



# 2021 QII **ANNUAL REPORT**

QUALITY INFRASTRUCTURE  
INVESTMENT PARTNERSHIP



## **About the QII Partnership**

The World Bank Group and the government of Japan established the Quality Infrastructure Investment (QII) Partnership with the objective of raising awareness and scaling up attention to the quality dimensions of infrastructure in developing countries. These include maximizing the positive impact of infrastructure, raising economic efficiency in view of life-cycle cost, integrating environmental and social considerations, building resilience against natural disasters, and strengthening infrastructure governance. The QII Partnership accomplishes this goal through financial support for project preparation and implementation, as well as knowledge dissemination. The QII Partnership is aligned with the G20 Principles.



2021 QII

# **ANNUAL REPORT**

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QUALITY INFRASTRUCTURE  
INVESTMENT PARTNERSHIP

# ACRONYMS & ABBREVIATIONS

ARISE	Accelerating Renewable Energy Integration and Sustainable Energy
BRT	bus rapid transit
EAP	East Asia and Pacific
EV	electric vehicle
ECA	Europe and Central Asia
ESMAP	Energy Sector Management Assistance Program
FCS	fragile and conflict-affected situations
GIF	Global Infrastructure Facility
GFDRR	Global Facility for Disaster Reduction and Recovery
GRID	Green, Resilient, Inclusive Development
IPG	Infrastructure Finance, PPPs & Guarantees
JICA	Japan International Cooperation Agency
JIT	just-in-time
KSWMP	Kerala Solid Waste Management Project
LCC	life-cycle costing
LNG	liquid natural gas
MENA	Middle East and North Africa
PPIAF	Public-Private Infrastructure Advisory Facility
PPP	Public-Private Partnership
QII	Quality Infrastructure Investment
SAR	South Asia
SDGs	Sustainable Development Goals
SIDS	small island developing states
SSA	Sub-Saharan Africa
SWM	solid waste management
TDLC	Tokyo Development Learning Center
ULB	urban local body
WACA	West Africa Coastal Areas Management Program

*All dollar amounts are U.S. dollars unless otherwise indicated.*



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# FOREWORD FROM THE **GLOBAL DIRECTOR**



*We've learned a lot about the role of infrastructure in development as we move closer to achieving the Sustainable Development Goals (SDGs) and grapple with the challenges of climate change and the COVID-19 pandemic. Succinctly put, there is much more to infrastructure than building brick-and-mortar projects—quality also matters.*

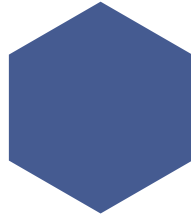
When I talk about quality in infrastructure, I'm not only referring to the technical specifications of a power plant or internet access. Quality infrastructure must also be socially sustainable, reaching excluded and vulnerable groups—especially women and children. It must be built to withstand extreme weather events and climate impacts, from hurricanes to rising sea levels. And it must make economic sense at every stage of its life cycle. Transparency and good governance are essential for ensuring that infrastructure projects achieve these objectives.

Given these challenges, every dollar of investment must count.

In 2016, the World Bank and the government of Japan entered a partnership to improve lives and boost economic outcomes in emerging and developing economies through quality infrastructure investment, or QII. Five years later, quality infrastructure offers us an opportunity to build back better.

The World Bank Group remains fully committed to the operationalization of the QII Principles, a set of six principles that emphasize that quality infrastructure is an essential part of the G20's ongoing efforts to close the infrastructure gap. Through FY 2021, nearly 100 grants valued at over \$26 million were committed to project





preparation, implementation, and analytical work. Through these efforts, the QII Principles are being mainstreamed and are shaping over \$19 billion in World Bank infrastructure operations in nearly 50 countries across the globe.

This funding has enabled us to innovate as we pursue our strategic priorities—digital transformation, climate change, and infrastructure governance—which will help us build back better from the COVID-19 pandemic and achieve a greener, more resilient, and more inclusive investment.

As the QII Partnership moves forward, working together will be vital to ensure a strong, global recovery. We will continue to work in close collaboration with the Tokyo Development Learning Center, the Global Infrastructure Facility (GIF), the Global Facility for Disaster Reduction and Recovery (GFDRR), and the Public-Private Infrastructure Advisory Facility (PPIAF) to maximize our collective impact.

In June 2021 at the Carbis Bay Summit, G7 leaders reaffirmed their commitment to the QII Principles in the context of a green, resilient, and inclusive post-COVID-19 recovery. Quality infrastructure investment is here to stay. We would like to thank Japan for its leadership in working with us to integrate the QII Principles in infrastructure investment.

*Imad Fakhoury is the Global Director of the World Bank's Infrastructure Finance, PPPs, & Guarantees (IPG) Global Practice.*



# QII: PERSPECTIVES FROM **THE MINISTRY OF FINANCE, JAPAN**



*Japan has long championed quality infrastructure as a critical driver of economic development and prosperity. The critical importance of infrastructure is embedded in the Sustainable Development Goals and recognized as key to the recovery of the global economy as we face the twin challenges of COVID-19 and the climate crisis.*

At the 2019 Osaka Summit, leaders of the G20 endorsed the six principles for promoting Quality Infrastructure Investment. In doing so, they recognized that the benefits of infrastructure are not limited to the immediate outputs of infrastructure assets. Instead, infrastructure contributes the most when it is designed, built, and operated to maximize its impact along numerous dimensions. These include economic efficiency, environmental considerations, economic inclusion, resilience to natural disasters, and good governance.

These commitments were reaffirmed at the Carbis Bay G7 Summit in June 2021.

The QII Partnership between Japan and the World Bank is helping to realize our shared vision by integrating QII in investment projects across the globe. In addition, it is deepening global knowledge and disseminating Japan's accumulated knowledge and expertise in quality infrastructure. Going forward, we see three areas where the application of the QII Principles is essential.





First, we see a growing need for digital technology in infrastructure, particularly regarding cybersecurity and data privacy. The rapid growth of digitalization has increased the demand for digital infrastructure, such as communications networks. All critical infrastructure, such as water, power, and transportation, rely heavily on digital technologies. With the dramatic increase of cyberattacks on infrastructure assets across the globe, we see a growing urgency for incorporating digital security in infrastructure projects. The COVID-19 pandemic also shows that the need for digital development is strong and growing.

Second, quality infrastructure is essential for building infrastructure that can adapt to and mitigate the negative impacts of climate change. Countries need to reduce greenhouse gas emissions to achieve the global goal of limiting global warming to 1.5°C. Environmental considerations are already an essential element of the QII Principles, which support the green, resilient, inclusive development approach. Shifting to renewable energy and low-carbon development will do much to reduce greenhouse

gas emissions. We also need to build resilient infrastructure that can withstand the increasing severity of climate events.

Third, debt vulnerabilities in developing countries skyrocketed during the pandemic and have become a severe obstacle to development. Here, the application of infrastructure governance frameworks can improve openness, transparency, and efficiency, and improve debt management to ensure that debt does not torpedo the economic recovery post-pandemic.

We would like to thank the QII Partnership for its hard work and dedication in developing high-quality projects that incorporate the QII Principles. The increase in demand for its services reflects the increasing need for quality infrastructure, especially in the context of the COVID-19 pandemic. We look forward to our continued collaboration.

*Kentaro Ogata is the Deputy Vice-Minister of Finance for International Affairs at the Ministry of Finance, Japan.*

# EXECUTIVE SUMMARY FROM **THE PROGRAM MANAGER**



*Since its establishment five years ago, the QII Partnership has enabled the World Bank to integrate quality infrastructure investment principles in its infrastructure operations in the world's poorest countries. Our grants have financed analytical work and advisory services in infrastructure projects that strengthen their economic efficiency, inclusivity, resilience, sustainability, and transparency.*

Since inception, our funding has supported project preparation and implementation in 47 countries—primarily in Asia and Sub-Saharan Africa. Transportation, water, and urban infrastructure account for 85 percent of our portfolio to date. Together, QII Partnership grants have supported nearly \$20 billion in World Bank infrastructure operations, up from \$13.4 billion in FY20. Every dollar of our funding has leveraged approximately \$800 in World Bank investments.

In FY21, our portfolio grew despite the challenges posed by the pandemic. Annual approvals grew by 60 percent—from \$5.7 million in FY20

to \$9.3 million in FY21—with grants supporting over \$6.2 billion in World Bank lending operations. Our work supported vulnerable countries like the Seychelles and Maldives as they seek low-carbon, climate-resilient development. We explored new financing instruments such as asset recycling and green finance in the transport sector. And we are helping create resilient urban infrastructure in Djibouti and Yemen.

Part of this success lies in the growing recognition of the value and relevance of the QII Principles in infrastructure projects. In FY21, we recognized that more needs to be done to



advance global knowledge of quality infrastructure. To that end, we introduced a new product—the Analytical Window—to conduct research, disseminate best practices, and showcase the QII Principles in action. In its first year, we provided \$1.1 million in financing through the Analytical Window. One innovative knowledge product is the world’s first Massive Open Online Course on QII to be launched in late January 2022. The course shows how the QII Principles contribute to a green, inclusive, and resilient recovery from the economic impacts of the COVID-19 pandemic and climate change.

This report showcases our accomplishments in FY21 and describes our strategy and approach as we move forward. As the QII Partnership matures, we look forward to deepening our collaboration with Japan and other institutions that recognize the value of the Principles in infrastructure development and in achieving the 2030 Sustainable Development Goals.

*Jane Jamieson is the Program Manager of the QII Partnership.*







# OVERVIEW





## Quality Infrastructure Investment in Today's World

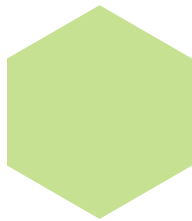
The COVID-19 pandemic and increasing impacts of climate change have changed the way we think about infrastructure.

The pandemic started as a health crisis but quickly developed into an economic one that threatened jobs, global supply chains, and food security. It revealed the critical role of digital technologies in keeping government services, businesses, schools, and hospitals working. It also shed light on global inequality. Many countries and communities still have limited access to vaccines, and vulnerable groups with little or no access to electricity or the internet struggle to keep up.

Climate change has also become more threatening. Wildfires, extreme natural disasters, rising sea levels, and record-

breaking heat waves have shown how vulnerable the world is. Transportation infrastructure, agriculture, and coastal communities are already under threat. Without effective mitigation, economies, lives, and livelihoods will be too.

These twin crises have put the spotlight on quality infrastructure. It isn't enough to spend a lot of money to build infrastructure assets. To continue driving economic growth and prosperity, we need to look beyond technical quality when developing infrastructure. We need to recognize that infrastructure has to embrace other aspects of quality, including sustainability, economic efficiency, good governance, and resilience to disasters and climate change. Infrastructure must also meet the needs of all people, including vulnerable and underserved groups.



# The Quality Infrastructure Investment Principles

Infrastructure is a driver of economic prosperity and provides a solid basis for strong, sustainable, balanced, and inclusive growth. Nonetheless, the world still faces a massive gap in financing for investment in new and existing infrastructure. Besides limiting access to secure and reliable public services, insufficient infrastructure investment could constrain economic growth and sustainable development. In this vein, world leaders have long sought to create a set of principles that reflect a common strategic direction and aspiration for quality infrastructure investment.

In June 2016, under the Japanese presidency, the G7 leaders endorsed the G7 Ise-Shima Principles for Promoting Quality Infrastructure Investment. These principles reaffirmed the crucial importance for stakeholders to work coherently to bridge the global infrastructure investment gap. The Principles consist of five key elements: governance, economic impact, social and environmental impacts, alignment with economic development, and the need to enhance effective resource mobilization. Leaders at the G20 Hangzhou Summit in September 2016 affirmed the concept of quality infrastructure investment.

At the 2019 Osaka Summit, under the Japanese presidency, all G20 members renewed their emphasis on quality infrastructure investment by endorsing the G20 Principles for Promoting Quality Infrastructure Investment. The G20 QII Principles, which evolved from the G7 QII Principles, include maximizing the positive impact of infrastructure to achieve sustainable growth and development, raising economic efficiency in view of life-cycle costs, integrating environmental and social considerations in infrastructure investment, building resilience against natural disasters, and strengthening infrastructure governance. These voluntary, non-binding principles are widely recognized as key to helping countries pursue investments that maximize the economic, social, environmental, and development impact of infrastructure—the foundation for achieving sustainable, resilient, and inclusive growth.

The QII Principles remain relevant in a time of crisis like the COVID-19 pandemic. In April 2020, the G20 endorsed an action plan for supporting the global economy through the COVID-19 pandemic. The plan reaffirmed the G20's commitment to promote quality infrastructure investment and accelerate efforts to mobilize private sources for infrastructure financing.

# The QII Principles

Five QII Principles for Promoting Quality Infrastructure Investment were introduced at the G7 Ise-Shima summit in 2016. These were expanded to six and endorsed by G20 leaders at the Osaka Summit in 2019. The G7 reaffirmed its commitment to the QII Principles at the Carbis Bay Summit in 2021.

The QII Principles also contribute to the Sustainable Development Goals. In addition to SDG 9, which calls for resilient infrastructure, many of the goals can only be achieved through sustainable, resilient, and inclusive infrastructure, as shown below.



## QII.1 Maximizing the positive impact of infrastructure to achieve sustainable growth and development



Infrastructure investment, accompanied by job creation and technology transfer, creates a virtuous circle of economic activities through capacity building, improved productivity, and increased private investment. It also promotes sustainable development and strengthens connectivity and is consistent with national development strategies and relevant international commitments such as the SDGs.



## QII.2 Raising economic efficiency in view of life-cycle costs



Value for money is a core element of quality infrastructure investment, as reflected in the total cost over the life cycle of infrastructure—including operations and maintenance and construction. Innovative technologies should be leveraged, and the risk of delays and cost overruns should be considered.

## QII.3 ENVIRONMENT

### QII.3 Integrating environmental considerations in infrastructure



Impacts on ecosystems, biodiversity, and climate must be considered when designing infrastructure projects. The use of green financial instruments can be encouraged by disclosing environment-related information.

## QII.4 RESILIENCE

### QII.4 Building resilience against natural disasters and other risks



Managing natural disasters and human-made risks should be factored in when designing infrastructure. Well-designed disaster risk finance and insurance mechanisms help incentivize resilient infrastructure.

## QII.5 SOCIAL

### QII.5 Integrating social considerations in infrastructure investment



The social and economic benefits of infrastructure should reach all people, especially vulnerable and excluded groups. Open access to infrastructure services, safety, and gender considerations should be considered when developing infrastructure.

## QII.6 GOVERNANCE

### QII.6 Strengthening infrastructure governance



Good governance, including openness and transparency in procurement, anti-corruption, and access to relevant information and data, expands the benefits of infrastructure. The sustainability of infrastructure must also be realized at both the national and project levels.

# The QII Partnership

The World Bank and the government of Japan established the QII Partnership to promote the application of the QII Principles in infrastructure projects. These support the World Bank Group's twin goals—ending extreme poverty by 2030 and boosting shared prosperity—and its green, resilient, inclusive development agenda. The partnership began operations in 2017.

The QII Partnership was established as a programmatic, single-donor trust fund housed within the World Bank Group. Japan's Ministry of Finance provides strategic guidance and funding—to date, it has contributed \$82 million to finance the QII Partnership's activities for FY2017–25.

The QII Partnership's primary decision-making, oversight, and advisory body is the QII Partnership Steering Committee. The committee meets annually to agree on the strategic direction of the partnership and any operational changes, review annual progress, and approve the work plan. Its members comprise the Global Director for the World Bank's Infrastructure Finance, PPPs & Guarantees (IPG) Global Practice, the World Bank Special Representative for Japan, and the Director of the Multilateral Development Banks Division within Japan's Ministry of Finance.

The QII Secretariat, housed in the IPG Global Practice within the World Bank's Infrastructure Vice Presidency, manages the day-to-day activities of the partnership. It manages relationships with internal and external stakeholders, including the Japan International Cooperation Agency (JICA), governments, development partners, and other trust funds with Japanese funding. It also manages the process for awarding and supervising grants.

The partnership provides grant support for incorporating QII elements in preparing and implementing World Bank infrastructure projects in developing countries. It offers **standard grants** to integrate QII Principles in infrastructure projects during the preparation and implementation phases. **Just-in-time (JIT) grants**, capped at \$70,000, support targeted, short-term interventions that promote the QII Principles. In addition, the partnership supports standalone research, analyses, and activities that advance global knowledge of QII through **analytical work**.

World Bank projects in the Energy, Transport, Water, Digital Development, Urban, Disaster Risk Management, Resilience, Land, and Governance sectors are eligible for QII grants.



# QII PARTNERSHIP OPERATIONS FRAMEWORK



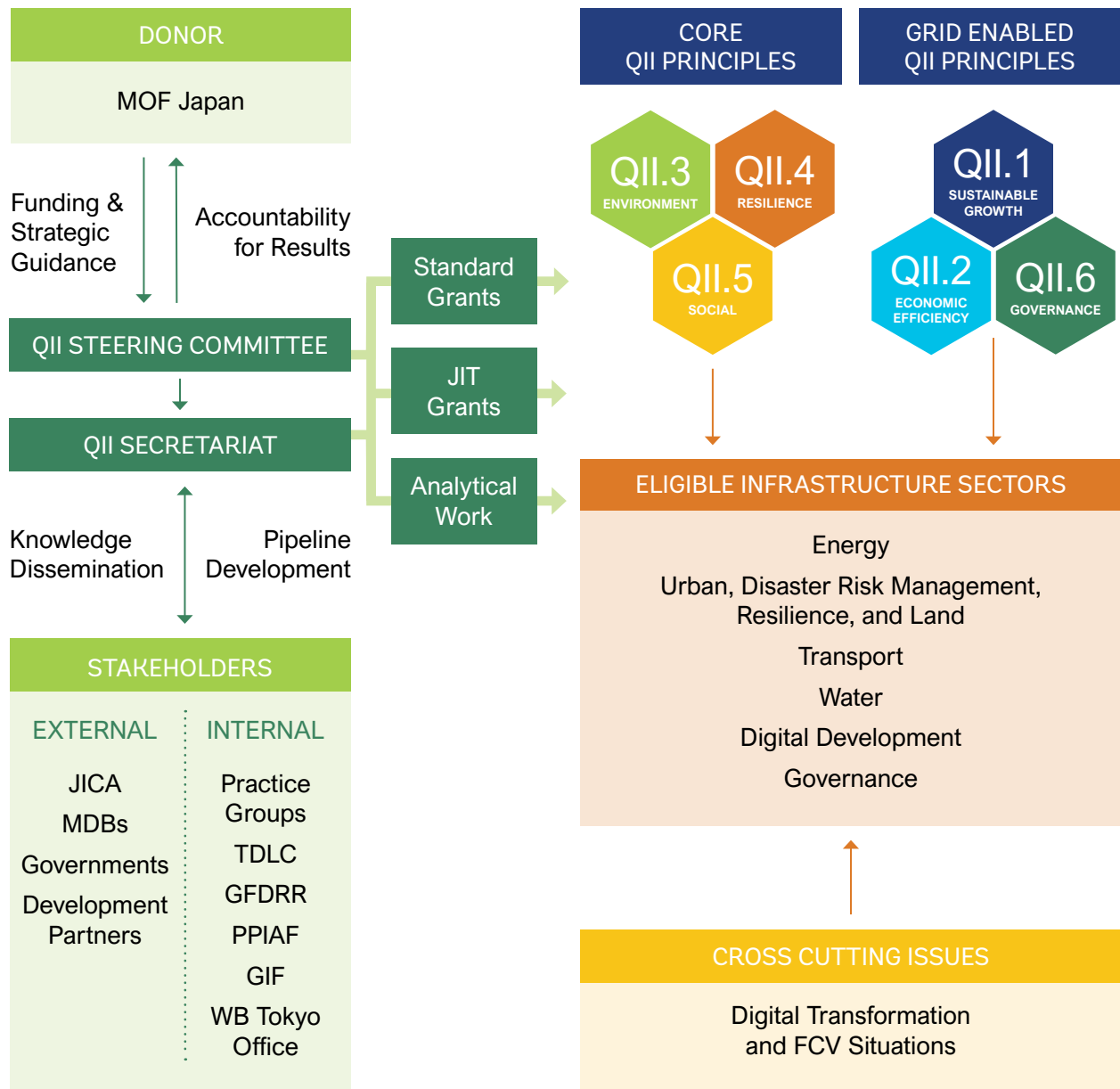
End Extreme Poverty by 2030

**WBG's Twin Goals**



Boost Shared Prosperity

## GREEN, RESILIENT, INCLUSIVE DEVELOPMENT



## THE QII PRINCIPLES IN ACTION

# CAMBODIA

## Ensuring a reliable, resilient, and sustainable water supply

Access to piped water in Cambodia remains limited—in 2020 it was available to only 32 percent of the population. Cambodia has significant private sector participation in the water sector, overseen by the Ministry of Industry, Science, Technology, and Innovation. However, the key constraint is a lack of investment in further expanding water supply and sanitation infrastructure services in the remaining areas of the country. Reaching universal access to water supply over the next 10 years will require an estimated \$92 million in annual investments. Given the historical investment in the sector, the financing gap in the sector is vast.

Social and environmental factors are also critical considerations. The gender aspects of infrastructure development in Cambodia are not well documented. Furthermore, the threats and vulnerabilities resulting from extreme weather, such as floods and droughts, increasingly pose challenges to Cambodia's water security in terms of reliability and sustainability.

At the request of the Cambodian government, the World Bank approved the five-year, \$55 million Water Supply and Sanitation Improvement Project in March 2019. The project aims to increase access to piped water, improve sanitation services, and strengthen the performance of private service providers in selected

towns and communities. It supports, among other things, the expansion of water distribution networks, the development of small-scale piped water supply systems, and capacity building to the Ministry of Water Resources and Meteorology in developing a water and sanitation policy. The support is expected to benefit 105,000 people in targeted towns and communities by improving access to water supply services.

### **Harnessing nature-based solutions**

The QII Partnership provided support through two grant-funded activities. The first, approved in FY19 for \$150,000, supported the scoping for private sector investment in water supply and sanitation infrastructure, including the pipe distribution network, main pipes, substations, and water treatment plants in urban and rural growth areas. Building on earlier work funded by PPIAF, the QII grant provided options for various public-private partnership (PPP) models, obtained feedback through a public forum and a focus group discussion, and assessed potential water sources that could attract private investments.

The success of this activity led to a second \$350,000 grant that aims to introduce the concept of nature-based solutions in water



supply investment. These employ ecosystems—wetlands that hold back and filter water—to complement traditional infrastructure to improve access to and the quality of water resources. The activity includes technical, environmental, and gender assessments that apply nature-based solutions to Cambodia’s water supply development. The activity comprises an economic assessment for integrating green infrastructure in the water supply, design concepts, capacity building, and policy dialogue.

### Attracting private sector participation

QII activities have already led to concrete results. The PPP options assessment provided the government with the information it needed to seek a \$6 million PPP project transaction to design, build, finance, and operate water infrastructure. The community is fully informed about the proposed project and is engaged in its implementation and operation, mitigating potential conflicts. A successful PPP will open the doors to further private sector engagements in the sector. The nature-based solutions assessment supported by QII will ensure that infrastructure projects are designed to withstand climate risks and that the gender context will be considered when developing Cambodia’s water supply.

The government is also expected to adopt the concept of nature-based solutions in the water supply by 2023, which could lead to a water supply policy that incorporates the concept of green-grey infrastructure.

The two QII activities support economic efficiency through nature-based solutions (QII.2), promoting green infrastructure (QII.3), improving the resilience of the water supply (QII.4), and integrating social considerations in infrastructure investment (QII.5).

The QII activities make use of JICA’s extensive experience in providing advice in Cambodia’s water supply sector.



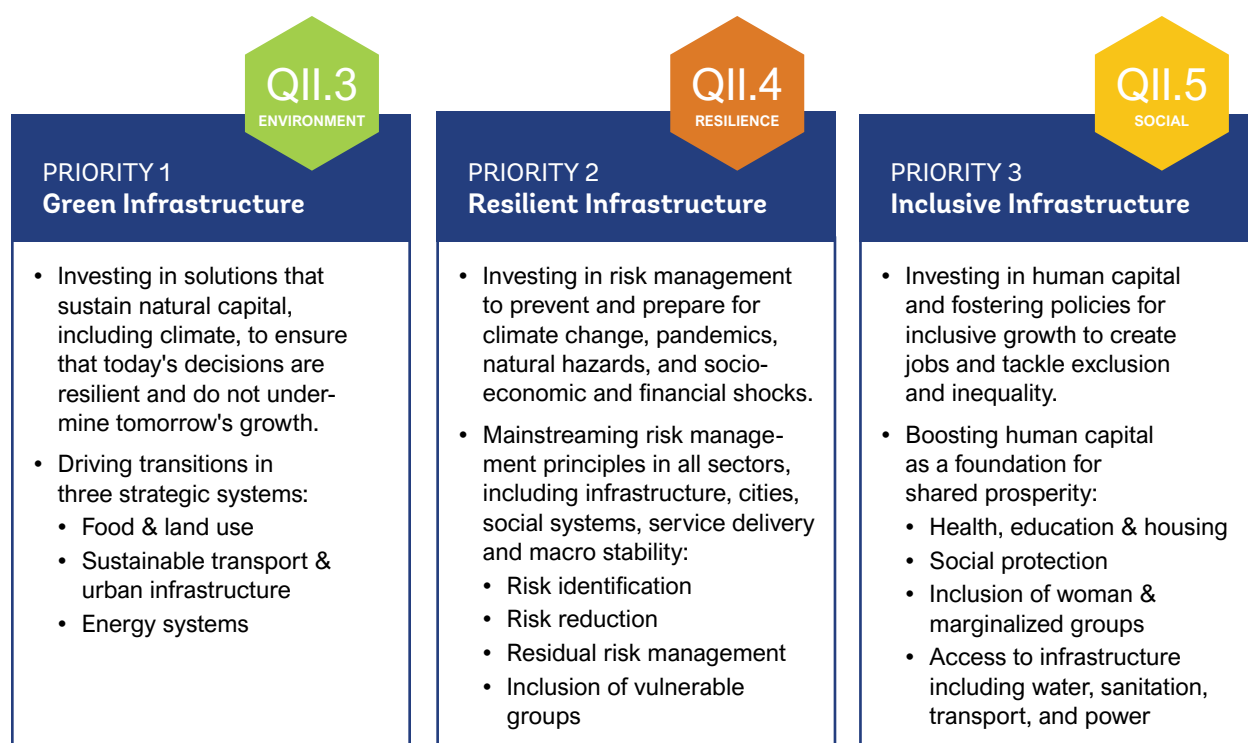
## STRATEGIC PRIORITIES FOR QII PARTNERSHIP

### QII PARTNERSHIP OBJECTIVE



Raise awareness and scale up attention to the quality dimensions of infrastructure

### STRATEGIC PRIORITIES IN LINE WITH GRID



### QII VALUE ENABLERS



### WORLD BANK VALUE ENABLERS

Digital Transformation

Fragile & Conflict-affected Situations

Value enablers are cross-cutting themes that represent QII/WB comparative advantages to facilitate GRID approach



## Strategic Priorities for the QII Partnership

QII lies at the heart of the green, resilient, inclusive development (GRID) approach in low- and middle-income countries, and supports the World Bank Group's broad framework for building a resilient recovery. The GRID approach provides a longer-term framework for enabling the economic and social transformations needed to achieve sustainable development.

The application of GRID to the infrastructure space is well aligned with the QII Principles:

- QII Principle 3 is aimed at integrating environmental considerations, including climate. It is directly aligned with green development—a GRID priority. QII is helping to drive the transition to a low-carbon future in key infrastructure sectors. The World Bank Group Climate Change Action Plan 2021–25 commits the QII Partnership to support innovative solutions for integrating environmental considerations in infrastructure investments.
- QII Principle 4 calls for building resilience against natural disasters, which supports resilient development. QII Partnership support provides the knowledge and resources needed to prepare for, mitigate, and adapt to a wide range of risks and uncertainties around infrastructure investments, including those that are economic, social, climate, health, or cybersecurity-related.
- QII Principle 5 integrates social considerations and strongly aligns with inclusive development. The QII Partnership focuses on making infrastructure more inclusive and accessible by addressing inequalities and providing access to markets and other opportunities for excluded groups.





The QII Principles help create an enabling environment that underpins the achievement of GRID in infrastructure by maximizing the impact of infrastructure investment to achieve sustainable development (QII.1), raising economic efficiency (QII.2), and strengthening infrastructure governance (QII.6). These principles help optimize the use of scarce public finances and seek to crowd-in private investment.

## FRAGILE COUNTRIES

**Fragile countries** face the greatest risk from climate impacts and have the least ability to respond to them. Therefore, investing scarce resources in sustainable and resilient infrastructure is even more critical. The QII Partnership is committed to working in fragile and conflict-affected situations (FCS) by helping build resilient and inclusive infrastructure in some of the most fragile situations. In Haiti, for example, where institutional capacity and financial resources are limited, QII Partnership funding is improving the current and future quality of rural roads by advising on project design. To date, 14 percent of QII activities are in FCS.

## DIGITAL TRANSFORMATION

The QII Partnership is committed to supporting countries through **digital transformation**, which is having a significant impact on low- and middle-income countries—it creates opportunities to “leapfrog” developmental stages in communications, transport, utility services, and other vital sectors as well as mobilizing private sector expertise and investment. It has also proved critical in addressing the COVID-19 pandemic, enabling businesses and governments to continue operating.

Digital transformation underpins many of the QII Principles. Technology transfer at scale provides affordable development solutions, which helps maximize the positive impact of infrastructure (QII.1). Digital transformation also leverages innovative technologies, which improve the economic efficiency of infrastructure (QII.2). Better cybersecurity and data privacy are essential for building resilience (QII.4) and ensuring that digital technology can fulfill its development potential. Digital solutions also improve greater openness and transparency in procurement and provide better access to information and data, discouraging corruption (QII.6).

Examples of QII Partnership support in this area include using digital technologies and tools to improve the planning, management, and citizen engagement in urban transport in Mozambique (see case study on page 22). This project is seeking to create a more accessible transportation network and strengthen private participation.

## INFRASTRUCTURE GOVERNANCE

**Infrastructure governance** is a critical driver of sector performance and a key determinant of the fiscal risks and investment climate for private finance. Evidence shows that weak governance in infrastructure decision-making and implementation impede asset creation and operation. Improved infrastructure governance—defined as the institutions and frameworks for planning, allocating, and implementing infrastructure investment spending—can lead to better infrastructure outcomes. Estimates by the International Monetary Fund suggest that better infrastructure governance could make up more than half of observed efficiency losses. Governance of infrastructure sectors is complex, posing significant challenges along the infrastructure supply chain, and encompassing both regulatory and institutional dimensions. Improved infrastructure governance and transparency can help optimize the use of scarce public finances and attract private sector investment.

A QII grant, financed through the Analytical Window, is piloting **Infrastructure Governance Assessments** to address the gaps in infrastructure governance. These are anchored in the QII Principles in countries covered by the IDA-19 policy commitment. Countries receiving this support include Bangladesh, Cambodia, Liberia, and Central Asian nations.<sup>A</sup>

These activities generate valuable lessons on implementing governance assessments. They will be used in further work in the early IDA-20 replenishment, which aims to help the world's poorest countries recover from the COVID-19 crisis and transition to GRID. Lessons from Infrastructure Governance Assessments will contribute to the larger Infrastructure Assessment Programs (InfraSAPs) and follow-up for implementing recommendations is expected through each country's broader World Bank work program.

## LIFE-CYCLE COSTING

**Life-cycle costing (LCC)** is critical to raising the economic efficiency and sustainability of infrastructure investments. This approach stresses that construction, operating and maintenance, and possible disposal costs should be estimated from the outset of project preparation. To ensure value for money and the long-term sustainability of assets, projects should be assessed on their whole-life costs rather than on the upfront capital investment. LCC is particularly suitable for private sector participation through PPPs.

In response to this growing demand for LCC support, the QII Partnership piloted several JIT grants aimed at helping World Bank operations incorporate this sustainable approach in their procurement processes.

Under these pilots, technical assistance was provided to help design LCC criteria in-country, often complemented by training and capacity building. In Poland, under the Odra-Vistula Flood Management Project, QII supported the development of training materials on LCC, provided the training, and piloted the use of LCC criteria in selected tenders. In Maldives and Burkina Faso, JIT recommendations and guidelines for the LCC procurement of the battery energy storage system were provided, including a reference document on technical specifications and standards required for the bidding process. Furthermore, a global project supporting knowledge dissemination and awareness-raising on LCC approaches within the context of the multilateral development banks' new procurement framework is currently under implementation with financial support from QII. The project aims to mainstream the use of LCC.

## THE QII PRINCIPLES IN ACTION

# MOZAMBIQUE

## Leveraging digital technologies to support urban transport and mobilize private sector participation

Urbanization and population growth have pushed the population of Maputo, the capital of Mozambique, beyond 1.2 million people. As the Maputo Metropolitan Area expands to neighboring municipalities and districts, the need for more investment in urban infrastructure and services is becoming acute. A better public transport system is necessary to connect city residents to jobs and services.

To improve mobility and accessibility of a transportation corridor in the capital region, the World Bank is developing the \$150 million Maputo Metropolitan Area Urban Mobility Project, which includes the country's first bus rapid transit (BRT) system. Approval of the project is expected in June 2022. However, the government is facing institutional challenges and limited capacity in planning and managing urban transportation.

### Employing Big Data in infrastructure planning

The QII Partnership provided support through two grant-funded activities. The first, a \$300,000 grant, enabled the World Bank to collaborate with the University of Tokyo (Tōdai) to develop an innovative methodology for using Big Data—more precisely, mobile phone data—to estimate traffic demand in real time. This cost-effective

approach enabled a much more granular understanding of passenger behavior down to the impact of major events, such as flooding and the COVID-19 pandemic. This detailed information informed transport policy, planning, and emergency responsiveness for the city and provided the analytical foundation for the World Bank project.

Building on this success, the QII Partnership approved a second \$400,000 grant to support the government in preparing a transformative mass transit project in Maputo. This activity is developing digital tools to enhance planning and monitoring of public transport investments focusing on women, people with disabilities, the elderly, and other vulnerable groups. It also promotes the Transit-Oriented Development (TOD) concept in the design of the BRT, which includes enhancing station integration and non-motorized transport. The activity also aims to identify broader opportunities for private sector participation, such as terminal management, parking, and vehicle financing.

### Expected results

The QII Partnership's support for the Maputo Metropolitan Area Urban Mobility Project is expected to lead to a more accessible, resilient,



and inclusive mass transit system that harnesses the financial and managerial resources of the private sector. The goal is to help Maputo grow from a congested, vehicle-oriented city to a resilient, people-oriented city, where non-motorized transport and public transport are at the core of the metropolitan vision.

This project also supports several QII Principles. First, it promotes economic efficiency through innovation and digital transformation (QII.2). Second, it enhances environmental sustainability by supporting a modal shift from private cars to public transport to minimize harmful environmental impacts (QII.3). The project is expected to lead to resilient and resource-efficient transport infrastructure in Maputo (QII.4). Finally, it incorporates diversity and inclusion in transport planning through a mechanism that facilitates feedback from citizens on project design and implementation (QII.5).

The project also taps into Japanese expertise, specifically from the University of Tokyo, on the use of Big Data in transport planning. Japanese expertise was also used for the TOD concept.

Other World Bank-managed trust funds played collaborative roles in the project. PPIAF provided a valuable contribution by

supporting the government in its efforts to introduce a formal bus system operated by the private sector—but regulated by the public sector—to ensure financial sustainability. ESMAP supported the Ministry of Transport and Aviation in developing plans that respond to price fluctuations resulting from eliminating fuel price subsidies.

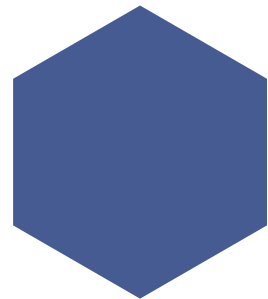








**FY17–FY21  
PORTFOLIO**



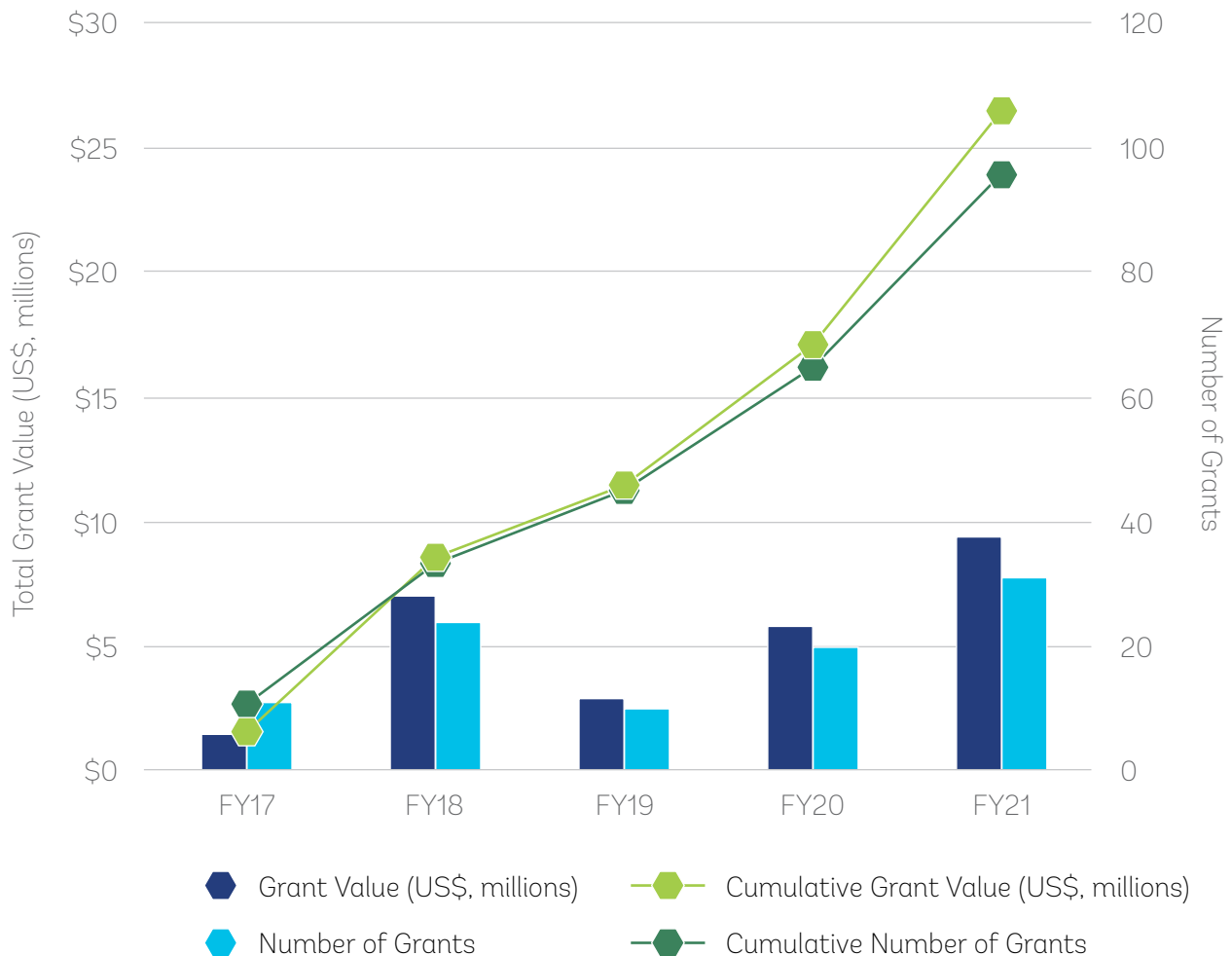
# FY17–FY21

## THE QII PARTNERSHIP PORTFOLIO

The number of grants has grown steadily since the QII Partnership began operations in 2017. By the end of FY21, 96 grants valued at over \$26 million were awarded.

Of these, 65 were standard grants (68 percent of the total), 26 were just-it-time grants (27 percent), and five were for analytical work (5 percent).

### QII GRANT PORTFOLIO VALUE, FY17–FY21

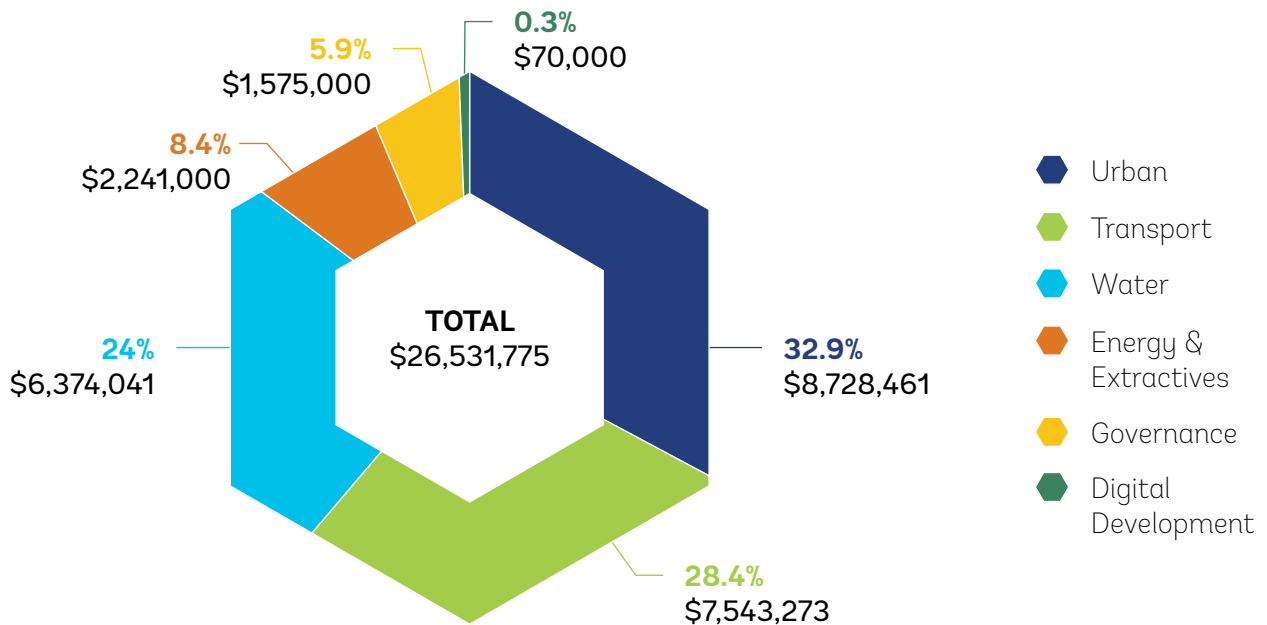


# Sector Impact

The urban infrastructure and transport sectors accounted for the largest share of QII investment: over 32 and 28 percent of funding to date, respectively. Recently, the

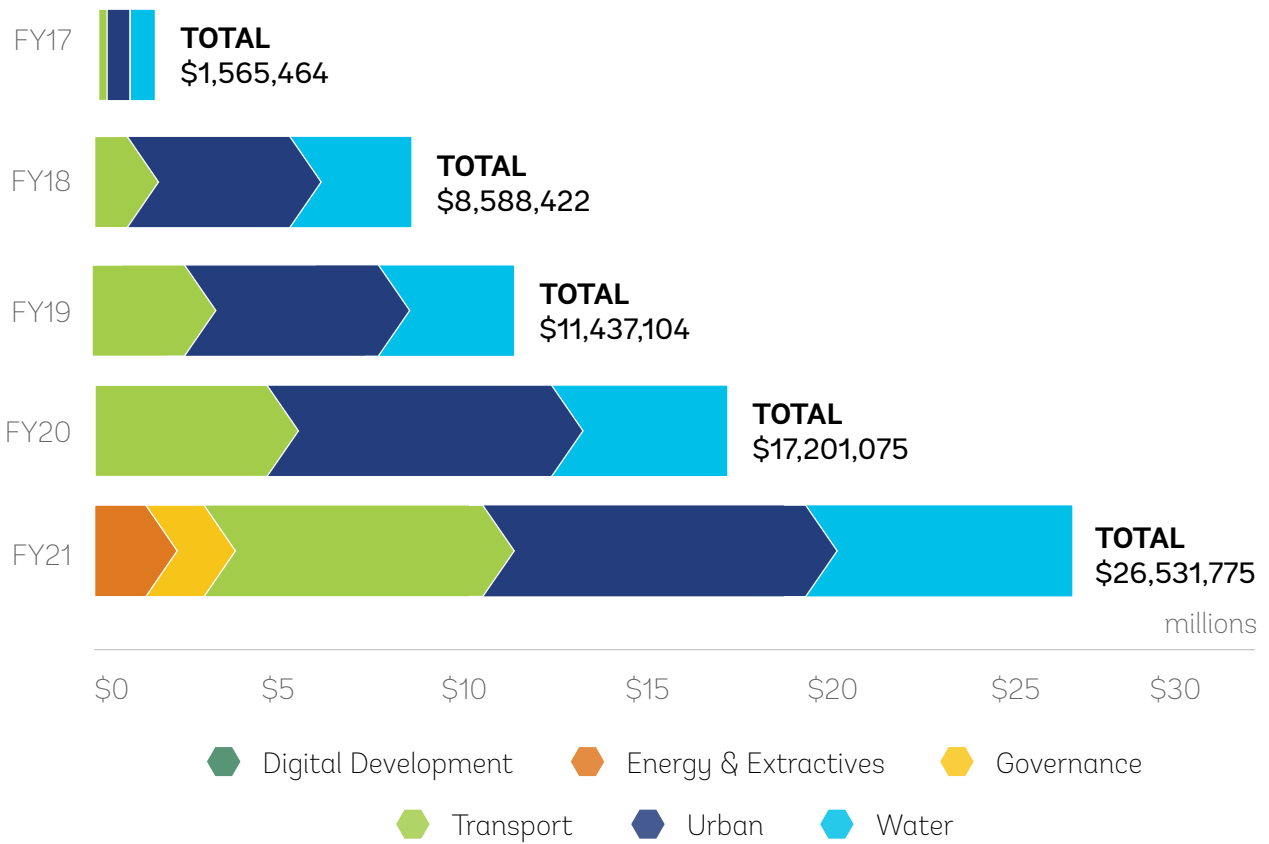
QII Partnership's sectoral reach has expanded as new governance and energy projects complemented water, urban infrastructure, and transportation projects.

## SECTOR ALLOCATION OF QII FUNDING TO FY21





### CUMULATIVE QII GRANT PORTFOLIO BY SECTOR, FY17–FY21





THE QII PRINCIPLES IN ACTION

# TAJIKISTAN

## Enhancing opportunities for female cross-border traders

Narrowing the gender gap in Tajikistan has the potential to boost the country's economic development. Compared to men, women have fewer opportunities in employment, education, and health. Only 33 percent of females participate in the labor force compared to 53 percent for their male counterparts, and their median monthly earnings are about 40 percent lower than men's.

These disparities also exist for Tajikistan's women entrepreneurs, including cross-border traders. Compared to their male counterparts, they face more difficulties starting and growing their businesses—largely because of limited literacy and business skills, poor knowledge of tax and customs regulations, and difficulties accessing finance.

The ongoing COVID-19 situation has further exposed the vulnerability of Tajikistan and its neighboring countries as supply chains are broken and movements of people are restricted.

In July 2020, the World Bank launched the \$131 million **Fourth Phase of the Central Asia Regional Links Program** in selected regions. One project component aims to facilitate the cross-border movement of goods. This effort includes strengthening institutional capacity and upgrading the information technology systems used by the Customs Service, with a focus on support for female cross-border traders.

### Building capacity of the Customs Service and women entrepreneurs

A \$380,000 QII Partnership grant, approved in August 2021, supports three activities that support the World Bank initiative. The aim is to enhance economic opportunities for female cross-border traders in Tajikistan by making the Customs Service gender-responsive and strengthening it as an institution.

The first is to develop a customer service guide that sets minimum requirements for gender-responsive customer care. This involves reviewing border management practices and the existing Code of Ethics of the Customs Service. The guide is expected to become an integral part of the Code of Ethics, which currently includes no gender-specific directives. Training for at least 150 management and staff in customer-facing roles will complement the guide. The activity will also support the development of self-service digital systems for small-scale traders, most of whom are women, which will help avoid face-to-face interactions and make border crossing more efficient. They will also have access to an anonymous feedback system to report their experiences without fear of retaliation.

The second activity builds the capacity of female cross-border traders to improve their entrepre-



neurial skills and provide better access to critical information, such as border procedures, tariffs, and health requirements. A survey and focus group discussions will identify both common and gender-specific challenges faced by border traders. The findings will inform practical guidelines regarding border procedures that the team will disseminate among traders using all relevant channels. The final activity involves organizing a regional conference that includes women business associations from neighboring countries on gender-specific cross-border trade challenges. It will draw on the knowledge and experience of the first two activities. At least 40 representatives from bordering countries are expected to participate.

## Results/Expected Results

The QII Partnership’s activities will build the capacity of Tajikistan’s Customs Service, incorporate gender-responsive practices, and provide tools to institutionalize them. These activities support the 2030 National Development Strategy of Tajikistan and a range of SDGs that aim to economically empower women and enhance their conditions in the job market, thereby maximizing the positive impact of cross-border infrastructure, contributing to sustainable growth and development (QII.1 and QII.5). By improving the processes, tools, and norms of interaction in customs offices, infrastructure services will be

available to all users while taking gender issues into account, strengthening infrastructure governance (QII.6).

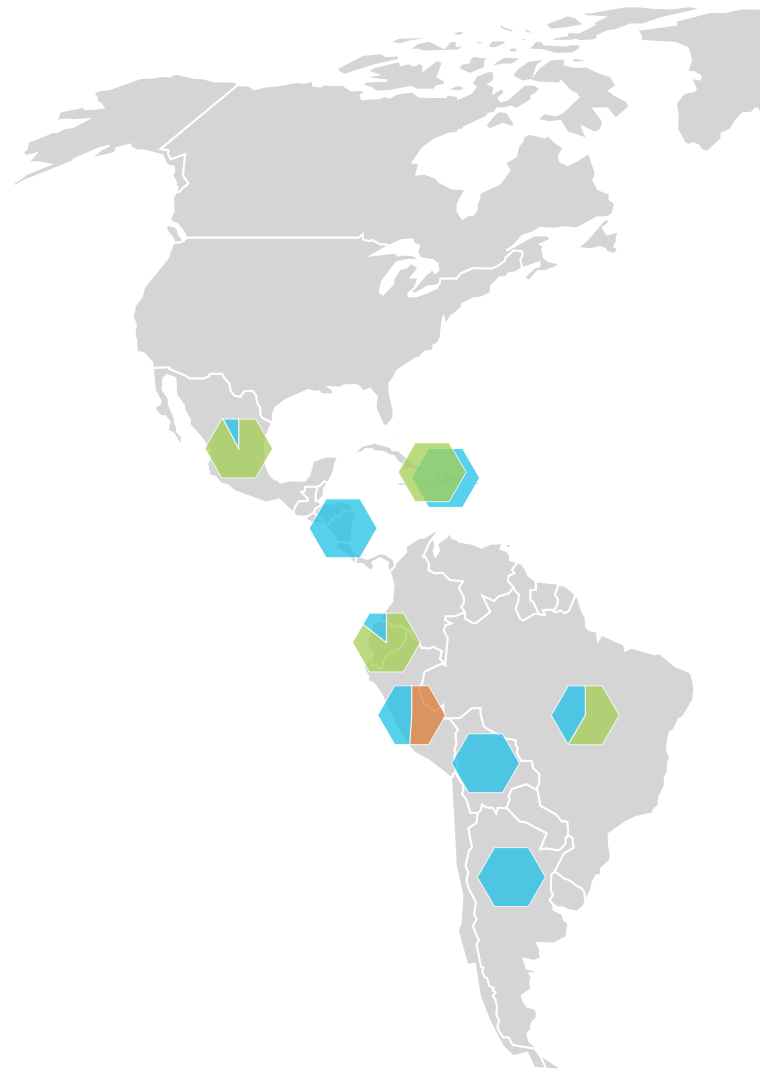
The project will collaborate with JICA and United Nations Development Programme (UNDP)’s Tajikistan offices. JICA is implementing a border management project and livelihoods improvement project through UNDP to improve cross-border trade. Many opportunities for sharing expertise will be available. Synergies also exist with the International Trade Center, a United Nations affiliate.

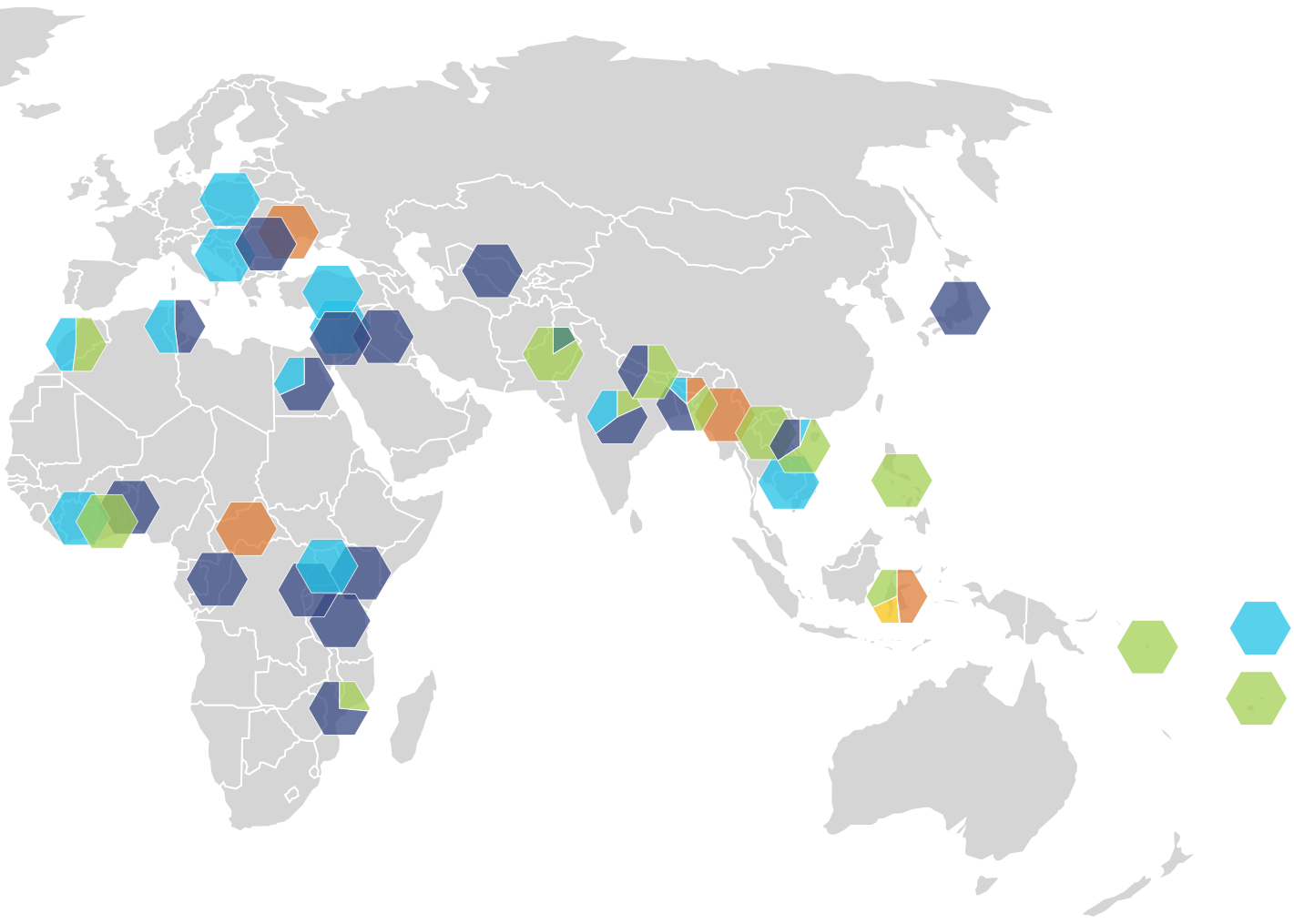




## Geographical Reach

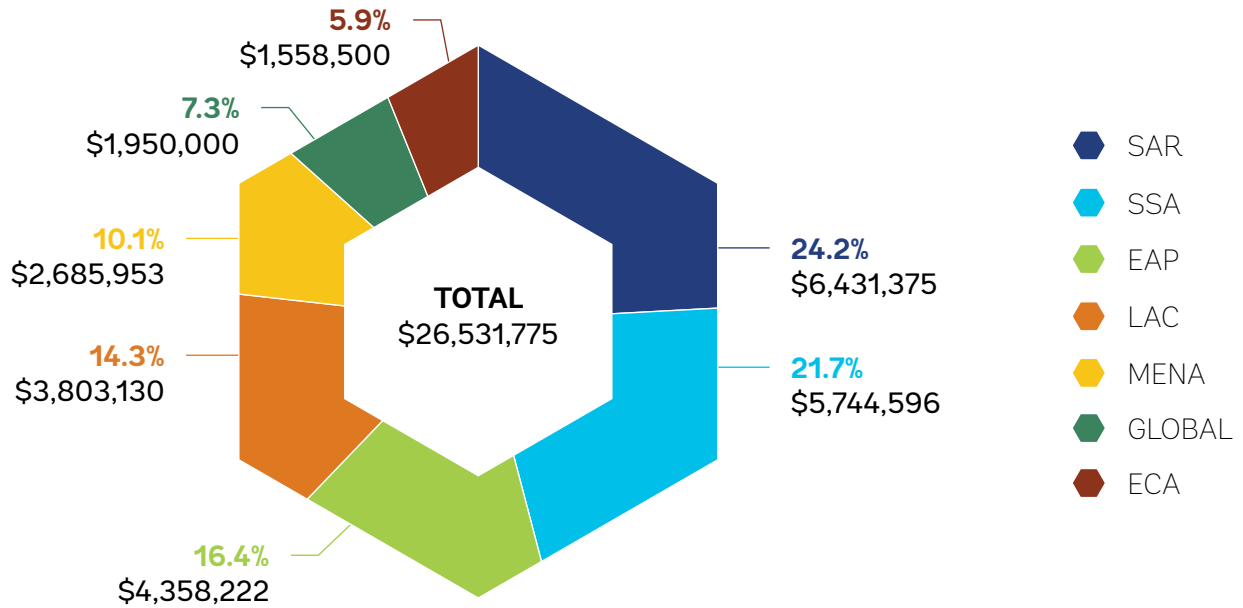
The QII Partnership targets the world's poorest countries. It has provided support in 47 countries across six regions. South Asia (SAR) is the biggest beneficiary region, with 24 percent of total funding. This is nearly matched by Sub-Saharan Africa (SSA), at 22 percent. The top country recipients are Bangladesh, India, Indonesia, Mozambique, Nepal, and Vietnam—each of which has received more than \$1 million in grant funding.



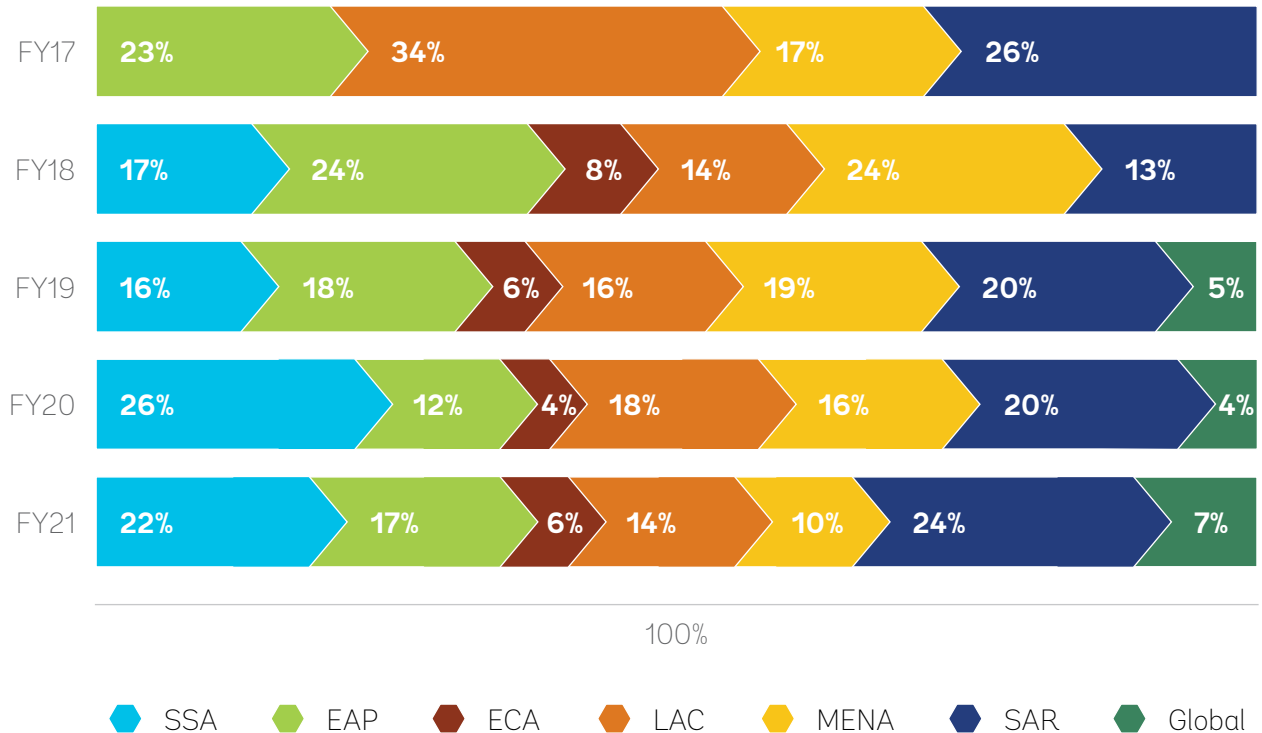


- ◆ Digital Development
- ◆ Energy & Extractives
- ◆ Governance
- ◆ Transport
- ◆ Urban
- ◆ Water

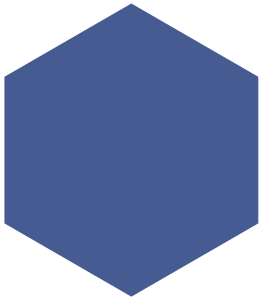
## ACTIVITIES IMPLEMENTED, FY17–FY21, DOLLAR VALUE BY REGION



## REGIONAL RATIO OF QII SUPPORT, FY17–FY21







## THE QII PRINCIPLES IN ACTION

# INDIA

## Developing resilient urban sanitation infrastructure in Kerala

In 2018, the Indian state of Kerala suffered unprecedented floods and landslides that heavily damaged its urban infrastructure. Unplanned development in disaster-prone areas and the poor quality of municipal infrastructure, particularly sanitation, contributed to the losses. The state also faced geographical and demographical challenges, for example, a high groundwater table, a dense population, and insufficient infrastructure for basic sanitation services.

In response, the state government, with support from the World Bank, launched an initiative to coordinate rebuilding activities using a sustainable development approach. As part of the support, the World Bank began preparation of the \$300 million Kerala Solid Waste Management Project (KSWMP), co-financed by the Asian Infrastructure Investment Bank (AIIB) in 2019 to strengthen the institutional and service delivery systems for solid waste management (SWM) in Kerala. The project, approved in March 2021, covers 93 urban local bodies (ULBs) and focuses on urban sanitation, resilient infrastructure development, risk-informed urban planning, and urban governance reforms.

### **A comprehensive approach to developing resilient infrastructure**

To support KSWMP, the QII Partnership approved a \$450,000 grant in May 2019 to

finance three complementary activities focusing on building climate-resilient and risk-informed urban sanitation infrastructure.

The first activity included a comprehensive sector diagnostic assessment for urban sanitation infrastructure in Kerala and was completed in July 2020. It identified the key challenges and gaps in urban sanitation service delivery, assessed the quality and resilience of existing infrastructure, reviewed relevant policies and institutional capacity, and assessed the effectiveness and sustainability of existing decentralized solutions adopted by some ULBs. The objective of this activity was to inform policymakers and practitioners at the state and municipal levels about the challenges and opportunities throughout the planning, implementation, and management of urban sanitation infrastructure and service delivery in Kerala.

Under the second activity, the task team completed a comprehensive report in January 2021 on the technical design guidelines for resilient urban sanitation infrastructure and services. The report covers the entire value chain of SWM and provides step-by-step guidance in the processing, treatment, and disposal of waste. The report informed the overall technical design of KSWMP. The state government adopted the guidelines as part of its Project Implementation Manual. Training and capacity



building initiatives will be undertaken for relevant municipal officials in charge of adopting and implementing risk-informed municipal infrastructure.

The third activity focuses on providing technical assistance to three pilot cities—Trivandrum, Kattappana, and Thalassery—for preparing city sanitation investment and SWM plans. Investment needs will be identified based on the resilient technologies and planning techniques that are well suited to Kerala’s specific terrain challenges and land scarcity issues. These will serve as models to be replicated in the remaining 90 ULBs supported under KSWMP. This activity is expected to be completed in May 2022.

### A foundation for managing urban infrastructure development

A robust regulatory and institutional framework for resilient urban sanitation infrastructure planning and development will enable the state to optimize public resources through improved selection and prioritization of sanitation investments.

Well planned, efficiently managed, resilient, and sustainable urban infrastructure will improve public health, benefit Kerala’s environment, and contribute to reductions in greenhouse gas

emissions. Furthermore, this activity supports ULBs in Kerala in accessing knowledge and resources that enable them to identify, plan, design, and execute risk-informed infrastructure projects for improving urban sanitation services.

The grant supports three QII principles: safety, environment and social sustainability, and resilience against natural disasters. Grant activities draw from best practices and lessons learned based on resilient sanitation practices implemented by Japanese municipalities. They also apply the guidelines for Disaster Waste Management Plans prepared by Japan’s Ministry of the Environment and the lessons of experience learned from recent natural disasters.







# The QII Partnership's Climate Contribution

In line with the 2020 Joint Report on Multilateral Development Banks' Climate Finance, the World Bank Group tracks climate co-benefits (both adaptation and mitigation) through internal assessment, tracking, and reporting processes. In total, 56 of QII activities have climate co-benefits out of 72 projects assessed (24 projects have not yet been assessed for their climate co-benefits).

The World Bank Climate Change Action Plan commits the QII Partnership to support innovative solutions to integrate environmental considerations in infrastructure investments. The QII Partnership does this in three ways:

- 1. Aligning climate and development.** The QII Partnership helps developing countries deliver on Paris Agreement goals, putting them on a path towards low-carbon and climate-resilient development. These include conducting country climate development diagnostics and aligning planning and policies with the Paris Agreement.
- 2. Prioritizing key system transitions.** QII Partnership activities enable infrastructure to transition to a low-carbon future, for example, by supporting transformative public and private investment in infrastructure sectors that reduce emissions and limit the impact of climate change. Examples include support for sustainable mass transit in Indonesian cities, climate-smart, resilient urban infrastructure for low-income and refugee communities in Djibouti, and green infrastructure for urban upgrading and flood risk management in Brazil.
- 3. Increasing finance for transition.** Promoting innovating financial solutions help the partnership scale up finance and underpin low-carbon growth to achieve meaningful climate action. For example, in India, QII Partnership activities supported asset recycling and whole-life asset management approaches for national highways and enabled sustainable green finance for inland waterways.

## Support for World Bank Operations

An important objective of the QII Partnership is incorporating quality infrastructure development into World Bank operations. Standard and JIT QII grants support World Bank operations for project preparation (about 32 percent of grant funding) and implementation (about 68 percent).

Since its inception, the QII Partnership has approved nearly \$25 million for the Standard and JIT grants combined, supporting a total value of \$19.8 billion in World Bank operations. Since its inception, every dollar of QII Partnership funding supports approximately \$800 in World Bank investments.

PROJECT STAGE	GRANTS VALUE	WB OPERATIONS VALUE	VALUE LEVERAGED
Preparation: JIT	\$ 220,194	\$ 854,750,000	
Standard grant	\$ 7,778,393	\$ 4,792,870,000	
<b>Preparation Total</b>	<b>\$ 7,998,587</b>	<b>\$ 5,647,620,000</b>	
Implementation: JIT	\$ 1,304,211	\$ 5,491,836,040	
Standard grant	\$15,513,657	\$ 8,641,760,000	
<b>Implementation Total</b>	<b>\$16,817,868</b>	<b>\$14,133,596,040</b>	
<b>Grand Total</b>	<b>\$24,816,454</b>	<b>\$19,781,216,040</b>	<b>1:\$797</b>



## THE QII PRINCIPLES IN ACTION

# MALDIVES

## Achieving net-zero emissions through renewable energy

Maldives has remained at the forefront of international climate change activism. As a low-lying archipelago, it is vulnerable to rising sea levels resulting from climate change. In response, the government has laid out ambitious net-zero emissions targets by 2030 and pushed for support on climate extremities across global forums.

Transitioning to renewable energy is a central pillar of its strategy. Today, the island nation is heavily dependent on imported diesel fuel for electricity generation, contributing to carbon emissions. Furthermore, diesel imports, which cost up to \$465 million annually (almost 8 percent of GDP), strain public resources and create budget uncertainty.

In December 2020, the World Bank approved a \$107 million project, Accelerating Renewable Energy Integration and Sustainable Energy (ARISE), to address these issues. It aims to increase renewable energy generation capacity and enhance the financial and environmental sustainability of the country's power sector. The project is expected to run for five years.

### Using technology and investments to support renewable energy

The QII Partnership grant will help the government identify opportunities for innovative technologies and provide the information necessary

to implement laws and regulations related to the environment, energy, and climate change.

In June 2021, the QII Partnership approved a \$300,000 grant to support the downstream development of clean and sustainable infrastructure through the ARISE project. An assessment will identify investment requirements for power generation in areas including grid modernization, demand-side management, and smart electric vehicle (EV) charging. The study will guide the government in its efforts to realize its net-zero emissions targets.

The grant will also support the government in identifying innovative technologies such as green hydrogen and liquid natural gas (LNG) that can be deployed at scale by island economies. These efforts will lead to sustained results that can be used as best practices and complement large-scale renewable energy development across other Small Island Developing States (SIDS). QII Partnership support will be integral to supporting the ARISE project in achieving its ambitious development impact. Finally, the grant will support the development of a framework for an e-mobility pilot in Maldives.

### Towards net-zero emissions

The inputs from the grant activities will support the energy transition, structure the e-mobility



framework, and other new and innovative approaches on renewables, including green hydrogen, to complement the ongoing efforts to develop sustainable energy infrastructure under the ARISE project. These inputs will also help support the government's goal of achieving net-zero emissions by 2030.

The activity will produce a report providing a roadmap for achieving this goal, including the need for renewable energy and investment in power system infrastructure. The report will help the government design a strategy to attract renewable energy and power system infrastructure investment needed in the next decade. It will also build the capacity of government officials through training and technical guidelines, which will enable them to develop investment plans and create financial and policy incentives that promote electric mobility. It will also support other components of ARISE and future renewable energy initiatives such as floating solar PV, battery storage, and grid modernization.

These activities are consistent with the national development strategy of Maldives, as outlined in its Roadmap to Net Zero Targets by 2030 and the National Strategic Action Plan for Maldives (2019–2023). They also support SDG 7 (Affordable and Clean Energy) and SDG 13 (Climate Action). In this regard, they align with

QII.1, Sustainable Growth and Development. The pilot strategy for EV charging and the use of smart meters supports QII.2, Economic Efficiency in the transport sector.

The grant activities draw on JICA's Feasibility Study for the Application of Photovoltaic Power on the Male and Hulhumale Islands. It will draw on Japanese expertise in green hydrogen and LNG technology.







# REVIEW OF FY21







# FY21 SNAPSHOT

Despite the challenges of the pandemic, QII activities grew significantly in FY21, reaching 18 countries. **Annual approvals grew by 63 percent** from \$5.7 million in FY20 to \$9.3 million in FY21, with grants to operations influencing **\$6.3 billion** in World Bank lending operations.

This trend partly reflects the increased recognition of the value of the QII Principles when applied to infrastructure projects. More active outreach, communication, and the first **Call for Proposals** also generated increased demand.

## QII GRANT PORTFOLIO BY NUMBER OF GRANTS AND DOLLAR VALUE, FY21

### NUMBER OF GRANTS



### GRANT VALUE



100%

## ALLOCATION OF QII FUNDING BY PROJECT STAGE AND SECTOR FY21

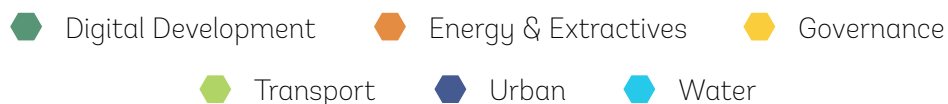
### PREPARATION



### IMPLEMENTATION



\$0                      \$1                      \$2                      \$3                      \$4                      \$5



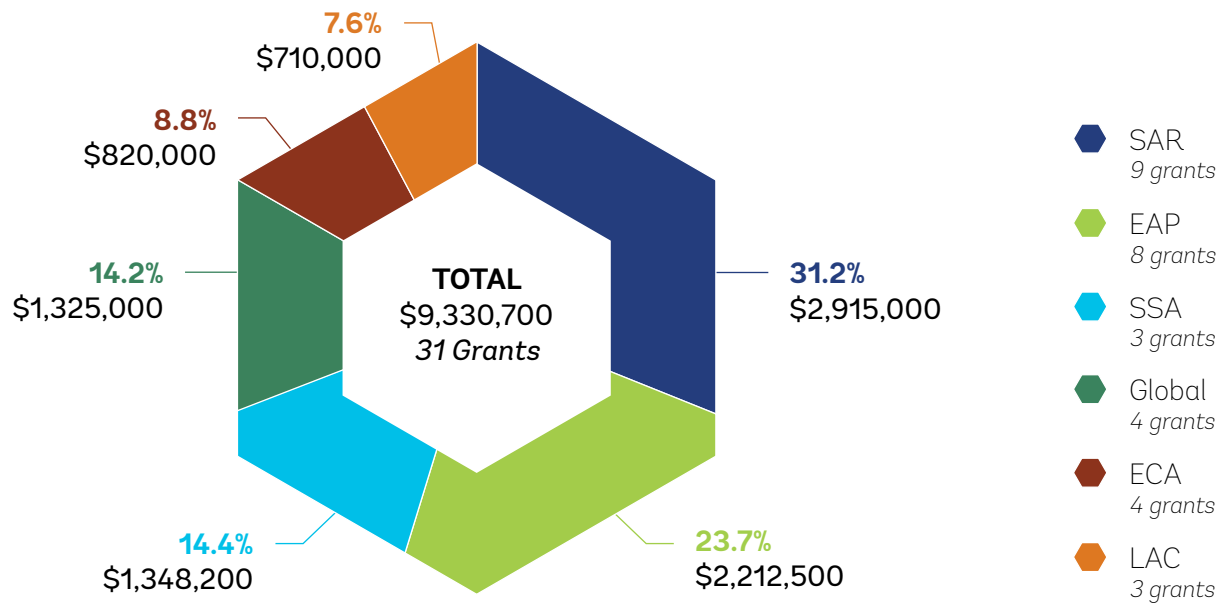
More than 80 percent of grants were allocated to standard and JIT grants to support project preparation and implementation. South Asia accounted for nearly one-third of total grants, with Sub-Saharan Africa accounting for nearly 24 percent. No activities were implemented in the Middle East and North Africa (MENA) region in FY21.

Water represented the largest sector, accounting for over 25 percent of total grant funding,

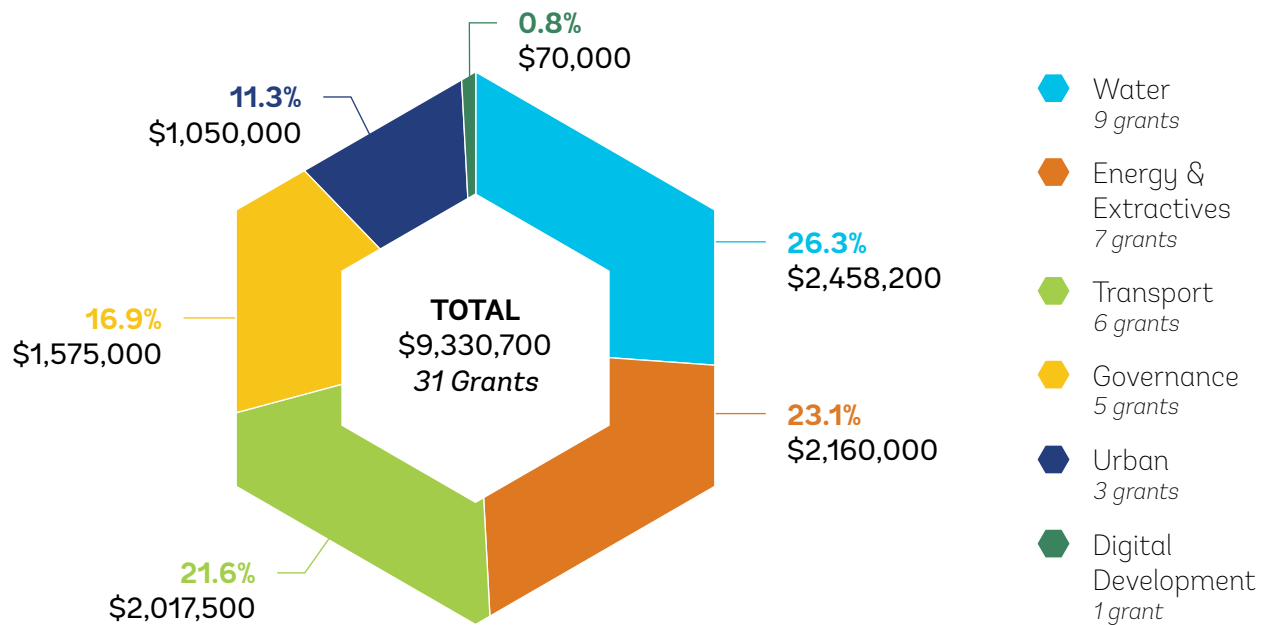
followed by energy (23.1 percent) and transportation (21.6 percent). Governance, urban and digital development combined accounted for 29 percent of grant funding.

The majority of approvals were for standard grants, which accounted for nearly \$8 million in funding. The first grants under the Analytical Window were approved to advance global knowledge and best practice on QII Principles.

## ACTIVITIES INITIATED IN FY21, DOLLAR VALUE BY REGION



## ACTIVITIES INITIATED IN FY21, DOLLAR VALUE BY SECTOR



# Outreach, Communications, and Collaboration

The QII Partnership ramped up its communications capacity in FY21 to raise awareness of the value of the QII Principles, highlight the contribution of QII in World Bank infrastructure projects, and establish the QII Partnership as a thought leader in the QII space. The partnership plans to upgrade its website, publish a series of feature stories and blog posts on QII topics, provide greater publicity for events, and develop project briefs that illustrate the application of the QII Principles in the real world.

The partnership also relies on a strong network of partners for collaboration and promoting the QII Principles. FY21 also saw increased outreach and collaboration efforts to share knowledge and experience. Collaborative activities in FY21 included:

- The World Bank Group and JICA held their annual deep dive to discuss strategic priorities and determine specific joint action items for operationalizing the QII Principles. The QII Partnership grant application process requires consultation with local JICA offices to explore possible synergies with JICA's work program. Task teams also keep local JICA offices informed about the progress of their activities and collaborate where feasible.
- The West Africa Coastal Areas Management Program (WACA) targets 17 coastal West African countries—from Mauritania to Gabon—to improve shared natural and man-made risk management methodologies to support coastal communities. WACA provides technical expertise and funding for

sustainable coastal development through erosion and flood management. The QII Partnership provided a \$70,000 JIT grant for a new initiative, the **Call for Innovation**, to bring innovative and financially viable solutions to reduce the impact of ports on coastal erosion in West Africa. Three winners were selected, each contributing to protecting coastal livelihoods while protecting the oceans.

- Support for an urban transit project in Mozambique with PPIAF and the World Bank's ESMAP that drew on digital technologies (see case on page 22).

The QII Partnership coordinates its knowledge activities with TDLC, which also disseminates practical, “how-to” knowledge on the G20 QII principles through other modalities and approaches. For example, this year QII and TDLC collaborated on the documentation and dissemination of Japanese experience in implementing the QII Principles in the cities of Toyama and Fukuoka. Dissemination and knowledge sharing events included:

- **Application of Life-Cycle Costing in Procurement under MDB-Financed Projects to Achieve Quality Infrastructure Investment.** Held in April 2021 in partnership with the Islamic Development Bank and the World Bank's Equitable Growth, Finance and Institutions procurement team, the event examined the application of LCC in infrastructure investments.

- Improving Infrastructure Governance to Build Back Better.** Held in March 2021, this event provided an overview of the Infrastructure Governance Assessment framework to identify bottlenecks and provide actionable solutions, emphasizing the importance of sound infrastructure governance over the life cycle of infrastructure projects. It was held in partnership with the World Bank Governance Group and the Japan Executive Director’s office.
- World Bank Group-Japan Policy and Human Resources Development Fund seminar: Strategies for Promoting Quality Infrastructure Investment—Informing World Bank Policy.** This event, held in January 2020, shared lessons learned from a QII-supported transport project in Ecuador to promote transit-oriented development. It was held in partnership with the World Bank Tokyo Office and the World Bank’s Development Finance Vice Presidency.
- QII Principles in Action—Learning from Fukuoka and Toyama.** This event shared findings from QII Partnership-supported case studies on water management in Fukuoka City and compact city development in Toyama.
- Efficiency and Governance in Quality Infrastructure Investments.** This event addressed approaches to assessing life-cycle costs in investment planning, including procurement and implementation. It was held in November 2020 in partnership with the governments of Japan and the Russian Federation, the TDLC, the International Monetary Fund, and Infrastructure Canada.

## Urban infrastructure in Japan: Lessons from infrastructure quality investment principles

PAUL KRISS & DARWIN MARCELO | MARCH 22, 2021  
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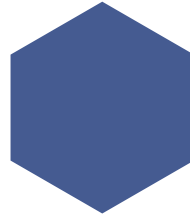


Light rail train (LRT) in Toyama, Japan. | Photo credit: Toyama City

Japan’s urban infrastructure ranks among the world’s best. But getting there didn’t happen overnight—Japan’s approach to infrastructure development unfolded in response to distinct phases, each of which highlights the importance of balancing economic growth and sustainability.

The first phase took place in the post-war period, characterized by high economic growth and rapid urbanization. A period of moderate growth followed in the 1970s, when some of the negative consequences of urbanization became apparent, such as urban sprawl and pollution. The third phase began in 1991 and continues today, an era characterized by low GDP growth, a rapidly aging population, and a national economy increasingly reliant on the country’s urban centers. Still, Japan remains one of the best examples of rapid development in the modern era. With just 1.6 percent of the global population, Japan is today the third-largest economy by GDP.





## Support for World Bank Operations

In FY21, standard and JIT QII grants totaling \$7.7 million supported World Bank operations for project preparation (about 37 percent of grant funding) and implementation (about 63 percent). These activities ensured that quality infrastructure development was incorporated into World Bank operations valued at \$6.3 billion. In FY21, each dollar of QII Partnership funding supported \$821 in World Bank investments.

The applications covered all QII Principles. Many proposals promoted green infrastructure, inclusion, and resilience. Digital transformation projects in the transport, energy, and water sectors also emerged. Cross-cutting themes, particularly life-cycle costing and governance, were also evident. See Annex 1 for a list of activities approved in FY21.

# THE NEW ANALYTICAL WINDOW

The Analytical Window was established to support standalone research, analysis, and activities **that advance global knowledge and best practices of QII and demonstrate the application of the Principles in practice.** It became operational in FY21, providing \$1.1 million in financing for five activities:

- Piloting infrastructure governance assessments for IDA-19
- Analyzing drivers of delays in procurement and contract implementation
- Impact evaluation of public work-fare programs to maximize benefits to the poorest in the Lao People's Democratic Republic (PDR)
- An analysis of Indonesian state-owned enterprise (SOE) governance reform
- The Massive Open Online Course on QII, to be launched in January 2022

The Analytical Window positions the QII Partnership as a thought leader in QII and the applications of its Principles. As the QII Partnership matures and the number of activities funded increases, the program is developing a **unique body of evidence and knowledge** that can be leveraged to support the QII Partnership analytic and knowledge agenda.







# ANNEXES



# ANNEX 1

## SUMMARY OF ACTIVITIES APPROVED IN FY21, BY SECTOR

In FY21, 31 grants were approved totaling \$9.3 million. This was significantly more than the 20 approved in FY20, in large part because of the success of the Call for Proposals in attracting applications. QII grants in FY21 are supporting over \$6 billion in World Bank operations. In FY21, every dollar of QII Partnership funding has leveraged \$821 of World Bank financing. Standard and analytical grants are described below.

### ENERGY & EXTRACTIVES

#### **BANGLADESH** Green infrastructure to enhance the sustainability of Bangladesh's economic zones



This grant supports infrastructure investments to develop and pilot national guidelines for green and resilient economic zones in Bangladesh. It also improves the capacity of the Bangladesh Economic Zones Authority to prepare and manage the tendering of four critical green infrastructure projects. The activity leverages the World Bank's Bangladesh Private Investment and Digital Entrepreneurship project and the Green and Resilient Industries to Enhance Competitiveness in Bangladesh activity, which is financed by the Japan-World Bank Program on Mainstreaming Disaster Risk Management in Developing Countries. *Standard grant: \$300,000.*



**INDONESIA** Capacity building of local government institutions to develop and manage benefit-sharing schemes for geothermal energy



Indonesia is transitioning its power generation mix to achieve a lower carbon footprint by introducing renewable energy sources, including geothermal energy. A key initiative in this effort is the World Bank's ongoing Geothermal Energy Upstream Development Program (GEUDP). This grant aims to strengthen geothermal infrastructure governance through capacity building of local government institutions, develop a benefit-sharing program to contribute to the further development of geothermal energy in the country, and enhance the economic efficiency of the GEUDP. *Standard grant: \$300,000.*

**INDONESIA** Capacity building to manage biodiversity and economic livelihoods to enhance development impact and sustainability of pumped storage hydropower project



The Indonesian government is committed to investing in energy storage systems that allow more renewable energy generation on the national grid. However, the Java-Bali transmission system cannot integrate significant variable renewable energy generation capacity because of capacity constraints. This activity aims to strengthen the capacity of PLN, the state power utility, to plan for and implement integrated catchment management and community forestry within Indonesia's hydropower project catchment areas. *Standard grant: \$300,000.*

**MALDIVES** Quality infrastructure investments to support the energy transition and net-zero commitment by 2030



The Maldives is heavily dependent on imported diesel fuel for electricity generation. QII grant activities support the government in strategizing and identifying specific investment requirements to scale up renewable energy. These activities will support the country's transition to renewable energy, structure the e-mobility framework, and other new and innovative approaches that complement the ongoing efforts to develop sustainable energy infrastructure under the World Bank's ARISE project, which aims to accelerate renewable and sustainable energy integration. *Standard grant: \$300,000.*

## ENERGY & EXTRACTIVES

### **PERU** Enhancing the quality of public electricity services to support post-COVID-19 recovery in selected regions



This grant supports the preparation phase and initial implementation of a World Bank project that aims to improve the quality and reliability of electricity services in selected urban and rural areas in Peru. The activities under the grant provide technical assistance and capacity-building support to the Ministry of Energy and Mines. This will help it address key electricity sector governance, regulatory, and capacity barriers to facilitate and accelerate the execution of critical electricity sub-transmission investments. *Standard grant: \$290,000.*

## GOVERNANCE

### **INDONESIA** State-owned enterprise governance reform



The government of Indonesia has launched a program of reforms of its state-owned enterprises (SOEs) to improve the efficiency of service delivery, use of public capital, positive impacts of SOEs on the economy, and to mobilize more private investment and capital. This activity identifies specific governance reforms to improve the efficiency of Indonesian SOEs, specifically those in the infrastructure sectors, to improve lifecycle costs, procurement effectiveness, asset management efficiency, and private capital mobilization. *Analytical grant: \$250,000.*

### **GLOBAL** Capacity building on life-cycle costs in the procurement of infrastructure projects



This project builds practical knowledge in partner countries and within the World Bank on the use of life-cycle costing in the procurement of infrastructure projects. The grant strengthens the skills of procurement practitioners and Bank operations staff to address life-cycle costing in procurement to ensure value for money and the quality of infrastructure projects. The activity supports the Bank's 2016 Procurement Framework, which expands procurement and contracting options. *Standard grant: \$560,000.*

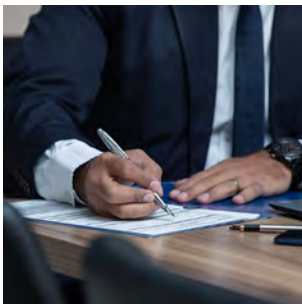
**GLOBAL Infrastructure governance assessment pilots**



Sustainable, affordable, and cost-efficient infrastructure services are a fundamental pillar of long-term development. However, evidence shows that weak governance arrangements around infrastructure decision-making and implementation impede such vital asset creation and operation. This study supports the delivery of up to six pilot infrastructure governance assessments in IDA countries—a policy commitment under IDA-19. The study helps identify governance constraints to the development, financing, and delivery of quality infrastructure investments. *Analytical grant: \$420,000.*

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**GLOBAL Drivers of delays in procurement & contract implementation**



This activity examines the reasons for delays in procurement and contract execution. Through a review of literature and analysis of a sample of about 100 infrastructure contracts, it identifies the main drivers of procurement and contract execution delays that cause cost and time overruns in capital infrastructure projects. It also explores whether projects following a Life Cycle Cost (LCC) approach are less prone to suffer cost and/or time overruns. *Analytical grant: \$195,000.*

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**GLOBAL Massive Open Online Course on QII**



Infrastructure investment will feature as a key component of recovery packages in response to the economic shocks from COVID-19. This activity funds the development and delivery of a Massive Open Online Course (MOOC) entitled "Investing in Quality Infrastructure for a Green, Inclusive and Resilient Recovery," to be launched in January 2022. The MOOC explains the QII principles and how these can be operationalized and applied to infrastructure projects and programs in line with green, resilient, and inclusive development. *Analytical grant: \$150,000.*

**BANGLADESH** Building stronger institutions for better transport sector governance



Numerous ministries and agencies are responsible for Bangladesh's transport sector, leading to overlapping mandates, capacity constraints, and problems with coordination. The sector suffers from weak governance and a lack of robust asset maintenance systems. This grant aims to strengthen road sector governance in Bangladesh, focusing specifically on road asset management and resilience. It supports the World Bank's Western Economic Corridor and Regional Enhancement program, which aims to provide efficient, safe, and resilient connectivity along a section of a regional transport corridor in western Bangladesh. *Standard grant: \$300,000.*

**GHANA** Improving governance and economic efficiency in the transport sector



This grant supports the World Bank's Transport Sector Improvement Project (TSIP), which aims to reduce travel time on selected parts of the road network in northern Ghana, promote road safety, and strengthen the institutional management of the transport sector. QII activities include supporting the government with the TSIP recommendations, capacity building, and operationalizing the road asset management system. Expected results are improved institutional management of the transport sector and enhanced economic efficiency of the road network. *Standard grant: \$375,000.*

**INDONESIA** Developing sustainable mass transit in Greater Bandung & Medan



The growing congestion in Indonesian cities affects their economic competitiveness. The adoption of sustainable urban mobility solutions is critical to breaking the negative trends of rapid motorization. This activity supports the preparation of sustainable mass transit investment projects in the Indonesian cities of Bandung and Medan by deploying international and local good practices in areas such as integration and terminal development, minibus reorganization, and fiscal and financial sustainability. It supports the rollout of the World Bank's Indonesian Mass Transit Program Support Project. *Standard grant: \$390,000.*



**INDIA Innovative asset recycling and whole-life asset management approaches**



Through this QII grant, the World Bank is supporting the development of an innovative asset recycling model and whole-life asset management framework for the National Highways Authority of India (NHAI), thereby enabling it to fully leverage its monetization potential and become a role model in asset recycling. It also supports and catalyzes the Bank’s engagement with NHAI and helps leverage Bank resources to mobilize competitive private financing for NHAI’s brownfield toll roads asset base, which is expected to reach over 34,000 kilometers by FY25, almost triple its current size. *Standard grant: \$400,000.*

**LAO PDR Maximizing benefits of public workfare programs work for the poorest**



The poorest beneficiaries of the World Bank-supported Laos Poverty Reduction Fund (PRF) benefited less than less-poor beneficiaries, despite the program offering the same work to both groups. PRF aims to reduce poverty in Lao PDR through infrastructure improvements and increasing access to services and resources. The finding runs contrary to the program’s aim of helping the poorest households. The QII analytical grant examines (a) the reasons that households in the bottom 50th percentile households received fewer economic benefits from the project and (b) why women’s empowerment was weaker in that group. *Analytical grant: \$102,500.*

**PHILIPPINES Advance efficient and high-quality public transport development in metropolitan Manila**



Traffic congestion is a chronic problem in the greater metropolitan area of Manila. This activity aims to improve the efficiency, effectiveness, and safety of the public transport system along the project corridor in metropolitan Manila in an environmentally sustainable manner. The grant finances the preparation of an interim bus service plan for the selected traffic corridor, a public transport business plan and service contract, and an interim public transport institutional plan. *Standard grant: \$450,000.*



**BANGLADESH Dhaka north neighborhood upgrading project**



The objective of the grant is to provide technical support and capacity building to Dhaka North City Corporation (DNCC) to enhance the quality and sustainability of infrastructure implemented under the project in three to four neighborhoods. In addition, the grant supports the operationalization and dissemination of the G20 QII Principles. Grant-funded activities will improve the ability of the DNCC to plan and manage investments in streets, sidewalks, and public spaces. *Standard grant: \$500,000.*

**INDIA Resilient urban mobility and spatial development in metropolitan Kolkata**



The QII grant supports the development of a package of institutional, regulatory, and planning interventions aimed at achieving sustainable, economically productive urban development. These initiatives provide the government of West Bengal and the World Bank with additional climate-focused analysis that extends to the wider transport network while still contributing to enhancing the investments in inland water transport infrastructure under the project. These initiatives will make notable contributions towards the recovery from COVID-19 and Super Cyclone Amphan, which devastated the city in 2020. *Standard grant: \$400,000.*

**UZBEKISTAN Enhancing infrastructure quality, sustainability, and community participation in Uzbekistan’s Rural Infrastructure Development Project**



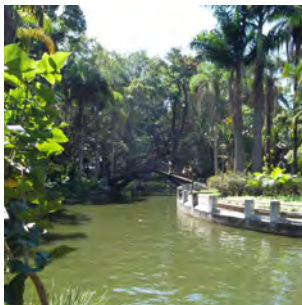
This grant supports the implementation of the World Bank’s Rural Infrastructure Development Project (RIDP) by strengthening the quality, cost-effectiveness, and sustainability of infrastructure investments and building the capacity of the government’s RIDP Project Implementing Unit, sub-national administrations, and local self-governing bodies for inclusive local development planning and oversight of investments. The activities are complementary in that the higher quality of infrastructure designs and stronger community participation in planning and oversight can contribute to the sustainability of infrastructure investments. *Standard grant: \$150,000.*

**BOSNIA & HERZEGOVINA** Development of a sustainable, performance-based sector financing policy for the water supply and sanitation sector



The water and sanitation sector in Bosnia and Herzegovina is underfunded and underperforming. The QII grant supports the development of a sustainable, performance-based financing policy for water supply and sanitation service providers in the country. It supports the World Bank's Bosnia and Herzegovina Water and Sanitation Modernization project. Activities include a review of country priorities and financial flows in the water and sanitation sector, the development of a sector financing model, support for the establishment of a benchmarking system for water utilities, and a proposal for performance-based financing policy for the sector. *Standard grant: \$300,000.*

**BRAZIL** Green interventions in Belo Horizonte: urban upgrading and flood risk management



This grant supports the City of Belo Horizonte in the identification, preparation, and implementation of green, resilient and inclusive interventions to reduce risks of flooding and landslides. This development will allow the city to better adapt to the effects of climate change, particularly in vulnerable areas of the city including its informal settlements. *Standard grant: \$350,000.*

**CAMBODIA** Mainstreaming nature-based solutions in water supply development



Securing water is a challenge for Cambodian water utilities, especially during the dry season. Another problem is land and watershed degradation, which results from unsustainable agricultural practices or deforestation. This grant supports the government in mainstreaming nature-based solutions in water supply investment under the World Bank-financed Water Supply and Sanitation Improvement Project, which aims to increase access to piped water supply, improve sanitation services, and strengthen the operational performance of service providers in selected towns and communities. The grant also assesses the potential for applying nature-based solutions to strengthen the resilience of water supply investment in the face of climate change. *Standard grant: \$350,000.*

### CENTRAL AFRICAN REPUBLIC Improving infrastructure-based service delivery



This grant supports a World Bank project that aims to strengthen the management of the state-owned power and water utilities and increase the capacity of ministries to deliver PPPs. The activity enables the development of key strategies, operational policies, processes, and tools, as well as a robust training program for management, government counterparts, and other stakeholders to build their skills and capacities. This will enable the government and utilities to improve service delivery and enable private investments in infrastructure and service delivery. *Standard grant: \$600,000.*

### ECA Preparation of green and gray infrastructure for a resilient and clean Black Sea



This grant supports the preparation of grey and green infrastructure investments in Georgia, Moldova, Romania, Turkey, and Ukraine to address rural, urban, and industrial pollution in the Black Sea. The project develops new infrastructure to treat pollutants such as insecticides, fungicides, antibiotics, drug compounds, hormones, and plastic compounds. The activity supports the World Bank's Bluing of the Black Sea program, which promotes regional collaboration to prevent pollution of the Black Sea and increases the social and economic benefits for the regional population. *Standard grant: \$300,000.*

### INDIA Modernizing water resources management and water-related disaster risk management through innovative tools in Assam



The objective of the activities under the QII grant is to support the government of Assam in building its capacity at the institutional, community, and individual levels to modernize flood and erosion management and adopt integrated basin planning and management through the development and application of innovative technologies and tools. The grant supports the World Bank's Assam Integrated River Basin Management Program, which aims to strengthen institutional capacity to improve integrated water resources planning and management and to build resilience to flood and erosion risks in Assam. *Standard grant: \$320,000.*

**INDIA** Real-time advisory services for water-stress risk management in smallholder farming systems

This grant supports the development of applications for predicting water stress and drought through high-resolution remote sensing information. These activities enable the use of cloud-penetrating microwave data combined with advanced soil moisture mapping and modeling to help farmers make informed decisions and reduce risks of crop failures while saving irrigation water. The grant also supports the development of a mobile and web-based digital advisory tool to enable experts, farmers, and extension agents to assess the impact of water stress and droughts, manage irrigation infrastructure, and mitigate adverse impacts. *Standard grant: \$325,000.*

**UGANDA** Support to improve the economic efficiency of irrigation infrastructure

Uganda is among the world's most vulnerable countries to climate change. Although it is endowed with abundant water resources, Uganda is experiencing erratic rainfall and an increase in the frequency and duration of droughts. Farmers are finding it increasingly challenging to decide when to plant. This activity facilitates the design of large-scale irrigation projects under the World Bank's Irrigation for Climate Resilience Project. The management model developed with the support of the grant will improve the sustainability of irrigation infrastructure constructed under the project and minimize operation and maintenance costs, making it more feasible for the framers to pay the water fees. *Standard grant: \$373,200.*



## ANNEX 2

# ACTIVITIES COMPLETED IN FY21, BY SECTOR

Fifteen QII grants valued at \$3.7 million financed projects that were completed in FY21 in digital development, energy & extractives, transport, urban infrastructure, and water. These supported World Bank projects valued at \$3.7 billion.

### DIGITAL DEVELOPMENT

#### PAKISTAN Life-cycle cost analysis for e-procurement



This activity supported the government of Pakistan in its digital development work program by conducting an analysis of e-procurement business models and recommending one that addresses total life-cycle costs. The analysis included the total cost of ownership over a defined lifecycle and the potential benefits from efficiency gains and savings. It supports a World Bank program that aims to improve public financial management and procurement systems in Pakistan. *JIT grant: \$70,000.*



## ENERGY & EXTRACTIVES

### **MOLDOVA** Support and capacity building to design life-cycle cost criteria



This grant supported and built the capacities of Termoelectrica, the main producer of electricity in cogeneration mode in Moldova and the sole producer and distributor of district heating in Chisinau, Moldova. The grant enabled Termoelectrica to include life-cycle cost criteria in the bidding documents complemented by capacity building. *JIT grant: \$11,000.*

## TRANSPORT

### **EAP** Open source road safety program



Transport agencies in many World Bank-supported countries struggle to identify, prioritize, and design effective road safety interventions within limited budgets due to the lack of available data and analytical tools to interpret the data for these purposes. The Data for Road Incident Visualization, Evaluation, and Reporting (DRIVER) program, developed by the World Bank, was the first open-source crash reporting and analysis system designed for use in resource-constrained environments. QII funding supported the use of DRIVER, through the development and piloting of country-adapted DRIVER platforms, and capacity building on-road safety data and road safety engineering, to help transportation agencies in the Lao PDR, the Philippines, and Vietnam, more effectively identify, prioritize, and design road safety interventions. *Standard grant: \$399,288.*

### **MOZAMBIQUE** Enhancing sustainable mobility and accessibility in Maputo



This grant financed an activity in collaboration with the University of Tokyo to enable the use of Big Data—more precisely, mobile phone data—to estimate traffic demand in real-time in a cost-effective way and with a high level of temporal and spatial granularity. This work provided the analytical foundation for the World Bank project and led to a second QII grant to support the government in preparing a transformative mass transit project in Maputo.

## TRANSPORT

### **SSA Call for innovation for engineering solutions for sediment management in West Africa**



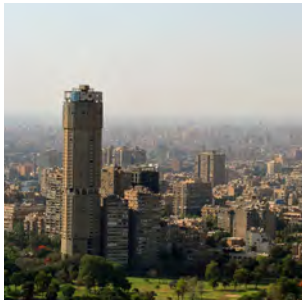
Coastal ecosystems in the West African Coastal Area (WACA) face coastal erosion, overexploitation, marine and coastal pollution, rapid urbanization and unsustainable land use, and poor environmental governance. The World Bank launched the West Africa Coastal Areas Resilience Investment Project to strengthen the resilience of targeted communities and areas in coastal Western Africa. The QII grant financed a global call for innovation to private engineering firms to submit proposals that addressed the issue of sediment management deriving from port activities in the six countries covered by WACA. The grant supported

the project through a communications campaign, drafting of selection criteria, selecting people to review and score the proposals, and helping with logistics related to organizing marketplaces.

*JIT grant: \$70,000.*

## URBAN

### **EGYPT Support for the implementation of infrastructure aspects of the Upper Egypt local economic development program-for-results financing**



This QII grant supported the establishment of a high-level mentoring and advisory support team in the Qena and Sohag governorates of Egypt. Activities included capacity-building workshops, on-the-job technical assistance to key actors at the local government level, development of O&M plans for local roads, South-South exchanges and study tours, and capacity building in support of enhanced asset management and urban planning. The QII grant supported the World Bank's Upper Egypt Local Development Program. The activities are expected to help government improve the management of existing capital assets, mainly

infrastructure and buildings, and better prioritize new investments. *Standard grant: \$547,736.*

**JAPAN Quality Infrastructure Investment case studies**



Japan has achieved excellence in designing, constructing, operating, and maintaining urban infrastructure, providing economically efficient and systematically sustainable urban services. This analytical work documented the evolution of the quality aspects of infrastructure development projects in Japan. It looked at Japan's approach to aspects of quality in recent decades, highlighting their effective results. The review focused on all QII Principles with a focus on economic efficiency in view of life-cycle costs and governance. Two cities—Fukoka and Toyoma—were selected to illustrate the QII Principles in action. Case studies were

prepared for each city: Toyoma City Compact City Development and Fukuoka City Efficient Water Management. These were presented by the QII Partnership and the Tokyo Development Learning Center in March 2021. *Analytical grant: \$37,821.*

**ROMANIA Investing in resilient infrastructure and institutional capacity—cultivating a model of sustainable urban development in the heart of Bucharest**



With ongoing support from the World Bank, the government of Romania is preparing to redevelop a long-vacant, blighted site in central Bucharest into a modern live-work-play neighborhood, anchored by a new Justice complex and enlivened by urban green space and other mixed-use development. The project includes activities that will strengthen the Ministry of Justice's managerial capacities and systems and increase transparency and sustainability of the judicial sector. This QII grant supported the preparation of a site-specific conceptual land use plan that incorporates innovative global practices for sustainability (new to Romania), the develop-

ment of a strategy for involving the private sector in redevelopment efforts, and other pre-feasibility studies. *Standard grant: \$690,000.*

**RWANDA Enhancing efficiency and sustainability of infrastructure investments in urban areas**



The activities under this QII grant supported the efficiency, quality, and sustainability of infrastructure investments in Kigali, the capital, and six participating secondary cities supported by a World Bank project's Rwanda Urban Development Project (RUDP). Activities included providing a technical review of a master plan for Kigali and secondary cities, training to enhance contract management performance, support for minimizing the social and environmental impacts of investments in secondary cities under RUDP, and enhancing resilience against flood risks in Kigali. The activities informed a follow-on program, RUDP Phase II. *Standard grant: \$199,666.*

**VIETNAM Universally accessible infrastructure design and green infrastructure development in the Scaling-Up Urban Upgrading Project**



This grant supported the World Bank's Scaling-Up Urban Upgrading Project (SUUP) in seven participating cities in Vietnam. Grant-funded activities included advisory services for proposed infrastructure design and resilient integrated planning, the development of an implementation manual and how-to guides for use beyond the project, training modules on green infrastructure and universal accessibility, and held a national workshop for government officials and project management unit staff. This work is expected to lead to improved infrastructure designs that take universal accessibility for the disabled and elderly into account and resilient infrastructure projects that incorporate green infrastructure principles. *Standard grant: \$650,000.*

### **BOLIVIA** Urban sanitation, wastewater treatment, and reuse



This QII grant supports the World Bank's Bolivia Wastewater and Reuse Project, which aims to promote sustainable management of wastewater in targeted areas of the country. Activities financed by the grant led to solutions that contributed to the provision of sustainable sanitation services to poor communities in the country. These included key diagnostics, preparatory studies, and a fecal sludge management pilot in peri-urban areas of Santa Cruz city. The pilot helped the government enhance its knowledge of the sector, identify priority investments to expand access to alternative sanitation services, increase wastewater treatment, and

reuse coverage rates to reduce water pollution and improve the health of its population. *Standard grant: \$196,367.*

### **CÔTE D'IVOIRE** Capacity building support to the government of Côte d'Ivoire and public institutions for improved urban water infrastructure planning, monitoring, and maintenance



This grant strengthened the capacity of the government of Côte d'Ivoire and ONEP (the National Office for Drinking Water), enabling them to improve the management and performance of urban water infrastructure and develop a national drinking water strategy. The activity improved the capacity of ONEP to monitor contracts and reduce non-revenue water and contract monitoring, which is expected to lead to reduced water losses and better monitoring of a PPP contract with the private operator. It also supported the development and launch of a web-based monitoring & evaluation platform. The activities financed

by this grant are helping the government achieve clean water and sanitation for all (Sustainable Development Goal 6). *Standard grant: \$178,354.*



### **DOMINICAN REPUBLIC** Infrastructure and institutional support for the resilient agriculture and integrated water resources management project



This grant enabled the government to improve the quality of feasibility studies and design elements of wastewater conveyance and treatment and hydraulic facilities. It also improved the management capacity of government counterparts to operate and maintain new or rehabilitated infrastructure and helped households connect to new wastewater conveyance systems. The activities are expected to build the capacity of government counterparts at the National Institute for Water and Sanitation and the National Institute for Hydraulic Resource. Farmers also benefitted from improved irrigation and drainage services. *JIT grant: \$30,930.*

### **PERU** Supporting measures to improve the efficiency of water supply and sanitation service providers

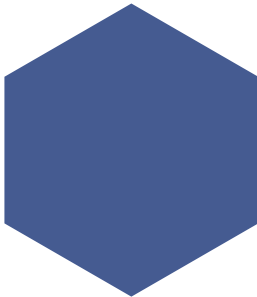


This QII grant supported the government of Peru's strategy to provide universal access and improvement of quality of services in the water supply and sanitation sector (WSS). Activities under this grant strengthened the institutional and policy framework for the sustainable management of the sector, which contributed to improvements in WSS service provision in participating utilities in mid-sized cities. The grant is expected to contribute to the modernization of the sector and improved WSS coverage in Peru. The grant financed activities in three areas: structuring management and PPP contracts for WSS provision, preparing approaches and management models for decentralized service delivery, and selecting technologies and capacity building for the operation and maintenance of wastewater treatment facilities. *Standard grant: \$273,121.*

### **POLAND** Support to design life-cycle-cost criteria



This grant financed activities to develop relevant training documents for Polish Waters, a government agency, and deliver a capacity-building workshop on the use of life-cycle costing. This is expected to lead to sustainable procurement practices in future tenders conducted by Polish Waters and the Institute of Meteorology and Water Management. It also introduced a life-cycle costing criteria in a tender procedure for the World Bank's Odra-Vistula Flood Management Project. *JIT grant: \$37,500.*



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