Infrastructure for Peacebuilding

The role of infrastructure in tackling the underlying drivers of fragility

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In partnership with

UNOPS

DIIS - DANISH INSTITUTE FOR INTERNATIONAL STUDIES
Infrastructure is central to functioning, thriving societies. From roads and hospitals, to energy, water and sanitation, infrastructure can transform lives and drive sustainable growth. As such, infrastructure is key to sustainable development, with research showing that it can influence 92 per cent across all targets in the Sustainable Development Goals.

In fragile and conflict-affected settings, infrastructure plays a particularly important role in helping societies transition towards sustainable peace. By enabling access to services, creating jobs and linking people with opportunities, infrastructure has immense power to promote recovery, reduce inequality and drive economic development. But done poorly - and without appreciation of the conflict context - it runs the risk of hindering peacebuilding efforts. Because infrastructure is built to last, poorly designed, built and maintained infrastructure systems could risk prolonging instability.

To truly build for peace, we need to focus on people and their needs. We need to build trust, as well as brick and mortar. We need to focus on infrastructure that promotes social cohesion, reduces inequalities and facilitates access to justice and accountability. And we need the right partnerships to create this.

This requires all stakeholders, from the UN system, to donors, national actors and implementing partners, to make the right infrastructure decisions.

This report is a key contribution to the debate on infrastructure and peacebuilding. It makes the case for a holistic understanding of infrastructure: not as individual physical assets, but as a complex system that impacts and is impacted by fragility.

Drawing on UNOPS over 25 years of experience in infrastructure in fragile and conflict affected settings, the report calls for informed decisions around infrastructure, to support long-term and inclusive development that addresses the root causes of conflict.

The stakes are high. Before the COVID-19 crisis hit, it was estimated that by 2030, more than half of the world’s poor will be living in countries affected by high levels of violence. That crisis will further exacerbate the suffering for many. The time to make the right decisions about our infrastructure is now, for a more peaceful, sustainable and resilient world.

This leads to the need for comprehensive approaches, requiring the engagement of the entire UN system. Peacebuilding and sustaining peace encompass a wide range of political, security, development, humanitarian and human rights activities, programmes and mechanisms. This necessitates a joint understanding of conflict dynamics and how United Nations interventions can minimize negative and maximize positive impacts in order to build and sustain peace.

Infrastructure as a system, comprised of assets, institutions and knowledge, is both a product of and a vehicle for sustainable development that can drive inclusion, social cohesion, trust and prosperity, or exacerbate inequalities, exclusion and marginalization, depending on how the infrastructure is built, managed and maintained.

As a contribution to the informal phase of the 2020 Review of the United Nations Peacebuilding Architecture, this thematic paper is a very welcome input for the 2020 Report of the Secretary-General on Peacebuilding and Sustaining Peace.
Introduction

The global agenda on conflict and peacebuilding has drastically changed over the past fifty years. If the twentieth century agenda was dominated by conflicts between national states, today the concern has shifted towards contexts that combine state fragility with protracted and intractable conflict, often involving alliances between non-state groups and regional and international actors. The Organisation for Economic Co-operation and Development (OECD) recently estimated that:

“In 2016, more countries experienced some form of violent conflict than at any time in the past 30 years. Close to 26,000 people died from terrorist attacks and 560,000 people lost their lives because of violence. The number of displaced people in the world is the highest since the end of the Second World War.”

Besides engaging in short-term efforts to restore peace in so-called fragile and conflict-affected states (FCAS), international actors have sought to deploy development assistance to positively affect the structural conditions of fragility and render FCAS more resilient and stable. In this regard, investments in infrastructure development have emerged as a crucial catalyst for peacebuilding efforts. This is due to infrastructure’s ability to promote immediate reconstruction and employment opportunities, enable longer-term economic benefits (e.g., access to markets) and improve access to public services (e.g., peace and justice institutions). Indeed, it should come as no surprise that the most fragile states also have the lowest per capita densities of basic infrastructure services, which disproportionately affects vulnerable and marginalized groups, including women and girls.

This gap in access to infrastructure services became increasingly evident as the first confirmed cases of the COVID-19 emerged in FCAS, raising questions on how the pandemic would impact peacebuilding and development efforts in such complex environments. In such contexts, the lack of health infrastructure is likely to increase pressure on strained public health services, intensifying access gaps that can lead to group-based grievances and instability. Furthermore, in countries experiencing ongoing conflict, health infrastructure can be increasingly subject to power disputes and become targets of warring factions. In Libya, Syria and Yemen, for instance, hospitals and healthcare facilities have been directly targeted in the past, and the COVID-19 pandemic is likely to increase the frequency of these attacks. A hospital treating coronavirus patients in Libya has already suffered a rocket attack following the outbreak. Ultimately, the loss of health infrastructure in conflict settings can hinder peacebuilding attempts by hampering recovery efforts in the short-term and aggravating tensions over healthcare access in the long-term.

Donors and governments recognize the potential role infrastructure can play to address ongoing conflict and underpin peacebuilding processes by supporting or restoring the rule of law in fragile societies. Infrastructure can help overcome inequalities in access to public services and can be used to prevent emergencies from turning endemic. However, if poorly implemented, infrastructure can also hinder peacebuilding efforts and aggravate social inequalities. Given the ’lock-in’ effect caused by the long lifespan of infrastructure assets, investments that fail to account for both the positive and negative impacts infrastructure can have on peacebuilding efforts risk contributing to prolonged instability and fragility.

This paper makes a case for increased knowledge and awareness of the role of infrastructure in FCAS. It advocates a shift away from the traditional view of infrastructure as individual, isolated physical assets towards a holistic understanding of infrastructure as complex systems that interact with different aspects of fragility. To illustrate this crucial point, the paper assesses how infrastructure systems interact with the five dimensions of fragility as defined by the OECD. Given that infrastructure systems and the services they provide play different roles as fragile contexts change, this paper identifies the potential role of infrastructure across different stages of the conflict life cycle, highlighting the different contexts in which infrastructure can support or hinder peacebuilding efforts.

Ultimately, this paper seeks to contribute to the body of knowledge on infrastructure and peacebuilding in an effort to encourage the UN system, donors, national actors and implementing partners to cooperate on the basis of knowledge gathering and evidence-based decisions around infrastructure. With over 25 years of experience in infrastructure and infrastructure-related services in FCAS, UNOPS is committed to supporting its partners to make informed decisions around infrastructure development. It is our view that taking an informed approach to infrastructure is paramount to promote long-term, inclusive, sustainable and resilient development. Failing to do so will lead to missed opportunities for positive impact and may even lock in communities to enduring cycles of poverty, fragility and violence.

Such conflicts exacerbate the fragility of FCAS, hindering their ability to provide essential services and escape the spiral of violence to ultimately achieve sustainable development. Connected to this issue is the fact that current conflict dynamics pose unique challenges to prevention efforts and the development of inclusive responses to conflict (e.g., combining short- and long-term strategies for conflict prevention while addressing the different needs of several stakeholders, such as national governments and civil society groups).
Infrastructure and peacebuilding

Infrastructure is a basic prerequisite for development and well-being. It is more than a physical asset that enables a service; it is an agent of change that can be transformative when connected to societal progress and processes, supporting the achievement of the Sustainable Development Goals (SDGs). To be precise, infrastructure has links with all 17 of the SDGs, with the potential to influence the achievement of up to 92 per cent of all SDG targets.

Infrastructure investments have therefore emerged as a priority for governments and donors who place confidence in infrastructure’s ability to support peacebuilding efforts and restore the rule of law in fragile and conflict-affected settings. In accordance with that, trends in Official Development Assistance (ODA) indicate that donors have prioritized investments in fragile contexts. In 2016, for instance, $68.2 billion—or 65 per cent of total earmarked funding—was invested in the 58 fragile contexts featured in the OECD fragility framework.

Despite the increase in foreign assistance towards FCAS, investments were not diverse in nature, with humanitarian aid representing approximately 25 per cent of total ODA to FCAS and 50 per cent of all ODA to 15 extremely fragile contexts. In practice, this means that ODA flows were largely allocated to short-term humanitarian responses. Although these are critical to address the pressing needs of populations experiencing conflict, they can fail to address the long-term factors necessary to sustain peace and ensure sustainable development.

Consequently, there seems to be an increasing consensus within the development community on the need to allocate ODA resources to the prevention of future violence by addressing fragility factors associated with lack of access to public services and development. This view aligns with the General Assembly resolution 70/262 and Security Council resolution 2282 (2016), which recognize that efforts to sustain peace must begin long before conflict takes place. Tackling the root causes of conflict is thus key to preventing it from (re)occurring and should be an ongoing effort before, during and after conflicts occur. In order to be effective, ODA must account for the role of infrastructure in peacebuilding and its interaction with all dimensions of fragility. As they have a long lifespan, infrastructure assets interact with fragility before, during and after conflict occurs. How development actors choose to allocate ODA funds has a significant impact on FCAS’ pursuit of peace and development. Infrastructure investments can help countries break the cycle of fragility, violence and poverty to ultimately achieve sustainable development. This is only possible if investment decisions are evidence-based and account for the long-term effects of infrastructure systems in a given context.

Key definitions

Understanding the role of infrastructure in peacebuilding requires a shift away from the traditional view of infrastructure as individual and isolated physical assets. Rather, infrastructure is better understood as systems comprised of assets, institutions and knowledge, which, when combined, enable the sustainable provision of public services (see Figure 1). Assets represent the physical components of the system; institutions represent the governance mechanisms and frameworks that regulate infrastructure programming; and knowledge comprises the expertise stakeholders bring to infrastructure planning, design, implementation, use and maintenance. Institutions and knowledge together are referred to as the capacity of the system to plan, deliver and manage the assets and the services they provide.

Infrastructure projects often focus on delivering isolated physical assets in hopes that this alone will improve access to public services. Such projects fail to account for the other components of an infrastructure system—knowledge and institutions—and cannot develop the required capacity for sustained use of the asset for service delivery. This inevitably leads to the failure of that system and a gap in service provision, creating or increasing distrust in the government’s ability to manage public services. According to OECD research, countries with a high capacity to plan, deliver and manage infrastructure produce high-quality services that greatly benefit constituents by enhancing economic growth, reducing inequalities and facilitating social progress. On the other hand,

![Figure 1: Shift towards infrastructure systems](image-url)
countries with poor capacity are unable to maximize the potential development gains from infrastructure investments.\textsuperscript{16}

A study commissioned by the UK government’s Department for International Development indicates that beneficiaries in eastern Democratic Republic of the Congo (DRC) mistrusted water infrastructure projects, as they did not expect water to flow from the tap stands for more than a few weeks after project conclusion.\textsuperscript{17} This scepticism was due to the numerous tap stand projects implemented by national and international non-governmental organizations that failed due to either:

1. Technical reasons (e.g., building a tap stand network without considering the supply of water), or
2. Poor management of the assets (handing over the assets to local committees setup in the course of the project with the unrealistic expectation that they will be able to maintain the assets and sustain delivery of the service).\textsuperscript{18}

The DRC case illustrates how neglecting institutions – the mechanisms and frameworks regulating water supply networks and financing operations that support the creation and continued management of assets - resulted in previous projects failing to provide adequate services. Furthermore, neglecting local communities’ knowledge of maintaining and operating assets (and the resources at their disposal to do so) further contributed to their mistrust of any future interventions. This example demonstrates the need to move away from the simplistic definition of infrastructure as physical assets to a more holistic view of infrastructure as a system, allowing one to grasp the complex enabling environment and decision-making processes around infrastructure. The decision-making process determines what assets are built where and when and how they impact sustainable development outcomes. These decisions define how infrastructure fulfils its essential functions within a society and the context in which it operates. In the case of FCAS, these decisions will ultimately determine infrastructure’s role in either fuelling tensions (e.g., raising scepticism and perceptions of exclusion) or supporting peacebuilding efforts and promoting sustainable development.

As the following sections will explore, investments in infrastructure seek to achieve different objectives depending on the context in which they are made. Investments made in infrastructure during times of conflict and humanitarian response, for instance, often seek to support short-term objectives and frequently prioritize the number of assets delivered over their quality, with the assumption that the assets will be replaced once stability has been restored. However, the assets are frequently not replaced and end up having a long lifespan, which can inhibit long-term development objectives. On the other hand, infrastructure development in post-conflict or reconstruction settings is more likely to focus on supporting longer-term development objectives and tends to prioritize quality over quantity.

Regardless of these objectives, due to the long lifespan of infrastructure assets, investments will inevitably have a positive or negative impact both in the short-term and far into the future. Infrastructure can be a driver of long-term economic growth, peace and resilience if it enables access to basic services and economic opportunities for all. At the same time, poorly designed and built infrastructure can lead to exclusion and group-based grievances that may escalate to conflict. The following section will explore infrastructure’s role in peacebuilding across the conflict life cycle.
Infrastructure’s role in peacebuilding

Channels of influence

Several violent conflicts today involve group-based grievances arising from inequality, exclusion and feelings of injustice. When a state is unwilling or unable to provide essential public services to everyone, group perceptions of inequality and injustice increase, leading to rising tensions and violence. Poor, non-inclusive infrastructure systems can exacerbate group-based grievances by reinforcing a restrictive, inequitable environment. The 2018 United Nations-World Bank report Pathways for Peace highlights how water infrastructure systems, for instance, can influence tensions related to the lack of water access:

“Often, it is not the scarcity of water that leads to tensions, but the way in which it is governed and administered. Inefficient use and management of water, outdated infrastructure, and inappropriate legal, political, and economic frameworks all exacerbate tensions arising from the scarcity of water.”

As the statement indicates, tensions do not necessarily arise from resource shortage, but from poor institutional frameworks that govern access to resources. Worsening the situation are outdated assets, which collapse due to poor design (e.g., failure to account for the resilience needed against shocks and stresses in a specific context and/or lack of knowledge in maintaining and operating assets, causing their premature obsolescence). The failure of the system (asset, knowledge and institutions) ultimately restricts access to public services, giving rise to tensions and group-based grievances.
Although access to public services is a global challenge, its impact in FCAS is particularly troubling. It is estimated that approximately 2.2 billion people currently lack access to safe drinking water across the world, while 4.2 billion lack access to sanitation. Moreover, around 940 million people lack electricity and 1 billion lack access to all-weather roads. Those lacking access to basic services are more likely to engage in violent behaviour due to resource competition in combination with perceptions of injustice or poor governance.

The COVID-19 pandemic is likely to widen the gap in access to public services in FCAS, increasing their fragility. Such countries are disproportionately vulnerable to the pandemic due to their limited health infrastructure, a higher risk of food insecurity and the pressure that preventive measures, such as social distancing, put on already strained economies. It was reported that South Sudan, for instance, had four ventilators and 24 ICU beds to serve a population of over 11 million people as the pandemic reached the country. While South Sudan heavily relies on humanitarian support to respond to this crisis, restrictions and disruptions to supply chains negatively impact the delivery of life-saving aid to vulnerable populations. In countries where a significant share of the population relies on humanitarian assistance, the pandemic-induced economic instability, falling international remittances and social distancing measures that curtail economic activity will further damage lives and livelihoods, having unprecedented consequences in poverty and hunger worldwide.

Prior to the COVID-19 pandemic, the World Bank already estimated that by 2030, two thirds of the world’s poorest would be living in fragile and conflict-affected settings, where unreliable infrastructure services will leave them increasingly exposed to climate change-related shocks and stresses (e.g., cyclones, droughts, floods, sea level rise). Climate change-related shocks and stresses will worsen the pressure on poor and vulnerable groups living in FCAS, including women and girls. Tensions may escalate as a result of the collapse of service delivery, food insecurity, migration and economic shocks (e.g., loss of household income and employment opportunities).

Understanding how infrastructure interacts with fragility is paramount to ensuring that FCAS are able to promote long-term, inclusive, sustainable and resilient development. Fragility, however, is a complex and multidimensional phenomenon in which different aspects of state performance overlap. The OECD’s fragility Framework is a useful tool to analyze the interaction between infrastructure and fragility, as the combination of risks and coping capacities is unique to each specific context. The framework relies on a systems-thinking approach to fragility, considering it as an interaction of economic, environmental, political, security and societal dimensions. Infrastructure systems are intertwined with each of these fragility dimensions, given that assets, knowledge and institutions are constantly interacting with a given context (see Figure 2).

As a result of such interactions, infrastructure systems may act as channels of influence for conflict or peace, depending on the local context. There are various channels of influence under each of the OECD’s dimensions of fragility (see Table 1). While the examples illustrating infrastructure’s channels of influence are non-exhaustive, they seek to demonstrate a few ways in which infrastructure interacts with fragility dimensions.

Having outlined some of the possible pathways through which infrastructure interacts with each of the fragility dimensions, it is important to understand how these interactions influence the escalation of tensions and ultimately, the outbreak of violent conflict.

Figure 2: Infrastructure’s interaction with fragility dimensions

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Source: Schouten, Peer and Jan Bachmann, Roads to Peace? The Role of Infrastructure in Fragile and Conflict-Affected States, UNOPS and the Danish Institute for International Studies, Copenhagen, January 2017, p. 4.
Table 1: Infrastructure’s interaction with fragility dimensions

<table>
<thead>
<tr>
<th>Environmental Dimension</th>
<th>Description</th>
<th>Infrastructure’s interaction with fragility dimensions</th>
</tr>
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<tbody>
<tr>
<td>Economic</td>
<td>Vulnerability to risks stemming from weaknesses in economic foundations and human capital, including macroeconomic shocks, unequal growth and high youth unemployment.</td>
<td>Education: mean years of schooling for adults aged 25 years and over and expected years of schooling for children. Men in the labour force: the percentage of male participation in the labour force. Regulatory quality: perceptions of the government’s ability to formulate and implement sound policies and regulations promoting private sector development. Remoteness: the trade-weighted average distance from world markets. Food security: measures include the prevalence of undernourishment, average dietary supply adequacy, domestic food price index and domestic food price volatility. Unemployment rate: share of the labour force that is without work but is available for and seeking employment. Youth not in education, employment or training: the proportion of young people who are not in education, employment or training within the population of all youth in the same age group. Women in the labour force: the percentage of female participation in the labour force.</td>
</tr>
<tr>
<td>Environmental</td>
<td>Socio-economic vulnerability: the ability of individuals and households to afford safe and resilient livelihood conditions and well-being. Environmental health: the protection of human health from environmental harm, determined by the quality of air, water, sanitation and other factors. Food security: the prevalence of undernourishment, average dietary supply adequacy, domestic food price index and domestic food price volatility. Natural disaster risk: the likelihood of exposure to earthquake, tsunami, flood, cyclone, drought and other such events.</td>
<td>Channel examples: • Resilient infrastructure protects communities and the state against the impact of shocks (e.g., earthquakes, tsunamis, floods), preventing food insecurity and economic loss, among other risks to resilience. • Low-carbon infrastructure can promote climate change mitigation and contain the negative impact of climate change on people’s health. Sector examples: • Water and solid waste infrastructure can reduce the outbreak of diseases in a community. • Water and sanitation infrastructure can help contain the transmission of infectious diseases by enabling the practice of personal hygiene. • Health infrastructure enables effective emergency responses during the outbreak of health shocks such as pandemics. • If not developed with sustainability in mind, buildings and energy and transport infrastructure can contribute to deforestation, increase greenhouse gas emissions and add to air, water and noise pollution.</td>
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<tr>
<td>Political</td>
<td>Vulnerability to risks inherent in political processes, events or decisions, particularly concerning political inclusiveness, transparency, corruption and society’s ability to voice. Voice and accountability: perceptions of the extent to which a country’s citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association and free media. Judicial constraints on executive power: the extent to which the executive respects the constitution and complies with court rulings, and independence of the judiciary. Perceptions of corruption: perceived levels of corruption, as determined by expert assessments and opinion surveys.</td>
<td>Channel examples: • Infrastructure development influences public perception of government legitimacy and accountability. • The nature of public investments in infrastructure makes them particularly prone to corruption due to the large amounts of money spent (infrastructure development is commonly subject to bribery, abuse of authority and trading of influence, among other forms of corruption).</td>
</tr>
<tr>
<td>Dimension of fragility</td>
<td>Description</td>
<td>Key indicators</td>
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</table>
| Security              | Vulnerability of overall security to violence and crime, including both political and social violence. | Conflict risk: the statistical risk of violent conflict in the next 1-4 years based on 25 quantitative indicators from open sources. State control over territory: the percentage of territory over which the state has effective control. Level of violent criminal activity by criminal organizations (drug trafficking, arms trafficking, prostitution, etc.). Rule of law: perceptions of the extent to which agents have confidence in and abide by the rules of society, particularly the quality of contract enforcement, property rights, the police and the courts. Homicide rate per 100,000 population. Number of formal alliances between countries. Battle-related deaths per capita, measured on a log basis. Impact of terrorism: measured by the Global Terrorism Index capturing number of deaths, attacks, incidents and property damage from terrorism. | Sector examples:  
- Digital communications can facilitate accountability, transparency and monitoring of institutions.  
- Infrastructure for rule of law can promote access to justice for civil society.  
- Transport infrastructure can connect communities to government services.  

Channel examples:  
- Infrastructure can be subject to power disputes, attracting violence or becoming a target for criminal activities (e.g., terrorism).  
- Access provided by infrastructure can expose vulnerable groups to violence and criminal activity. This could be a result of increased presence of criminal groups in easier-to-reach areas thanks to improved access (e.g., roads and bridges), or a result of exposure when travelling long distances to obtain services or resources (e.g., women and girls who are exposed to violence and harassment when travelling to fetch water from communal taps located far from their homes).  
- Transport infrastructure can increase access to basic services during conflict.  
- Transport infrastructure can increase governments’ and militants’ access to vulnerable groups. |
| Societal               | Vulnerability to risks that stem from both vertical and horizontal inequalities, including inequality among culturally defined or constructed groups and social cleavages, affecting societal cohesion. | Voice and accountability: perceptions of the extent to which a country’s citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association and free media. Access to justice: the extent to which citizens enjoy secure and effective access to justice. Horizontal inequality: whether all social groups – as distinguished by language, ethnicity, religion, race, region or caste – enjoy the same level of civil liberties. Core Civil Society index: measures the overall robustness of civil society. Gini coefficient: an index measure of income inequality. Gender inequality: level of gender inequality in three important aspects of human development: reproductive health, empowerment and economic status. | Sector examples:  
- Digital communications can facilitate access to basic services for all and therefore discourage perceptions of inequality that lead to tensions.  
- The participation of women in infrastructure decision-making bodies (e.g., community development boards) benefits the development of gender-inclusive infrastructure.  

Channel examples:  
- Inclusive infrastructure can provide access to basic services for all and therefore discourage perceptions of inequality that lead to tensions.  
- The participation of women in infrastructure decision-making bodies (e.g., community development boards) benefits the development of gender-inclusive infrastructure.  
- Improved transport links can facilitate voters’ access to election centres and justice institutions. They can also ensure that women and other marginalized groups have equal access to public institutions. |

Infrastructure's role in peacebuilding

Legislative constraints on executive power: the extent to which legislature and government agencies are capable of questioning, investigating and exercising oversight over the executive. Political terror: the levels of state-sanctioned or -perpetrated violence, such as assassinations of political challengers and police brutality. Decentralized elections: whether there are subnational elections, and to what extent regional authorities can operate without interference from the centre. Regime persistence: the number of years a polity has persisted and is used as a measure of instability.
**Stages of peacebuilding**

As previously explored, infrastructure is an agent of change that interacts with all dimensions of fragility, while peacebuilding is an ongoing process that begins long before conflict takes place. As a result of its interactions, infrastructure and the services it provides can play different roles in the peacebuilding process as the fragility context changes. This section seeks to identify the role of infrastructure across the different stages of the conflict life cycle to highlight the contexts in which infrastructure can support or hinder peacebuilding efforts. It is worth mentioning that, in reality, it is virtually impossible to clearly distinguish conflict stages (e.g., determining at which point violence escalation effectively turns into ‘conflict’ and to what extent a decrease in violence characterizes a ‘post-conflict’ stage). Nevertheless, this simplified framework allows for a clear-cut analysis of how infrastructure interacts with fragility dimensions in different scenarios.

**Prior to conflict**

This stage refers to conflict prevention aiming to reduce group-based grievances that may escalate into violent conflict. When effective, prevention actions taken at this stage have the potential to minimize the likelihood of escalation to conflict and steer societies towards sustainable development. When group-based grievances are ignored or prevention efforts fail, violence is likely to increase and potentially lead to conflict.

In such contexts, investing in inclusive and sustainable infrastructure systems can improve resilience and prevent societies from descending into crisis and, ultimately, conflict. The United Nations-World Bank report *Pathways for Peace* indicates how state decisions around infrastructure investment influence group-based grievances in the context of center-periphery relations:

“Center-periphery tensions tend to be rooted in historical patterns of exclusion and are therefore heavily entrenched in state institutions. For a variety of reasons, states often deem the costs of integrating peripheral regions via improved infrastructure or services to be too high for the potential benefits it could bring.”

Despite the common perception that improving infrastructure services carries an exorbitant cost (particularly for FCAS), prevention efforts can be cost-effective, lead to stability, and ultimately save lives. It is estimated that prevention efforts can generate savings ranging from $5 billion to $69 billion a year by preventing diversion of resources towards military expenditure, aid and peacekeeping by national governments and the international community. Beyond addressing the access gap in the long run, targeted infrastructure interventions can also contribute to reductions in violence, conflict, and crime in the short-term. For example, widespread electrification may improve safety in communities by deterring violence through street lighting. Similarly, adequate roads and waterways can allow law enforcement timely access to communities in order to respond to emergencies and crimes.

When it comes to strengthening the rule of law in a given country, the construction of police stations, courts and prisons to adequate standards can contribute to long-term improvements to law enforcement and access to justice. Participatory decision-making requires people, including the most vulnerable, to have access to governance institutions at all levels. Such access may require, for example, better transport links to ensure all citizens can exercise their right to vote. Although investments in the assets mentioned may improve the provision of services related to security and justice, it should be noted that, without a holistic approach to infrastructure as a system, these investments are unlikely to achieve long-term benefits. Addressing inequalities and exclusion through infrastructure investments that build knowledge while making institutions more inclusive and transparent will ensure that development strategies can effectively prevent the fraying of social fabric and a consequent eruption into crisis.

At the same time, infrastructure can hinder peacebuilding efforts and aggravate group-based grievances if systems are used for predatory activities, services are poor or lacking, or if infrastructure is unable to protect communities and development. In Haiti, for instance, non-resilient infrastructure failed to protect the population from the 2010 earthquake, which, beyond the high death toll, left survivors more exposed to violence. A survey of affected households in Port-au-Prince indicated that 24 per cent of respondents had lost their homes in the disaster. In the six weeks following the earthquake, over 4,000 individuals were physically assaulted, while approximately 19 per cent of surveyed households experienced severe food insecurity due to the collapse of food-related infrastructure services upon which community members had relied. Prison escapes and increasing gang presence in vulnerable areas were a direct result of infrastructure failure (non-resilient prisons and lack of access to affected areas), which contributed to the increase in crime and violence rates. Furthermore, displaced populations living in tent camps were more exposed to violence; survey results indicated that nearly 11,000 people were sexually assaulted in the six weeks following the shock, the vast majority of whom were women.

Moreover, in light of increasingly unpredictable and extreme climate change-induced weather patterns, infrastructure has a significant potential to protect communities from economic, environmental and societal crises that can lead to instability. The following are further non-exhaustive examples of how infrastructure interacts with fragility dimensions prior to conflict (see Table 2).

As the table indicates, infrastructure development can either support or hinder peacebuilding efforts prior to conflict occurrence. In cases where peacebuilding efforts have failed, infrastructure’s role is largely shaped by the characteristics of the conflict and the environment. The following section explores the different ways in which infrastructure can support or hinder peacebuilding efforts during ongoing conflicts.
Table 2: Infrastructure’s interaction with fragility dimensions prior to conflict

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Infrastructure supports peacebuilding</th>
<th>Infrastructure hinders peacebuilding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic</td>
<td>Infrastructure development creates employment opportunities and increases the inflow of funds in the economy, contributing to economic resilience and development.</td>
<td>If the inflow of funds and employment opportunities originated by infrastructure development are perceived as discriminatory, contestation and group-based grievances may arise and escalate to conflict.</td>
</tr>
<tr>
<td>Environmental</td>
<td>Low-carbon infrastructure and renewable energy solutions can promote climate change mitigation. Environmentally friendly infrastructure solutions can help meet development demands while minimally impacting the environment. Resilient infrastructure protects communities and the state. It helps them cope with the impact of climate change and environmental shocks and stresses.</td>
<td>Infrastructure can increase greenhouse gas emissions and contribute to air, water and noise pollution. Non-resilient infrastructure can fail to protect communities against climate change and other environmental shocks and stresses, leading to loss of life and livelihood, food insecurity, migration, and other factors causing instability.</td>
</tr>
<tr>
<td>Political</td>
<td>Evidence-based infrastructure projects that are embedded in national strategies and have involved key stakeholders contribute to government legitimacy and long-term stability.</td>
<td>In areas of low state presence, infrastructure assets can be instrumentalized by competing groups and hamper state legitimacy.</td>
</tr>
<tr>
<td>Security</td>
<td>Improved communication and accessibility to national territory can strengthen state presence and security provision.</td>
<td>Improved accessibility and strengthened state presence in the national territory can increase tensions with local communities if state security forces engage in predatory or violent behaviour.</td>
</tr>
<tr>
<td>Societal</td>
<td>Inclusive infrastructure can provide basic services and discourage perceptions of inequality that lead to tensions.</td>
<td>Non-inclusive infrastructure can aggravate group-based grievances over perceived inequalities, and tensions can escalate to violence.</td>
</tr>
</tbody>
</table>
Supporting justice system reform in Tunisia

Country: Tunisia
Partner: European Commission
Duration: 2013–2018

The Tunisian Revolution marked the beginning of what became known as the Arab Spring. While Libya, Syria and Yemen still struggle to overcome the spiral of violence and conflict that followed the Arab Spring protests, Tunisia seems to have successfully navigated the tumultuous years of political crisis that followed the revolution. Despite challenges to its economy and security, it has been making encouraging progress towards democracy and preventing conflict from erupting.

Part of the country’s success can be attributed to government institutions undergoing significant reforms in a timely manner, building the foundations of a more sustainable, democratic and inclusive political system.18

Within the scope of such reforms, UNOPS supported the government of Tunisia in reforming its justice system, with a focus on strengthening the rule of law amid the political and security crisis that threatened the country’s peaceful transition to democracy.

UNOPS was in charge of performing rehabilitation works on three courthouses (Gabes, Nabeul and Sfax) and two prisons (Gabes and Messadine) to align them with international standards on safety and human rights. UNOPS performed infrastructure feasibility studies and design review, engaged subcontractors and monitored the timeliness and quality of works. To ensure sustainability, training and capacity building sessions were available for technicians and agents in charge of operating, maintaining and updating such systems. With this intervention, UNOPS supported more accessible and effective provision of justice-related services for the people of Tunisia, ultimately supporting the country’s transition to democracy.

The diagram to the right shows the links between the project elements, the components of an infrastructure system and the dimensions of fragility.

"Supporting justice system reform"

The project enabled access to and the effective provision of security and justice-related services, contributing to state legitimacy following recent instability.

"Rehabilitation of courthouses and prisons"

The project incorporated international standards on resilience, safety and human rights to ensure the prisoners’ safety and well-being. It also improved work conditions for magistrates and penitentiary agents to improve rule-of-law service delivery.

"Engaging local private sector"

By engaging the local private sector, the project created economic opportunities and enabled knowledge sharing in core implementation practices such as health, safety, and social and environmental management.

"Training and capacity building sessions"

Training sessions were held for workers on best practices for managing and operating rehabilitated facilities according to international standards. This includes the ability to plan and execute future infrastructure maintenance activities.
Infrastructure’s role in peacebuilding

During conflict

Infrastructure is commonly associated with military access in conflict-affected areas. As infrastructure is subject to power disputes, it can attract violence by all parties in a conflict and become a conduit for intensified predation. Consequently, infrastructure development during conflict is not perceived as neutral. In the Democratic Republic of the Congo, for instance, Hunde rebels held control of the main road south of Pinga in 2011 for taxation and defence purposes. The UN Group of Experts also reported that Hunde rebels sought to block the repair of a bridge by an international implementing organization, believing the repair would lead to army deployments into their territories. Recent research has also found that political violence markedly increased in Iraq as a result of road building between 2003 and 2011.

Beyond military access, emergency infrastructure implementation in conflict-affected areas can play a positive role in the peacebuilding process by contributing to the reestablishment of public services and improving affected communities’ resilience and livelihoods. For example, restoration and renovation of energy infrastructure can enable the provision of critical services such as health, education, water and sanitation in conflict-affected areas. Improved service delivery will increase communities’ resilience by fostering job creation and income generation and improving health and well-being. Improved energy provision, notably in rural areas, also contributes to household economic resilience by reducing dependence on fuels (e.g., kerosene), which become increasingly scarce and expensive in conflict-affected settings. Besides the tangible benefits that infrastructure implementation can bring to conflict-affected communities, (re)establishing provision of public services also creates confidence in the peacebuilding process and contributes to state legitimacy.

In the context of ongoing conflict, infrastructure implementation becomes riskier and more sensitive than ever. The success of projects largely relies on the standards and practices employed by implementing partners. Unfortunately, excessive focus on outputs and little consideration towards developing the wider capacity of infrastructure systems (institutions and knowledge) have prevented infrastructure projects from achieving their long-term development outcomes and desired impact. A few cases of infrastructure implementation under the framework of Quick Impact Projects (QIPs) illustrate how excessive focus on tangible outputs (assets) at the expense of appropriate planning and preparation fails to sustain peacebuilding efforts in the longer-term and often contributes to the escalation of tensions.

In Afghanistan, for instance, following the 2001 Security Council resolution 1386, infrastructure works implemented under the framework of QIPs had a military component of ‘winning the hearts and minds’ of the local population. These projects rested on the assumption that the quick delivery of tangible infrastructure assets would increase confidence in the Afghan government’s capacity and signal its commitment to local communities, who were also engaged in project identification, decision-making and delivery. Community-based programmes would then lead to future, more sustainable development initiatives that would ultimately be able to sustain peace.

As a result, such projects were under pressure to start construction early and disburse funds quickly. The rush to show impact was generally at the expense of appropriate planning and preparation, which are crucial to successful infrastructure implementation, particularly in FCAS. Conflict sensitivity, feasibility and sustainability studies were often neglected as QIPs prioritized short-term operations over long-term durability. Errors in design, inappropriate specifications, substandard construction practices and implementation challenges posed by the conflict resulted in poor quality infrastructure that carries higher operation and maintenance costs, which the Afghan government cannot bear in the context of a progressive reduction in ODA. Lack of maintenance means that several systems are now inoperable and public services are no longer being provided, while allegations of corruption in project implementation further contribute to the discontent and rising tensions in the Afghan population.

The Afghanistan case illustrates how the lack of a holistic approach to elements of an infrastructure system may hinder the system’s long-term performance and have negative repercussions on peacebuilding. Further non-exhaustive examples of the interplay between infrastructure and peacebuilding during conflict are below (see Table 3).

Infrastructure’s interaction with peacebuilding efforts during conflict is highly dependent on the nature of the conflict, the groups involved in power disputes and the strategy behind an immediate response by the international community. While emergency infrastructure implementation can contribute to peacebuilding by (re)establishing public services that promote resilience and recovery, projects that fail to properly plan for the complex implementation, operations and maintenance in such environments run the risk of fuelling ongoing instability rather than promoting peace.

When conflict levels decline, infrastructure plays an important role in post-conflict recovery, as explored in the next section.
Table 3: Infrastructure’s interaction with fragility dimensions during conflict

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Infrastructure supports peacebuilding</th>
<th>Infrastructure hinders peacebuilding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic</td>
<td>Emergency infrastructure implementation supports the (re)establishment of critical services, fostering job creation and income generation.</td>
<td>Infrastructure assets may be used by military groups as a means of extortion to finance their activities (e.g., roadblocks).</td>
</tr>
<tr>
<td></td>
<td>Labour-intensive public work projects for infrastructure development can reduce conflict through a quick influx of cash for disadvantaged groups.</td>
<td>Infrastructure can facilitate access to hard-to-reach areas, increasing illegal activities such as illicit natural resource exploitation (e.g., logging, illicit slash and burn agriculture, illegal mineral extraction and poaching).</td>
</tr>
<tr>
<td>Environmental</td>
<td>Resilient infrastructure is more likely to resist the shocks of conflict, protecting environmental and development gains.</td>
<td>If poorly planned or implemented, infrastructure projects can lead to further instability after a short period of time if the outputs are too difficult and expensive to operate, maintain and manage.</td>
</tr>
<tr>
<td>Political</td>
<td>Properly planned and implemented infrastructure projects can support the (re)establishment of service delivery, strengthening state legitimacy in conflict-affected areas.</td>
<td>If poorly planned and implemented, infrastructure projects can lead to further instability after a short period of time if the outputs are too difficult and expensive to operate, maintain and manage.</td>
</tr>
<tr>
<td>Security</td>
<td>Infrastructure can support military logistics and extend international or state presence in conflict-affected areas.</td>
<td>Improved access may increase security risks for communities that will be more exposed to violent groups disputing territory.</td>
</tr>
<tr>
<td>Societal</td>
<td>Emergency infrastructure implementation supports the (re)establishment of critical services, improving the resilience and well-being of affected communities.</td>
<td>If poorly planned and implemented, emergency infrastructure may increase tensions as a result of negative public perception (e.g., corruption in project implementation, government failure to provide services due to high operations and maintenance costs).</td>
</tr>
<tr>
<td></td>
<td>Promoting gender mainstreaming in the planning and implementation of emergency infrastructure projects prevents them from aggravating the vulnerability of women and other marginalized groups within communities.</td>
<td>Strategic infrastructure assets can be targeted by military groups that may either control or destroy the asset and the service it provides, negatively impacting the community that relies on the service to fulfill basic needs.</td>
</tr>
</tbody>
</table>
Harnessing Yemen’s abundant supply of sunlight

The conflict in Yemen has significantly worsened the provision of essential public services, such as electricity. Prior to the conflict, approximately two thirds of the Yemeni population had access to public electricity grids (one of the lowest access rates in the Middle East and North Africa region). By 2017, two years after the onset of the war, this number had dropped to less than 10 per cent.

UNOPS is supporting the Yemeni population to overcome the country’s energy crisis by harnessing its abundant supply of sunlight. With funding from the World Bank’s International Development Association, and in collaboration with the local private sector (micro-finance institutions, solar equipment suppliers and installers), UNOPS is installing solar systems in hard-to-reach areas with the goal of restoring electricity supply to 220 health facilities and 280 schools.

UNOPS is also supporting the installation of household photovoltaic systems. Through market development and subsidies, the goal is to provide solar power to 200,000 households in rural and peri-urban areas while building a sustainable market that will further expand beyond the end of the project. Collaboration with the Yemeni private sector is critical to help create jobs and economic opportunities for those affected by the conflict. Building local capacity and expertise strengthens institutions and leads to a more inclusive and sustainable solar market in the country.

Prior to receiving solar power systems, Al-Salam Hospital in Lahj suffered from a lack of electricity, which negatively affected the delivery of health services and prevented staff from working in the evening. Today, a reliable power supply allows the hospital to provide services around the clock, including inpatient care and receiving emergency and critical cases. The hospital also opened a special wing for child delivery and obstructed labour with newborn care services.

The diagram to the right shows the links between the project elements, the components of an infrastructure system and the dimensions of fragility.
Post-conflict

In regions where infrastructure has been damaged or destroyed by conflict, rebuilding is a key step to restoring peace and order to the affected communities. Rebuilding provides an opportunity to re-evaluate the role of infrastructure in a given context and build back better based on the risks faced by that infrastructure system and the service needs of the community. For instance, building back better allows for improvements in infrastructure resilience so systems can withstand future shocks and stresses (be it a result of conflict, climate change, or other (un)foreseen events). It also provides an opportunity to analyze the service needs of a given community, understand the institutional and knowledge gaps that must be addressed and effectively develop infrastructure that is inclusive and contributes to long-term community resilience and well-being. In essence, building back better can greatly contribute to peacebuilding efforts and ensure that infrastructure investments will have long-term benefits, as the drivers of conflict are properly assessed and addressed through new infrastructure development.

To successfully address the service needs of a given community, building back better relies on knowledge of that community’s particular needs. In the case of labour-intensive infrastructure projects, for instance, local representatives’ participation in identifying needs and solutions has proven to contribute to effective planning, local ownership and cohesion. Infrastructure projects that engage local communities in early decision-making and planning, as well as in the construction and maintenance of assets, have greater chances of positively contributing to peacebuilding efforts.

Furthermore, reducing conflict and fragility through employment generation in infrastructure development promotes a quick influx of cash that can improve livelihoods, boost local economies and possibly discourage individuals from engaging in violent behaviour in the future. It can also bring fractured communities together around a shared and concrete goal (e.g., a shared infrastructure asset that will enable better services for all). Infrastructure projects that fail to do this run the risk of being perceived as illegitimate and potentially exploitative (taking local resources for the benefit of others), especially if involving highly contested resources such as water and pastoral land.

In such volatile contexts, communities’ engagement and acceptance are instrumental to either protect project implementation from violent groups or decrease the risk of violent reactions. Community-level engagement is also emphasized in the Peacebuilding and Sustaining Peace Report of the Secretary-General (A/72/707-S/2018/43) as a critical component of peacebuilding efforts:

“Developing participatory approaches that involve civil society and local communities is instrumental in peacebuilding as well as in preventing violent extremism and addressing the conditions conducive to terrorism. [...] I recommend that all United Nations peace operations and United Nations country teams develop community-engagement strategies in consultation with national and local stakeholders, particularly youth and women’s groups, and that these be shared, monitored and reviewed with local actors.”

As the report indicates, community-based approaches are instrumental to the success of peacebuilding initiatives. However, it is also critical to work with national and local governmental structures to address knowledge gaps and build the capacity of national and local institutions. A holistic approach to infrastructure, which promotes the inclusion of stakeholders and builds their capacity at all levels in the peacebuilding process, is therefore critical to ensure sustainable outcomes. The Afghanistan case explored in the previous section is an example of how a lack of this holistic approach to infrastructure development can increase instability.

Additionally, the case of post-earthquake reconstruction in Haiti illustrates how a holistic approach can enable a more inclusive peacebuilding process. Following the 2010 earthquake in Haiti, recovery efforts focused on improving the living conditions of families staying in temporary shelters. They facilitated the return of internally displaced persons to areas that had previously collapsed and prevented the increase of transitional shelters. In that context, reconstruction provided an opportunity to build back better, given that Haiti suffers from extreme weather events and other natural hazards. Taking the opportunity to plan and build resilient infrastructure was vital to protect communities from future shocks and help mitigate any potential negative consequences towards peace and security.

In addition to the development of more resilient housing, community-based approaches were also used to engage community members affected by the disaster in housing and public asset rehabilitation and reconstruction. Engaging beneficiaries in labour-intensive reconstruction works increased the inflow of funds in the local economy, contributing to economic resilience and future employability, as beneficiaries received on-the-job training. Furthermore, householders participated in training sessions on safe construction and maintenance, the use and expansion of houses, land tenure, and health and sanitation. These sessions sought to address householders’ knowledge gaps and develop the necessary skills to ensure maximize performance and a long lifespan for assets.

There is an apparent consensus on the importance of community engagement and acceptance for the success of peacebuilding efforts. However, in practice, the level and method of community engagement in infrastructure projects differ according to the context, project design and the practices of different implementing partners. While certain projects might involve community leaders in decision-making about the infrastructure to be built and methods of maintenance, others might limit local participation to beneficiary engagement in implementation works or operations and maintenance activities. Unfortunately, community engagement strategies are not always harmonized among implementing partners, and little is known about their long-term role in stabilizing efforts.

Further examples of how infrastructure can support or hinder peacebuilding efforts in the aftermath of violent conflicts are in Table 4.
Infrastructure's role in peacebuilding

Building back better is an opportunity to improve asset resilience and sustainability, ensuring community protection against shocks and stresses while also reducing infrastructure greenhouse gas emissions. If asset maintenance and rehabilitation include incremental improvements for mitigation and adaptation measures, assets are more likely to resist shocks and contribute to stability.

Infrastructure reconstruction and rehabilitation projects that are coherently linked to institutional capacity building can enhance state capacity to manage the provision of services in the long-term. The effective operation and maintenance of infrastructure assets by the state contributes to its legitimacy, as communities recognize the state’s ability to provide public services.

Community-based approaches to asset rehabilitation and construction may contribute to violence reduction by offering an alternative to predatory activities and supporting disarmament, demobilization and reintegration efforts. Infrastructure can improve access to hard-to-reach areas for humanitarian aid.

Table 4: Infrastructure's interaction with fragility dimensions after conflict

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Infrastructure supports peacebuilding</th>
<th>Infrastructure hinders peacebuilding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic</td>
<td>Labour-intensive public works projects for infrastructure development promote a quick influx of cash, benefitting the very poor in the short-term. Gender-inclusive implementation practices can enable the participation of women in the labour force. Improved infrastructure may enhance access to public services and economic opportunities.</td>
<td>Public works may draw people away from their everyday economic activities and hence strain rather than benefit the local economy. If poorly planned, infrastructure can perpetuate inequalities in access to public services and economic opportunities, overstraining social structures already under pressure. Lack of gender-inclusive implementation practices can prevent the participation of women in the labour force and aggravate the financial burdens of female-headed households.</td>
</tr>
<tr>
<td>Environmental</td>
<td>Building back better is an opportunity to improve asset resilience and sustainability, ensuring community protection against shocks and stresses while also reducing infrastructure greenhouse gas emissions. If asset maintenance and rehabilitation include incremental improvements for mitigation and adaptation measures, assets are more likely to resist shocks and contribute to stability.</td>
<td>Infrastructure projects that are not linked to institutional capacity and do not include appropriate long-term maintenance strategies can jeopardize state legitimacy. If the state is unable to operate and maintain infrastructure assets in the future, it is likely to lose legitimacy in the eyes of the communities affected by the lack of services. Infrastructure projects that focus exclusively on community engagement without considering local authorities risk contributing to the erosion of state legitimacy.</td>
</tr>
<tr>
<td>Political</td>
<td>Infrastructure reconstruction and rehabilitation projects that are coherently linked to institutional capacity building can enhance state capacity to manage the provision of services in the long-term. The effective operation and maintenance of infrastructure assets by the state contributes to its legitimacy, as communities recognize the state’s ability to provide public services.</td>
<td>Infrastructure projects that are not linked to institutional capacity and do not include appropriate long-term maintenance strategies can jeopardize state legitimacy. If the state is unable to operate and maintain infrastructure assets in the future, it is likely to lose legitimacy in the eyes of the communities affected by the lack of services. Infrastructure projects that focus exclusively on community engagement without considering local authorities risk contributing to the erosion of state legitimacy.</td>
</tr>
<tr>
<td>Security</td>
<td>Community-based approaches to asset rehabilitation and construction may contribute to violence reduction by offering an alternative to predatory activities and supporting disarmament, demobilization and reintegration efforts.</td>
<td>Public works projects for infrastructure implementation can lead to an increase in tensions once projects are finalized and cash incentives are gone. This is particularly true when implementation is not accompanied by skills development and capacity building initiatives that can enhance beneficiaries’ employability in the future. This factor is particularly critical for former militants who may go back to armed groups if unable to find employment post-conflict.</td>
</tr>
<tr>
<td>Societal</td>
<td>Infrastructure can improve access to hard-to-reach areas for humanitarian aid. Repair of damaged assets can bring fractured communities together around shared, concrete goals. This can positively impact community resilience and cohesion. The participation of women and marginalized groups in decision-making for infrastructure reconstruction enables the development of inclusive infrastructure.</td>
<td>Infrastructure reconstruction and rehabilitation projects that do not engage affected populations in design, implementation and capacity building risk upholding the lack of access and inequitable conditions that led to conflict. If poorly planned and implemented, public works projects may raise concerns over favouritism regarding the selection of beneficiaries and implementing locations. Failing to include women and marginalized groups in decision-making for infrastructure reconstruction can deepen inequalities and aggravate pre-existing vulnerabilities.</td>
</tr>
</tbody>
</table>
Supporting displaced communities in the Central African Republic

Since 2013, armed conflict has affected all aspects of life in the Central African Republic (CAR) and resulted in countless deaths, displacement, and the destruction of businesses and public institutions. To help displaced communities rebuild their lives and bonds, UNOPS is enabling affected communities to regain access to public services through improved infrastructure while providing financial support to around 15,500 vulnerable households in the form of cash assistance.

Through a labour-intensive approach, UNOPS engages beneficiaries – in collaboration with local companies – in the construction or maintenance of roads, community centres and other critical assets. This approach seeks to enhance economic resilience and social cohesion among displaced and host communities.

Particular attention is paid to asset resilience to ensure regular access to basic services. For instance, drainage systems were built alongside the roads to prevent floodings during the rainy season and ensure people’s ability to access services and markets throughout the entire year.

The project aims to ensure effective maintenance and operations in the future while promoting peace through community engagement and sensitization activities. An important aspect of this is involving community members in the planning (four provincial towns now benefit from a Local Development Plan), rehabilitation and construction of public infrastructure. Meanwhile, cash assistance enables beneficiaries to meet their daily needs and save for the future, therefore enhancing household resilience.

The diagram to the right shows the links between the project elements, the components of an infrastructure system and the dimensions of fragility.

Focus on critical assets
The project enhances communities’ access to public services and economic opportunities, benefiting long-term stability.

Improving resilience to climate-shocks
Infrastructure works in the project include incremental adaptation improvements so assets can resist future shocks and ensure long-term access to public services.

Engaging local communities
The project’s community-based approaches bring fractured communities together around shared, concrete goals. Local governance mechanisms are strengthened by empowering local communities with infrastructure decision-making.

Engage local beneficiaries
The project engages local beneficiaries in public works, which can benefit household resilience and promotes economic incentives to reduce violence. Capacity building and training can enable effective maintenance and operations in the future.
Improving home conditions for displaced families in Colombia

Country: Colombia  
Partner: Government of Colombia  
Duration: 2016–2020

Between 1985 and 2018, eight million people in Colombia were forced to flee their homes. After 50 years of armed conflict, a peace deal opened a new chapter in the nation’s history and provided an opportunity to resettle displaced populations. Today, UNOPS is supporting nationwide efforts led by the government of Colombia to improve 50,000 homes and encourage the return of families that fled violence.

As an implementing partner, UNOPS is engaging the local private sector in the upgrade of around 2,500 individual homes. Infrastructure works focus on improving the health of residents through more hygienic kitchens and bathrooms, enabling families to prepare food in a safer manner and access clean water and sanitation. Over 15,000 individuals across the country will benefit from UNOPS infrastructure works, which aim to raise the standards of living across communities in Colombia.

Beneficiary engagement in the design and implementation of works was critical to ensure that home improvements accounted for each household's particular usage and needs. Knowledge sharing and capacity building activities enable sustainable use and future maintenance of houses. Beyond ensuring that houses were fit for purpose, the project also contributed to government efforts to regain presence and rebuild trust in former violence-affected territories.

The diagram to the right shows the links between the project elements, the components of an infrastructure system and the dimensions of fragility.
Gender, infrastructure and peacebuilding

Gender relations are intrinsically linked to fragility, conflict and peacebuilding. As indicated in the OECD fragility dimensions (see Table 1), gender equality is a key indicator to assess economic and societal vulnerabilities. Beyond this, gender relations are influenced by – and influence – all other dimensions of fragility and therefore play a critical role in conflict prevention and peacebuilding efforts.

Women, girls, men and boys experience fragility and conflict differently, according to the traditional roles and responsibilities that cultures and societies assign to genders. These gender-based roles and responsibilities significantly influence how women and girls access infrastructure and experience violence, displacement and the loss of livelihoods when crises occur.

Given the influence that infrastructure has on all fragility dimensions, it plays an important role in fostering gender equality in all stages of peacebuilding. As previously explored, lack of access to public services is particularly troubling in FCAS, where it can give rise to group-based tensions and grievances that lead to conflict. Even prior to conflict, gender-blind infrastructure can prevent women and girls from accessing services and opportunities that are necessary to support their upward social mobility and reduce the gender gap. This increases their vulnerability to future conflict and shocks, with research indicating that:

“Gender-blind infrastructure fails to consider the different roles, responsibilities and particular needs of women, men, girls and boys in a specific context and how this affects their ability to use or access infrastructure. In times of crisis, this can have life-threatening consequences for women and girls.”

Indeed, when crises occur, women and girls become increasingly vulnerable to gender-based and other forms of violence. In 2016, the United Nations Office for the Coordination of Humanitarian Affairs reported that at least one in five female refugees and internally displaced persons had been victims of sexual violence in countries affected by conflict. Similarly, they often bear the responsibility of caring for children and the sick, which becomes increasingly challenging as the number of female-headed households increases during and after conflict. In these situations, women often struggle to combine their caregiving responsibilities with the additional financial burden, as they encounter difficulties in accessing jobs and financial opportunities, commonly resorting to self-employment through informal activities (which worsens their vulnerability). In such contexts, infrastructure projects can support the resilience of female-headed households by engaging female workers in reconstruction works, thus providing them with a secure source of income in addition to skills development opportunities. Likewise, community participation in infrastructure reconstruction can provide an opportunity for women’s involvement in local decision-making bodies, paving the way for the development of inclusive and gender-sensitive infrastructure.

Gaining a context-specific understanding of the different ways in which fragility and conflict affect women, girls, men and boys is critical for promoting infrastructure investments that support gender-inclusive peacebuilding. As recognized in the Security Council resolution S/RES/1325, women have an important role to play in the prevention and resolution of conflict, which can be fulfilled through their equal participation in infrastructure decision-making and peacebuilding efforts.
Recommendations

Project implementation in FCAS is particularly challenging. A number of features set FCAS apart from other environments: political and military constraints, missing baseline data, lack of access, lack of harmonized practices among implementing partners, problematic theories of change (which often neglect the non-asset components of infrastructure systems), time frame and budget pressures and personnel turnover, among others. Consequently, project implementation in such conditions requires extensive efforts to gather data and monitor outcomes for benefits realization in the long-term.

Such challenges are inherent to the implementation reality in FCAS. Because of this, actors involved in infrastructure implementation in such environments must work together to promote systematic approaches to infrastructure and peacebuilding – ones that account for the long-term outcomes of infrastructure investments and infrastructure’s interaction with fragility dimensions.

Having said that, infrastructure and peacebuilding approaches can only be systematized if the UN system, donors, national actors and implementing partners cooperate on the basis of knowledge gathering and evidence-based decision-making around infrastructure. In line with this, UNOPS proposes a set of non-exhaustive recommendations on ways to enhance cooperation and standardization of approaches among implementing partners.

A holistic approach to infrastructure

It is necessary to move away from the traditional view of infrastructure (as isolated physical assets) towards a holistic view of infrastructure as a system of systems (comprising assets, institutions and knowledge). Infrastructure systems interact with all dimensions of fragility and therefore play an important role in supporting or hindering peacebuilding efforts. For that same reason, infrastructure implementation provides an opportunity to address some of the root causes of conflict. Only through a holistic approach can infrastructure systems be responsive to people’s needs, promote social cohesion and reduce inequalities, including gender disparities.

Further research, evaluation & knowledge sharing

Effective infrastructure investments call for an evidence-based approach to infrastructure and a greater understanding of how it interacts with peacebuilding efforts. To support more evidence-based decision-making, UNOPS and the Danish Institute for International Studies (DIIS) launched the Roads to Peace partnership. This partnership seeks to address knowledge gaps regarding infrastructure’s role in FCAS by producing research and shaping the debate around infrastructure development in this challenging context. While the Roads to Peace initiative makes valuable contributions to this field, further research is needed, which relies on systematic data gathering and knowledge sharing among UN agencies and other implementing partners.

Increased coordination

Infrastructure’s role in peacebuilding and sustainable development calls for enhanced coordination between implementing partners. As stated by the UN Secretary-General:

“Central to those efforts [to build and sustain peace] is a more coherent United Nations that will think, plan and programme in a joined-up way, drawing upon its full range of tools to support Member States. This begins with a common understanding of the major risks and opportunities relevant to each Member State. A common analysis of those risks and opportunities in turn allows for risk-informed development strategies and targeted efforts to build resilience and sustain peace.”

In the context of FCAS, this coordination is critical to ensure that evidence-based infrastructure investments support peacebuilding efforts and the long-term achievement of the SDGs. To achieve this, coordination mechanisms and a set of standards and procedures should be created to ensure that quality, and not just quantity, becomes the focus of any infrastructure-related peacebuilding intervention.

*Further information on this collaboration is available on the Roads to Peace website (<https://www.roads-to-peace.org/>).
Moving forward

As this paper demonstrates, peacebuilding can only be effective if efforts are sustained and targeted as part of a continuous process to promote inclusive societies and institutions. When implemented with economic reforms and redistributive policies, infrastructure investments have the potential to foster structural changes that reduce the risk of violence and promote sustainable development. Yet, despite the significant investments dedicated to infrastructure projects in FCAS, projects often fail to assess the impact they make on peacebuilding, missing the opportunity to develop best practices and new approaches.

Considering that infrastructure systems interact with all dimensions of fragility (playing a significant role in peacebuilding across all conflict stages), failing to obtain a deeper understanding of its role in peacebuilding may hamper FCAS’ pursuit of sustainable development, due to the lock-in effect caused by the long lifespan of infrastructure. This is further demonstrated by the fact that most FCAS are unable to commit to the major financial investments required to rebuild assets or repair malfunctioning systems to a high standard. This results in entire generations living with dysfunctional service provision, which exacerbates existing tensions and could lead to future conflict – an outcome that disproportionately affects vulnerable and marginalized groups, such as women and girls. To prevent that from happening and break the cycle of limited access to infrastructure services, implementing partners must ensure that infrastructure and peacebuilding approaches are systematized and standardized.

To address this need, this paper sought to contribute to the body of knowledge on infrastructure and peacebuilding in an effort to encourage the UN system, donors, national actors and implementing partners to cooperate on the basis of knowledge gathering and evidence-based decision-making around infrastructure. UNOPS advocates for a holistic and evidence-based approach to infrastructure. Based on its experience and expertise in implementing infrastructure projects in the world’s most fragile and complex environments, UNOPS proposes further discussion and research on the role of infrastructure in peacebuilding.

Likewise, this paper puts forward a set of recommendations on ways to enhance cooperation and standardization of approaches among implementing partners. It is our view that this approach is paramount to ensuring that FCAS are able to fulfill peacebuilding efforts and promote long-term, inclusive, sustainable and resilient development. More than ever, this approach is now critical to support FCAS peacebuilding efforts. As governments and international actors mobilize recovery responses to contain the impacts of the COVID-19 pandemic in FCAS, infrastructure investments are at the forefront of the debate. Indeed, if properly planned, designed and implemented, infrastructure development can improve household resilience while accelerating wider economic recovery. If poorly planned, designed and implemented, it puts at risk the hard-won peacebuilding and development gains of the last decades. Nevertheless, while operating in the context of FCAS is certainly challenging, the risk and cost of inaction are even higher.

UNOPS and peacebuilding

UNOPS stands ready to support FCAS with their infrastructure needs to facilitate peacebuilding efforts. With a specific mandate in infrastructure, UNOPS is committed to helping people build better lives and countries achieve peace and sustainable development. With over 25 years of experience in the development of infrastructure and infrastructure-related services, UNOPS has activities in some of the most challenging environments in the world, building the foundations for communities to function and supporting governments’ peacebuilding efforts.

Beyond the projects highlighted within this report, UNOPS and its partners implemented over $2.2 billion in peace and security, development and humanitarian projects in 2019, with 17 per cent of this spending allocated to infrastructure projects across several sectors (see Figure 3).

The majority of UNOPS activities are concentrated in countries confronted with challenging conditions that negatively affect their efforts to achieve the SDGs. In 2018, UNOPS had activities in 67 per cent of all countries in the world (129 out of 193 countries), where around 90 per cent of the world’s population lives. Out of those, UNOPS had activities in 85 per cent of all countries classified as Fragile States, in 90 per cent of countries where people are internally displaced and in 100 per cent of countries with current UN peacekeeping operations.

Furthermore, UNOPS operated in 75 per cent of all countries classified as low-income and lower-middle-income economies, where gaps in access to infrastructure services remain a challenge and a potential source of instability. Among those countries, UNOPS had activities in countries below the second quartile in the: Human Development Index (78 per cent of all countries); Global Adaptation Index (82 per cent of all countries); Corruption Perceptions Index (78 per cent of all countries); Sustainable Development Index (81 per cent of all countries); Global Risk Index (80 per cent of all countries); Fragile States Index (79 per cent of all countries); and Global Peace Index (82 per cent of all countries) (see Figure 4).

As Figure 4 indicates, UNOPS operates in many countries, states, territories and contexts where people face challenging conditions to build a better life. To better manage these contextual challenges and improve delivery of sustainable results, UNOPS makes use of the highest international standards for project management in infrastructure implementation, adapting its practices to the specific context of FCAS. This includes the design and construction of infrastructure, as well as technical assistance in the planning, delivery and management of infrastructure in the context of FCAS.

Infrastructure implementation

UNOPS supports countries’ peacebuilding efforts by building assets that enable more sustainable and inclusive provision of public services.
When doing so, UNOPS project teams make use of the highest international standards and best practices in project, programme and portfolio management. The UNOPS Standards Management Framework provides a set of tools and guidelines to assist the planning and implementation of infrastructure projects in the context of FCAS. In accordance with these, UNOPS ensures that up-to-date construction techniques are employed and that buildings are well designed. This leads to high-quality assets that play a key role in protecting populations and ensuring sustainable and resilient provision of public services.

The UNOPS Conflict Sensitivity Guidelines support project teams operationalizing and mainstreaming conflict sensitive approaches across all stages of the project life cycle. By doing so, UNOPS seeks to minimize the negative impacts and maximize the positive impacts made on peace and conflict dynamics by all of the organization’s projects.

Furthermore, the UNOPS Guidelines for Gender Mainstreaming in Projects is a key component of the organization’s human-centred approach to project planning and implementation. The document provides practical advice on how to mainstream gender across the lifespan of UNOPS projects. By doing so, UNOPS aims to improve equitable access to services for women, men, boys and girls who use and benefit from project outputs differently. This includes people who are socially excluded, such as ethnic, cultural and religious minorities; people living with disabilities; youth and the elderly; and lesbian, gay, bisexual, transgender, queer and intersex people.

**Strategic and technical assistance**

Based on its extensive experience implementing infrastructure works in the context of FCAS, UNOPS assists governments in shifting their infrastructure planning, delivery and management approach to one that is evidence-based and transparent. The UNOPS Evidence-Based Infrastructure initiative provides best practice approaches, systems and tools to assist countries in aligning their infrastructure processes to support the achievement of global, national and local development agendas. Through capacity assessments, for instance, UNOPS helps governments identify gaps in their ability to plan, deliver and manage (e.g., operate, maintain and decommission) their infrastructure systems. Tackling these gaps can ultimately prevent the failure of infrastructure systems and avoid tensions arising from a lack of access to public services.

Furthermore, UNOPS supports decision-makers to explore and understand the performance of existing and future infrastructure systems. Through upstream planning, UNOPS identifies critical infrastructure that is at risk from climate-based hazards or other hazards that can trigger socio-economic tensions, such as food insecurity or lack of access to core services and resources. Similarly, asset assessments help governments understand the performance and use of their infrastructure assets to deliver a service. Based on identified risks, UNOPS provides recommendations on improvement measures to ensure that assets and systems will be able to withstand future shocks and stresses and maintain their ability to continue providing services.

Finally, UNOPS strategic and technical assistance services allow governments to increase control of their development and peacebuilding agenda to make better-informed decisions when attempting to close the gap in access to services in a more efficient and cost-effective manner, ultimately tackling the root causes of fragility in support of peacebuilding.

**Thought leadership**

UNOPS and its partners are pioneering an evidence-based approach to infrastructure, one that encourages a more holistic view of infrastructure as a system of systems (comprising assets, institutions and knowledge) that interacts with all dimensions of fragility. This shift in mindset should ultimately lead to more informed decision-making around infrastructure development, as it takes into consideration infrastructure's interaction with conflict dynamics and the subsequent impact on peacebuilding efforts (before, during and after conflict erupts).

The Roads to Peace partnership between UNOPS and DIIS contributes to the body of knowledge on infrastructure and peacebuilding by investigating infrastructure’s role in FCAS. This paper builds on the knowledge produced by the Roads to Peace research to raise awareness among practitioners and the general public on the important role of infrastructure in peacebuilding, contribute to informed decision-making and ultimately support the delivery of a more prosperous and sustainable future for all.

While infrastructure investments are instrumental in promoting peacebuilding, their success depends on implementing actors’ practices, experience and knowledge. Guided by the principles of evidence-based infrastructure, UNOPS is determined to harness its expertise in infrastructure implementation to help its partners build resilient, stable and inclusive societies with the aim of attaining long-lasting peace.

*Further information on this collaboration is available on the Roads to Peace website <https://www.roads-to-peace.org/>.
End notes


11. Ibid.

12. Ibid.


18. Ibid.


30. Ibid., p. 289.

31. Ibid., p. xviii.


35. Ibid.


37. Kolbe et al., ‘Mortality, crime and access to basic needs before and after the Haiti earthquake’, pp. 281-297.


40. Ibid.


42. Gordon, Stuart, Winning Hearts and Minds? Examining the Relationship between Aid and Security in Afghanistan’s Helmand Province, Feinstein International Center, Tufts University, April 2011, p. 34.


45. Case Studies: Delivering Inclusive Growth, p. 11.


49. Ibid., p. 5.


55. Pathways for Peace, p. 289.


57. Ibid.

58. Ibid.