN-Habitat City Profiles.

Appendix 6. Deep dive on key challenges based on urban baseline assessments under Resilient Infrastructure (*Provision of hard infrastructure that is essential for businesses and enterprises, such as roads, highways, ports, airports, etc*).

Key Issues	Description
Destruction of hard infrastructure	Damage or reduced operations of ports and airports affecting the trade and logistics sector (e.g., closure of the port and airport of Benghazi; decrease in operations of Latakia port by 40 per cent and drop in exports by 60 per cent)
	Damage to railroads and highways leading to disruption of transportation of goods and trade (e.g., damage to the modern railroad linking Aleppo to Latakia, which used to be the most popular route for passengers and goods).
	Regular power outages affected businesses and services and increased their operational costs where they had to rely on alternative generators (e.g., Aleppo).

Source: based on UN-Habitat City Profiles.

Appendix 7. Deep dive on key challenges based on urban baseline assessments under Resilient Crisis Planning (*The ability to absorb, recover, and integrate disaster risk measures in handling and planning for natural disasters, including climate change-related and human-made hazards*).

Key Issues	Description
Unreadiness to combat wildfires	Unpreparedness to combat fires because of a lack of workforce or equipment (such as firefighting helicopters, firefighting equipment, etc).
Lack of flood control measures	Lack of tools to manage or prevent floods, which are being exacerbated by climate change, such as the lack of diversion canals and dams in urban planning (e.g., more than 500 families were displaced after heavy rain caused floods in Iraq; the closure of five main bridges in Mosul due to floods, etc).
Lack of earthquake preparedness	Non-adherence to construction guidelines such as seismic design principles to limit the impact of earthquakes.

Source: based on UN-Habitat City Profiles.

Appendix 8. Deep dive on key challenges based on urban baseline assessments under Environmental Protection (*Managing and minimizing pollution of all forms (e.g., water, air, soil, etc) to attain a healthy ecosystem and eradicate health and environmental contamination*).

Key Issues	Description
Soil and land pollution	Severe shortage of waste collection resources such as disposal boxes, transportation vehicles and compressors, and increased operational costs (e.g., waste collection on a weekly basis in Kufra and a monthly basis in Benghazi, etc).
Water contamination	Diversion of sewage into drinking water resources, rivers, and lands, resulting in the pollution of drinking and underground water (e.g., in Benghazi and Janzour in Libya). Pollution of regional water affecting marine biodiversity because of the disposal of industrial and domestic waste in oceans and rivers (e.g., the pollution of regional waters from oil activities in Iraqi ports).
Air pollution	High levels of air pollution because of open burning of waste and toxic industrial emissions (e.g., in Iraq where Air Quality Index is 151 ³³).
Damage to natural reserves	Damage to natural reserves due to armed clashes (50 per cent of the Frunlok natural protected area was destroyed by armed clashes in Latakia).
Inefficient consumption patterns	Inefficient water management and consumption patterns, such as losses in distribution networks and inefficient irrigation systems (e.g., in Iraq, which is facing a water scarcity problem)

Source: based on UN-Habitat City Profiles.

Appendix 9. Deep dive on key challenges based on urban baseline assessments under Renewable Energy Solutions (*Access to affordable, reliable, and efficient renewable energy sources within the available energy mix*).

Key Issues	Description
Excessive reliance on non-renewable energy	Lack of access to reliable and affordable renewable energy sources and excessive use of non-renewable energy sources, such as fossil fuels.
Lack of expertise in renewable resources	Lack of expertise and knowledge of available renewable energy resource deployment and technologies.

Source: based on UN-Habitat City Profiles

³³ AQI ranging from 151 to 200 is “unhealthy for all population”. Source: UN City profiles; “Environmental Risks in Iraq” report; Oliver Wyman Analysis.

Appendix 10. Key recommendations for sustainable reconstruction have been formulated for the sustainable development pillars and sub-pillars grouped under the four core enablers of the SRF

Pillar	Sub-Pillar	Measure type	Example actions
Social Development	Social participation	Governance structures	<ul style="list-style-type: none"> • Strengthen and optimize capacity of existing social welfare government agencies such as Ministries of Health and Education. • Set up new government unit dedicated to social protection. This could: <ul style="list-style-type: none"> – Define resources and priorities. – Develop policies. – Conduct poverty analysis and monitoring. – Oversee large-scale programmes to reduce risk of duplication, fraud, and corruption.
		Government policies	<ul style="list-style-type: none"> • <i>On food security:</i> <ul style="list-style-type: none"> – Subsidize fertilisers and agricultural equipment to boost productivity. – Establish food price guidelines and distribute food staples to those in need. – Strengthen rural-urban links to ensure even food distribution. • <i>On transport, water, sanitation, and energy networks:</i> <ul style="list-style-type: none"> – End evictions from informal settlements and upgrade them by orienting urban planning to support access to basic services and affordable housing. – Provide public transport systems to connect rural and urban areas at affordable prices. • <i>On housing and shelter:</i> <ul style="list-style-type: none"> – End evictions from informal settlements and upgrade them by orienting urban planning to support access to basic services and affordable housing. – Reform tenancy and land and property ownership laws. – Transform camps in post-conflict cities into extensions of those cities. • <i>On education and health care:</i>

			<ul style="list-style-type: none"> – Establish temporary learning centres, and prioritize rehabilitation of damaged education and healthcare facilities. – Update school curriculums and provide regular tutor training and certification to improve education standards. – Require health-care professionals and facilities to meet international accreditation standards. – Provide free essential services and medicines, and free public health campaigns, such as vaccinations and disease screenings.
		Civil society and local communities' participation	<ul style="list-style-type: none"> • Connect citizens with NGOs and other groups working to enhance social well-being (e.g., volunteering, food and clothes donations, etc). • Engage with community groups and regional/local leaders to establish coherent interests and priorities, particularly on sensitive subjects such as displacement. • Establish citizen-led bodies to support official dispute-resolution structures, particularly around conflicts of tenure, property claims, and compensation.
		Service delivery models	<ul style="list-style-type: none"> • Establish local and international education funds, with contributions encouraged from the wealthy and through partnerships, to cover the costs for poor families of tuition, transportation, and materials. • Provide social assistance to vulnerable groups by: <ul style="list-style-type: none"> – Providing cash payments to poor families, conditional on their children attending school, to prevent child labour. – Providing food in schools to encourage attendance and reduce household food insecurity. – Providing payments to hospitals based on their performance in improving quality of services.

	Social Inclusivity & Human Rights	Governance structures	<ul style="list-style-type: none"> • Set up legal institutions and courts to handle cases related to inclusion and discrimination, along with other human rights breaches. • Establish entities to promote inclusion and human rights, e.g., to raise awareness about the empowerment of women.
		Government policies	<ul style="list-style-type: none"> • Enforce freedom of speech, press, and faith, as well as data and identity protection. • Investigate introducing quotas for women and minorities in political and legal institutions. • Criminalize domestic violence and abolish child marriage. • Establish comprehensive labour rights protection, abolish child labour, and introduce legislation to prevent discrimination of vulnerable people. • Mandate inclusivity in urban planning, especially for the elderly and disabled, particularly in relation to public facilities and transportation. • Mandate inclusivity in education by catering for disabled children, or those with learning difficulties, in public schools.
		Civil society and local communities' participation	<ul style="list-style-type: none"> • Engage citizens in design and roll-out of campaigns to protect human rights and support vulnerable groups.
		Service delivery models	<ul style="list-style-type: none"> • Establish funds from local and foreign wealthy individuals or corporations to provide vulnerable groups with adequate education and health care.
	Social Cohesion & Community Support	Governance structures	<ul style="list-style-type: none"> • Rehabilitate ministries responsible for urban development to develop national urban plans that include public and recreational spaces. • Rehabilitate or establish cultural institutions such as public libraries and museums.
		Government policies	<ul style="list-style-type: none"> • Define allocation of lands in urban plans, with clear boundaries for residential and commercial use, designating the rest for green public spaces.

			<ul style="list-style-type: none"> • Include pedestrian and cycling routes in urban plans. • Mandate the inclusion of recreational spaces in urban plans to cater for museums, theatres, libraries, etc. • Protect cultural heritage sites and use for tourism where appropriate.
		Civil society and local communities' participation	<ul style="list-style-type: none"> • Engage citizens in preserving and rehabilitating public spaces and cultural heritage sites. • Consult local communities on urban plans for mixed-use public spaces and recreational facilities to promote a sense of ownership and belonging, preventing polarization and exclusion of minorities after conflict.
		Service delivery models	<ul style="list-style-type: none"> • Target local and international grants to restore cultural heritage and build recreational facilities. • Use revenue from cultural tourism (e.g., entry fees) to fund maintenance of cultural heritage and public spaces.
Economic Development	Job Creation & Employment	Governance structures	<ul style="list-style-type: none"> • Institutionalize labour unions. • Set up an investment promotion agency to serve as a link between the domestic economy and foreign and local investors. • Establish one-stop shops for business registration and administrative services to simplify and promote formalization of informal businesses. • Strengthen and rehabilitate fiscal institutions such as central banks.
		Government policies	<ul style="list-style-type: none"> • Facilitate the transition from informal to formal businesses by: <ul style="list-style-type: none"> – Simplifying the registration process. – Providing access to resources and credit programmes. – Providing training and promotional programmes to upgrade business unit skills. – Reforming skills accreditation programmes to allow for skills acquired through informal businesses.

			<ul style="list-style-type: none"> • Lower barriers to entry by foreign businesses and impose employment quotas for local people. • Incentivize investment by: <ul style="list-style-type: none"> – Investigating the reduction of corporate taxes and introducing tax credits for investments. – Reforming monetary policies such as currency board arrangements. – Expanding or enhancing financial laws to cover investment leakages
		Civil society and local communities' participation	<ul style="list-style-type: none"> • Encourage entrepreneurs and start-ups to create projects and provide them with opportunities to contribute to the local economy.
		Service delivery models	<ul style="list-style-type: none"> • Target micro-financing to promote self-employment and small business. • Support business incubators to promote start-ups. • Provide vocational training for unemployed youth.
	Industry Mix Optimization	Governance structures	<ul style="list-style-type: none"> • Rehabilitate ministries and institutions related to economic diversification and targeted industries (e.g., economy, tourism, trade, and agriculture) and establish new ones where needed (e.g., digital and creative industries).
		Government policies	<ul style="list-style-type: none"> • Set up economic and product diversification targets and incentives. • Investigate potential to optimize select industries based on countries' resources and comparative advantages. • Rehabilitate and expand trade networks (highways, ports, and cargo airports) and regulate imports to protect local production. • Promote education and expertise in weak economic sectors through employment programmes for skilled employees, and through educational programmes in schools and universities to ensure the required development of skills.

			<ul style="list-style-type: none"> • Provide benefits to targeted industries' enterprises through reduced taxes, public grants, etc.
		Civil society and local communities' participation	<ul style="list-style-type: none"> • Engage with local expertise to identify promising industries that could contribute to the overall economy.
		Service delivery models	<ul style="list-style-type: none"> • Establish public-private partnerships to introduce new industries, such as artificial intelligence, renewable energy, etc. • Establish international partnerships to attract investment in the required sector.
	Resilient Infrastructure	Governance structures	<ul style="list-style-type: none"> • Rehabilitate concerned ministries (e.g., planning, telecommunications, etc).
		Government policies	<ul style="list-style-type: none"> • Issue decrees on rehabilitating and upgrading port and airport operations and infrastructure. • Rehabilitate damaged highways, bridges, and other transport routes, and establish new ones where needed. • Rehabilitate and update electricity and ICT networks to meet requirements of enterprises and investors, and to enable digital transformation in cities.
		Civil society and local communities' participation	<ul style="list-style-type: none"> • Engage citizens and the private sector in decisions about needed infrastructure. • Engage local communities in implementation of infrastructure in their neighbourhoods.
		Service delivery models	<ul style="list-style-type: none"> • Target public-private partnerships to rehabilitate and establish needed infrastructure.
Environmental Development	Resilient Crisis Planning	Governance structures	<ul style="list-style-type: none"> • Establish or strengthen firefighting institutions with highly trained firefighters. • Set up a public seismic and hydrotechnical laboratory. • Design entities, frameworks, and guidelines for early warning systems, immediate emergency response to natural hazards, and post-hazards management and rehabilitation.

		Government policies	<ul style="list-style-type: none"> • Introduce long-term climate-change adaptation techniques such as: <ul style="list-style-type: none"> – Forest thinning and grazing to prevent wildfires. – Control and regulation of use of flammable materials. – Flood-control measures such as river diversions, retaining walls, dams, etc. • Mandate hydrotechnical studies and incorporate flood-risk analyses in municipal plans. • Revise or issue a national building code for crisis-resilient and resistant construction, and require compliance in building permits.
		Civil society and local communities' participation	<ul style="list-style-type: none"> • Encourage local engineers in designing flood-preventative infrastructure.
		Service delivery models	<ul style="list-style-type: none"> • Target local and international donations to fund purchase of firefighting equipment, flood control measures, etc.
	Environmental Protection	Governance structures	<ul style="list-style-type: none"> • Establish a laboratory to monitor and report on air and water quality. • Establish an environmental committee to publish policies, set initiatives, facilitate networking and sharing on circular economy, and monitor the environmental risks of reconstruction activities. • Give municipal councils responsibility for managing environmental initiatives.
		Government policies	<ul style="list-style-type: none"> • Define a network of protected areas, including natural reserves and forests, in which vandalism and damage is illegal. • Mandate regular testing and reporting of air and water quality. • Introduce policies on land and water sanitation, mandating frequent cleaning campaigns (water, beaches and land clearing, sewage assessments etc) and enhancing public water disinfection (adding

			<p>chlorine to public water, water-tank cleaning etc).</p> <ul style="list-style-type: none"> • Regulate waste management: <ul style="list-style-type: none"> – Rehabilitate waste-management plants and investigate waste-collection capacity in all districts. – Provide accessible recycling and reusing platforms by distributing recycling bins and running regular reusing drives. • Issue policies for integrated water resources management, such as improved use of rainfall, managing irrigation practices, water reuse practices, and desalination, assessing possibility of dams and diversions against environmental surroundings. • Regulate reduced use of carbon materials, such as pricing plastic carrier bags, mandating use of low-carbon building materials in reconstruction projects. • Set carbon emission reduction targets, and increase prices on carbon (e.g. by introducing emission allowance permits) to increase competitiveness of renewable energy. • Incorporate circular consumption processes in reconstruction projects, such as reuse of materials from damaged houses.
		Civil society and local communities' participation	<ul style="list-style-type: none"> • Provide citizens with platforms to voice their concerns on pollution. • Encourage citizens, NGOs, and environmental organizations to volunteer in city cleaning initiatives. • Encourage government agencies to consult with citizens and environmental specialists on campaigns to promote circular consumption patterns and practices. • Initiate reuse platforms, such as clothes and book drives, to reduce waste.
		Service delivery models	<ul style="list-style-type: none"> • Set up donation schemes and funds to rehabilitate and replant damaged forests and nature reserves.

			<ul style="list-style-type: none"> • Target partnerships with international environmental organizations to execute cleaning campaigns. • Target private investment or partnerships for waste collection and recycling services. • Use carbon taxes to fund environmental protection measures and investments.
	Renewable Energy Solutions	Governance structures	<ul style="list-style-type: none"> • Establish a council to manage share of renewable energy in total amount of energy produced or consumed.
		Government policies	<ul style="list-style-type: none"> • Remove fossil-fuel subsidies and put a higher price on carbon to improve competitiveness of renewable energy. • Introduce obligations for energy suppliers on the share of renewable energy in total production. • Encourage energy saving and renewable-energy investment through tax relief, and provide technical assistance on cost-sharing schemes. • Incorporate renewable energy and energy-saving practices in reconstruction projects, and mandate them in all public buildings and spaces. • Impose sustainable building regulations e.g., mandating solar water-heating and energy-certification schemes in new buildings.
		Civil society and local communities' participation	<ul style="list-style-type: none"> • Engage with environmental organizations to spread knowledge on available renewable energy solutions.
		Service delivery models	<ul style="list-style-type: none"> • Target international partnerships to facilitate access to clean-energy research and technology. • Target local or foreign investment in energy infrastructure and clean-energy technology.

Appendix 11. Additional tools, methodologies, and guidance documents (Full list is available in Annex: Suite of Tools).

UN-HABITAT

SUSTAINABLE RECONSTRUCTION & RECOVERY FRAMEWORK FOR THE SOUTHERN & EASTERN MEDITERRANEAN (2022) by UN-Habitat, World Green Building Council, and European Bank for Reconstruction and Development, proposes bespoke solutions for individual and community-wide sustainable reconstruction projects, while drawing alignments with existing WorldGBC Frameworks for Health and Wellbeing, Whole Life Carbon, and the EBRD's Environmental and Social Policies and corresponding Performance Requirements.

Framework: <https://worldgbc.org/sustainable-reconstruction-recovery-framework/>

Executive Report: <https://worldgbc.org/wp-content/uploads/2022/06/SRRF-Report.pdf>

STATE OF ARAB CITIES REPORT 2022: FINANCING URBAN INFRASTRUCTURE TO ACHIEVE THE SUSTAINABLE DEVELOPMENT GOALS AND THE NEW URBAN AGENDA (2022) analyses key drivers and trends of urbanization in the region, and it suggests the need for a paradigm shift in urban infrastructure, highlighting opportunities that contribute towards furthering sustainable development for cities with a focus on stronger multilateral governance.

Source: <https://unhabitat.org/the-state-of-arab-cities-report-2022#:~:text=The%20State%20of%20Arab%20Cities%20report%20covers%20various%20issues%20that,and%20opportunities%20in%20the%20region>

URBAN PLANNING RESPONSES IN POST-CRISIS CONTEXTS (2020) highlights strategies and lessons from UN-Habitat's Urban Planning and Design Lab during the period of UN-Habitat's 2014-2019 Strategic Plan. It aims to guide practitioners, increase understanding between the humanitarian and urban planning communities, and discuss the role that urban planning plays in developing holistic post-crisis responses. The publication outlines 10 different strategies that the lab has developed to provide effective planning support and tools. It further explores three typologies of support useful in post-crisis contexts:

- A. Supporting settlement profiling.
- B. Supporting participatory decision-making.
- C. Supporting institutional capacity building.

Source: <https://unhabitat.org/urban-planning-responses-in-post-crisis-contexts>

LOCAL CLIMATE ACTION IN THE ARAB REGION (2020): Climate change is becoming one of the main threats to humanity, and the Arab region is one of the most vulnerable to its impacts. The 2012 State of Arab Cities report highlighted climate change as a "major emerging challenge" in the region with water security, food security, and urban settlements at particular risk. Based on deliberations from a February 2019 workshop in Beirut, this report aims to support local decision-making on climate action by highlighting climate change impacts on human settlements, global, regional, national, and local frameworks for response, access to climate finance, the development of Sustainable Energy Access and Climate Action Plans (SEACAPs), and best practices from Lebanon, Yemen, and Saudi Arabia.

Source: <https://unhabitat.org/local-climate-action-in-the-arab-region>

CLIMATE CHANGE VULNERABILITY AND RISK: A GUIDE FOR COMMUNITY ASSESSMENTS, ACTION PLANNING AND IMPLEMENTATION (2020)

supports community-driven development and climate adaptation by informing participatory action planning that builds social cohesion and enhances the participation of women, youth, and other people in vulnerable contexts, identifies lower risk areas to build climate-resilient infrastructure and housing, designs resilient infrastructure development options, and develops targeted early warning systems and training programs in environmental management and risk reduction, community capacity building, alternative livelihood strategies, etc.

Source: <https://unhabitat.org/climate-change-vulnerability-and-risk-%E2%80%93-a-guide-for-community-assessments-action-planning-and>

CLIMATE PROOFING TOOLKIT: FOR BASIC URBAN INFRASTRUCTURE WITH A FOCUS ON WATER AND SANITATION (2021)

is a set of steps, tasks, and tools to provide guidance to policymakers, planners, practitioners, engineers, and utility managers to ensure that the potential climate change impacts are factored in the design, construction, location and operation of current and future basic urban infrastructure, with a focus on water and sanitation. Thus, as a toolkit, it does not propose a one-size-fits-all solution.

Source: <https://unhabitat.org/climate-proofing-toolkit-for-basic-urban-infrastructure-with-a-focus-on-water-and-sanitation>

UNDP

RISK-INFORMED DEVELOPMENT: FROM CRISIS TO RESILIENCE (2019) is a risk-based decision process that enables development to become more sustainable and resilient. The toolkit calls for:

- a move away from single hazard risk analysis to an explicit acknowledgement of the interactions between multiple threats, including economic and financial instability, geopolitical volatility, natural hazards, and climate change;
- systematic assessments of complex threats and risks, opportunities, uncertainties, risk tolerances, perceptions, and options to ensure that development is sustainable and resilient;
- identifying who has responsibility to act upon risk management, with what resources, by when and how those actions are to be monitored;
- analysis of the potential trade-offs of development policies and investment actions, including social and environmental impacts, feasibility, and cultural and ethical outcomes;
- the provision to policy-makers of a robust evidence base around the role that unsustainable development plays in creating risk;
- understanding and acknowledging that all development and investment choices involve trade-offs.

Source: <https://www.undp.org/publications/risk-informed-development>

CATALYZING PRIVATE SECTOR INVESTMENT IN CLIMATE SMART CITIES (2020) explores innovative financing instruments and approaches for catalyzing private sector financing to fill the climate-smart investment gap in cities. The report highlights key barriers in scaling-up private investment in climate-smart urban infrastructure, while showcasing innovative financial de-risking instruments and other financial instruments for private sector financing of low carbon, resilient urban investments. It offers a framework for understanding these urban investment barriers and presents ten case studies of innovative financing approaches.

Source: <https://www.undp.org/publications/catalyzing-private-sector-investment-climate-smart-cities>

OTHER UN AGENCIES AND DEVELOPMENT ORGANIZATIONS

MANAGING INFRASTRUCTURE ASSETS FOR SUSTAINABLE DEVELOPMENT: A HANDBOOK FOR LOCAL AND NATIONAL GOVERNMENTS (2021): This UN DESA-UNCDF Handbook brings global visibility to infrastructure asset management as a critical, high impact area for investing in local capacities to mobilize and manage financing for sustainable development, including in emergencies. Underinvestment in infrastructure maintenance has been estimated to cost some developing countries up to 2 per cent growth in GDP. The Handbook calls national and local governments to action and provides them with concrete guidance on how to ensure the resilience, sustainability, and accessibility of existing and planned infrastructure investments. It contains practical tools to improve infrastructure asset management, plus recommendations on how to adapt them to socio-economic and environmental challenges of our time, including climate change and public health emergencies.

Source: <https://www.un.org/development/desa/financing/document/un-handbook-infrastructure-asset-management>

REGIONAL ASSESSMENT REPORT ON DISASTER RISK REDUCTION IN THE ARAB REGION 2021, by UNDRR, is a first attempt to bring together disaster risk reduction (DRR), climate change adaptation (CCA), urbanism, and Sustainable Development Goal (SDG) topics in a coherent manner in the region, albeit from a DRR perspective. It accounts for emergent approaches and risks, recognizing the large degree of uncertainty characterizing the period we live in, and the associated cascading and systemic risks within and across natural, health, financial, environmental, economic, and social systems. It is envisaged that this will signal the beginning of a process of Regional Assessment Reports (RARs), with those in the future focusing on priority region-specific areas identified in this RAR. While this work has a regional scope, the RAR-Arab States recognizes that risk management requires global cooperation and risk governance mechanisms, given the interdependency of systems.

Source: <https://www.undrr.org/2021-regional-assessment-report-arab-states>

INTERNATIONAL GOOD PRACTICE PRINCIPLES FOR SUSTAINABLE INFRASTRUCTURE (2021), by UNEP, set out ten guiding principles that policymakers can follow to help integrate sustainability into infrastructure planning and delivery. They are focused on integrated approaches and systems-level interventions that governments can make to create an enabling environment for sustainable infrastructure. The principles are complemented by a second publication, **INTEGRATED APPROACHES IN ACTION: A COMPANION TO THE INTERNATIONAL GOOD PRACTICE PRINCIPLES FOR SUSTAINABLE INFRASTRUCTURE**. Together, the publications aim to inform the forthcoming wave of global infrastructure investment. Collectively, they specify and demonstrate how environmental, social, and economic sustainability must be integrated right across infrastructure policymaking at the systems-level. These publications have been made possible by the financial support of the Global Environment Facility, the Swiss Federal Office for the Environment, and the Partnership for Action on Green Economy.

Source: <https://www.unep.org/resources/publication/international-good-practice-principles-sustainable-infrastructure>



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