

ANNUAL REPORT

CITY RESILIENCE PROGRAM

07.2018–06.2019



City Resilience Program

 Federal Ministry
Republic of Austria
Finance



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs FOEA
State Secretariat for Economic Affairs SECO



GFDRR
Global Facility for Disaster Reduction and Recovery



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LIST OF ACRONYMS

AA	Administrative Agreement
AECID	Agencia Española de Cooperación Internacional para el Desarrollo (Spanish Agency for International Development Cooperation)
AFD	Agence Française de Développement (French Development Agency)
AFR	Africa region (World Bank definition)
AI	Artificial intelligence
CBD	Central business district
CCFLA	Cities Climate Finance Leadership Alliance
CRP	City Resilience Program
EAP	East Asia Pacific region (World Bank definition)
EC	European Commission
ECA	Europe and Central Asia region (World Bank definition)
EIP	External Investment Plan (EU Program)
EO4SD	Earth Observation for Sustainable Development (ESA Program)
ESA	European Space Agency
FY	Financial year
GFDRR	Global Facility for Disaster Reduction and Recovery
GIF	Global Infrastructure Facility
GOST	Geospatial Operations Support Team (World Bank unit)
GP	Global Practice (World Bank terminology)
GTFS	General Transit Feed Specification
IFC	International Finance Corporation
IFI	International Financial Institution
LAC	Latin America and Caribbean region (World Bank definition)
LUCI	Leadership of Urban Climate Investments (multilateral partnership)
LVC	Land value capture (instrument)
MDTF	Multi-donor trust fund
MENA	Middle East and North Africa region (World Bank definition)
PPP	Public-private partnership
RAS	Reimbursable advisory services (World Bank product)
RCA	Rapid Capital Assessment (CRP product)
RECIDE	Resilient City Development (EU-funded Program)
SAR	South Asia region (World Bank definition)
SECO	Secrétariat d'Etat à l'économie (Swiss State Secretariat for Economic Affairs)
TIF	Tax Increment Finance (instrument)
UR	Understanding Risk (conference series)

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FOREWORD

At the beginning of the 20th century, only 14 percent of the world's population lived in cities. That proportion has grown to over half today and is expected to reach 70 percent by 2050. Cities are our world's centers of political activity, innovation and economic activity – 80 percent of global Gross Domestic Product (GDP) is generated in cities. But this concentration comes with significant challenges in the face of a changing climate. Poorer populations are particularly vulnerable, as they often inhabit more hazard-prone places and lack the means to recover from economic or environmental shocks and stresses. These challenges will only continue to grow unless urgent action is taken.

Investing in urban resilience is key to achieving sustainable urban development and reducing urban poverty. However, a lack of coherent financial and technical resources for making resilience-based investments impedes countries and their cities from realizing resilient futures. What is required is a new approach that enables key city stakeholders to see a common problem through the lens of the built and the natural environment, and design spatial investment plans and projects that embed resilience in their core. This requires greater amounts of financing, often from multiple sources. Cities can be supported in these efforts by mobilizing resources from donor partners around a broader urban resilience agenda and by working to attract private capital where feasible.

Launched in June 2017, the City Resilience Program (CRP) – a partnership between the World Bank and the Global Facility for Disaster Reduction and Recovery (GFDRR) – supports cities in their efforts to build a resilient future by convening global expertise in city planning and project finance, while leveraging advancements in digital technology. The CRP has engaged with over 90 cities and 50 countries, where it helps provide insight into spatial patterns of development, environmental risk factors, and future growth trajectories to support resilience planning, while engaging an ecosystem of international finance institutions, donors and financial advisors to deliver paired financing and expertise in unlocking private investment. This past fiscal year demonstrated the Program's ability to deliver successful products for diverse audiences, adjust to changing conditions, and build transformative partnerships for cities. The CRP continues to transcend traditional sectoral silos of support to enable cities to focus on coordinated investments which can effectively address their unique resilience challenges.

Much as the future of cities depends on their adaptability to changing environments, the continued success of the CRP rests on our versatility in responding to shifting client needs and expectations. We are grateful for the support received from our partners in growing the program to scale.

Bernice Van Bronkhorst

Global Director, Climate Change
Group, World Bank

Sameh Naguib Wahba

Global Director, Urban, Disaster
Risk Management, Resilience and
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EXECUTIVE SUMMARY

Fiscal year 2019 stood out as a year of rapid growth and development across several dimensions of the City Resilience Program (CRP). The change was driven primarily by constructive input from internal clients (World Bank task teams) and team leads, city and government officials, and external stakeholders – such as donors, other international financial institutions (IFIs), and private sector partners. This Annual Report summarizes the progress made in proving the CRP's general concept, generating strong demand from cities and local authorities, establishing internal and external partnerships, and readying the operational and technical grounds to scale up the Program.

The Program has evolved, relying on the lessons learned in the first two years of implementation, to better respond to countries' demand and support cities around three thematic areas – **Planning, Finance and Partnerships for Resilience**.

Under **Planning for Resilience**, emphasis continued to focus on harnessing state of the art disruptive technologies to quickly and cheaply map the built and natural environments. City Scans, which use global data sets and advances in artificial intelligence (AI) and machine learning to enable risk-informed decision-making remain one of the key outputs of the Program. The City Scans include inputs from internal as well as external partners to inform initial dialogue around urban resilience challenges.

Under the **Finance for Resilience** thematic area technical assistance activities focused towards CRP becoming a facilitator for World Bank and other international financial institutions (IFIs) co-financing of urban resilience investment projects. In addition the Program has enhanced its operating model by structuring a three phased engagement process to mobilize financing comprising: i) upstream general legal and capacity analysis related to project financing in a specific city and strategic guidance to project teams on potential areas for expanded financing for urban resilience projects in the city; ii) financial and regulatory analysis related to a specific project concept; and, iii) specific transaction advisory services.

The activities under the **Partnerships for Resilience** thematic area have grown substantially in the past year. This includes facilitating dialogue and engaging different stakeholders within the World Bank Group, such as for example the International Finance Corporation (IFC), the Global Infrastructure Facility (GIF), the Public-Private Partnerships (PPPs) and Guarantees unit to leverage their experience and know-how for enhanced support to cities around capital mobilization. Through the CRP, cities are now offered a more comprehensive suite of World Bank Group support starting with the preparation, participation and follow-up actions related to the CRP's Resilience Investment Planning Workshop series and where relevant followed up by project specific engagements. Externally, the CRP has partnered with the Spanish Development Agency (AECID) and the European Commission (EC) to develop an approach to utilize up to €100 million of guarantees provided through the European Union's External Investment Plan, and to be used alongside World Bank lending operations to help reduce risks associated with financing for cities.

The Resilience Investment Planning Workshops in Bangkok and Durban have also played an important role in identifying and expanding CRP's partnerships. Feedback received during the workshops, and inputs from our partners along the way, has helped to improve products and services delivered to cities. The Program Description section of the Annual Report lays out the CRP's renewed and refined approach to assisting cities in achieving climate change resilience.



Marc Forni

Program Manager, City Resilience Program, World Bank

1. Program Overview and Objectives

Established in June 2017, the City Resilience Program (CRP) – a partnership between the World Bank and the Global Facility for Disaster Reduction and Recovery (GFDRR) – is a multi-donor initiative aimed at increasing financing for urban resilience.

The CRP’s vision is resilient cities with the capacity to plan for and mitigate adverse impacts of disasters and climate change, thus enabling them to save lives, reduce losses and unlock economic and social potential. The aim of the Program is to catalyze a shift from a primarily siloed, single-stream city-level resilience operations approach to longer term, more comprehensive, multi-disciplinary packages of technical and financial services, building the pipeline for viable projects at the city level that, in turn, build resilience.

To move towards this vision, the CRP pursues three strategic objectives:

1

PLANNING FOR RESILIENCE

Cities have increased access to tools and technical support to effectively plan for resilience

2

FINANCE FOR RESILIENCE

Cities have increased access to multiple sources of financing to ensure that more investments in resilience come to fruition

3

PARTNERSHIPS FOR RESILIENCE

Cities can leverage global partnerships to support their resilience objectives

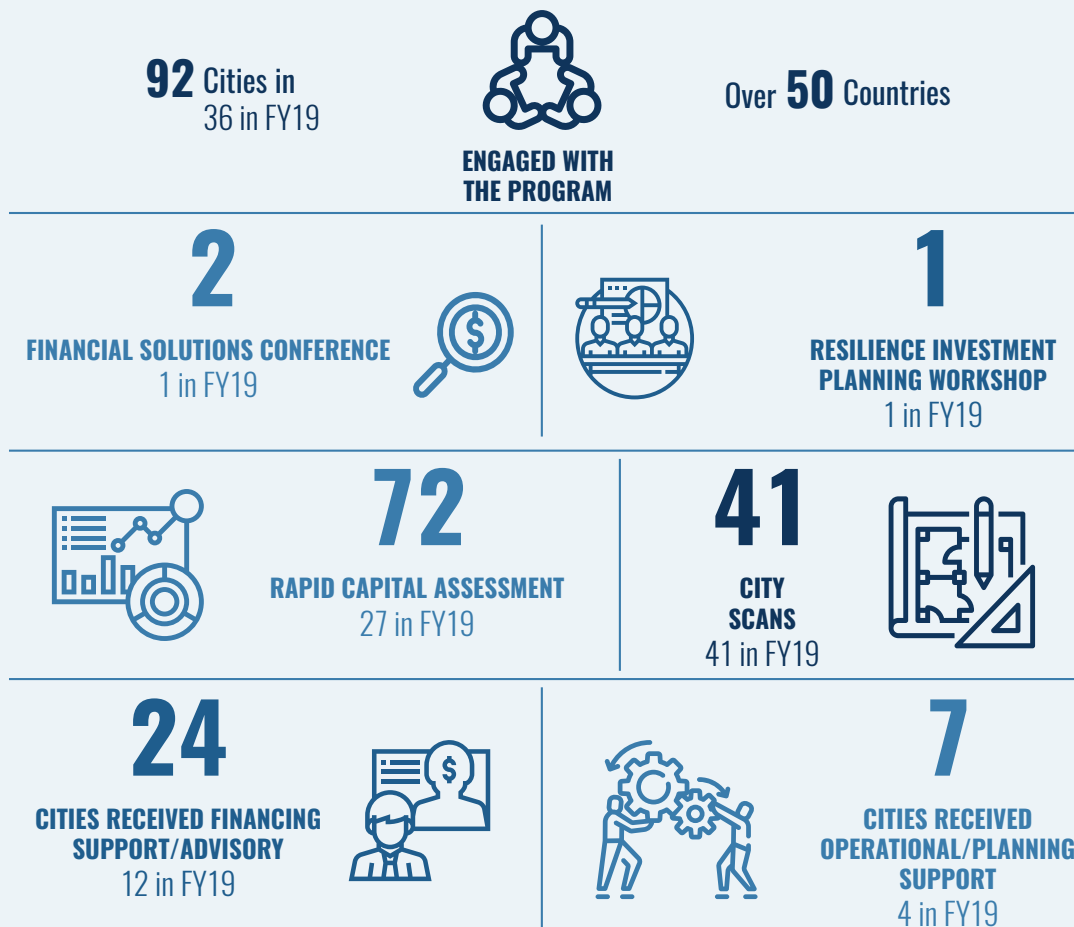
The program is supported by contributions from the Swiss State Secretariat for Economic Affairs (SECO), the Austrian Federal Ministry of Finance, and GFDRR.

2. Structure of this Annual Report

The Annual Report is fully aligned to the CRP’s Logical Framework (Log Frame) as well as the Annual Work Plan. The reported activities are grouped according to the CRP’s thematic program areas, and additional information is provided on project management.

Section 3 starts with a general description of the thematic areas and activities, followed by section 4 which provides a summary of the overall implementation progress for each thematic area. Section 5 presents a results-based monitoring of CRP’s strategic objectives and main outputs, as stipulated in the Log Frame, and the current progress of achieving those. Section 6 provides information on CRP city-level engagements structured by region, before section 7 provides a brief forward look into the next programming period. Section 8 provides financial information on the program and trust fund management.

Summary of key results



3. Description of Activities

At inception, the CRP has supported cities across two main thematic areas, one focused on capital mobilization around urban resilience, and the other on providing technical support to ensure that capital investment plans are risk informed. Initially, these thematic areas were branded capital mobilization and resilience planning.

During the year under review the CRP revised and adapted its approach in order to increase efficiencies and redefine its delivery model more broadly. As a result, the two thematic areas were rebranded in *Planning for Resilience and Finance for Resilience*.

As advocacy and convening global expertise are key to helping cities address the resilience challenges of the future, a third thematic area on *Partnerships for Resilience* has been introduced.

Going forward, all CRP activities will be planned and implemented according to these three thematic areas; each addressing one of the CRP's three strategic objectives mentioned in section 1 above.

Planning for Resilience

Cities face a multitude of challenges that are inherently multidisciplinary, complex and interdependent in nature. To effectively manage these challenges and support resilient urban development, the impact of climate and disaster risks must be addressed through a multi-sectoral lens. The approach used by the CRP represents an effort to undertake a fundamental shift in supporting cities to tackle pressing development challenges. Instead of focusing on sectoral priorities, the CRP pursues an integrated and spatially-informed approach which captures the interplay between the natural and built environments.

As a starting point for engaging with cities on resilience planning, the CRP develops innovative geospatial tools, case studies, and knowledge products which serve to strengthen the analytical foundation of resilience-informed investment planning and expand the suite of tools available to cities. This process is taken further through a workshop series focusing on resilience planning, where participating cities benefit from a diverse range of technical expertise to help package, prioritize and design resilience-enhancing investments anchored on World Bank loans. Moreover, the CRP supports the incubation of technical teams in areas of strong demand (e.g. emergency preparedness and response) and works to streamline procurement and internal processes to ensure that cities can receive quick and robust technical support throughout the project cycle.

Finance for Resilience

The global infrastructure deficit is well documented and nowhere more acute than in the rapidly urbanizing poorer countries in Africa and Asia. Acting alone, governments often struggle to develop a pipeline of high-quality projects that can attract private sector involvement. Though government funding and capacity in many countries are constrained, with appropriate support there may be an opportunity for governments to involve private sector partners to help deliver, maintain, and finance part of this gap. For many lower income countries, there is a shortage of attractive investment opportunities in all areas of urban infrastructure, particularly those that respond to the pressures of rapid urbanization and climate change.

The CRP supports the provision of upstream operational and technical support focused on mobilizing public and private financing around a broader resilience agenda. The CRP does this through a three phased engagement process to mobilize financing, comprising: i) upstream general legal and capacity analysis related to project financing in a specific city and strategic guidance to project teams on potential areas for expanded financing for urban resilience projects in the city; ii) financial and regulatory analysis related to a specific project concept; and, iii) specific transaction advisory services.

The CRP can help connect cities with financial advisory services that can help the city understand the potential to attract private sector participation in the context of a World Bank financed project. Jointly with the World Bank task teams and the cities counterparts, the financial advisory services can explore viability of instruments like concessions, public-private partnerships (PPPs), and land value capture (LVC) mechanisms as potential financing instruments and develop business cases for a potential project's transaction structure.

Partnerships for Resilience

For many client cities around the world designing attractive investments remains a challenge. As such there is a strong demand from cities to support upstream work to help prioritize resilience in their long-term planning. The CRP can help cities engage with partners with interest in urban development and disaster risk management, and priorities in financing efforts aimed at urban resilience, capital mobilization, private sector development and innovation.

To do this, the CRP follows a three-tiered approach fostering city-focused collaboration within the wider World Bank Group; building external partnerships with private, public and multilateral organizations dealing with urban resilience; and implementing targeted advocacy and outreach activities. The Program invests in building technical and financial partnerships for cities, including promoting technical and financial collaboration across World Bank Group units; outreach to IFI's development partners, private sector investors, technology firms and other actors in the urban resilience space.

4. Status of Program Implementation

Over the past fiscal year (July 2018 – June 2019), the CRP has made significant progress in achieving its strategic objectives. The below section provides a summary on the status of city engagements and key results, updates on work implemented under each thematic area, as well as program management and communications related activities.

4.1 City engagements

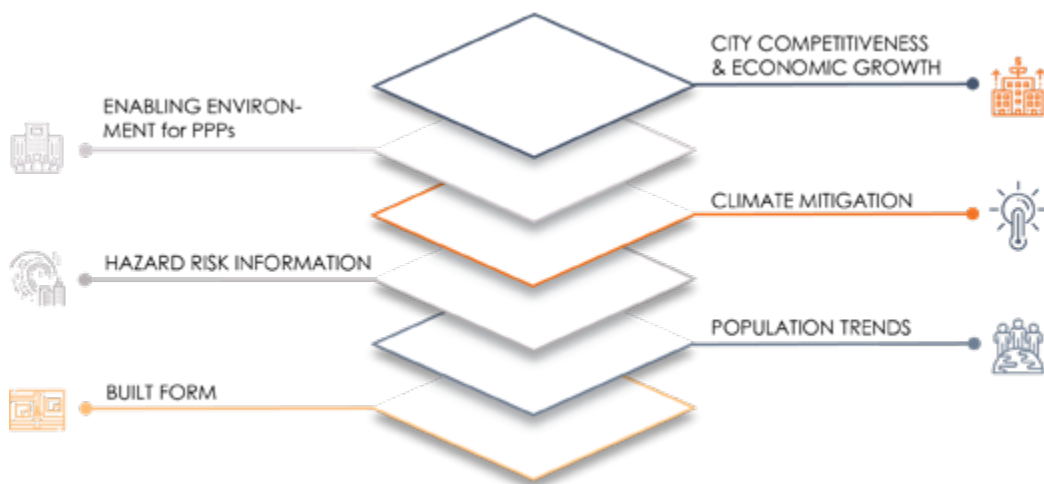
Since its launch, the CRP has engaged with 92 cities around the globe, of which 46 in FY19 (17 cities in Africa, six in Latin America and the Caribbean, five in Europe and Central Asia, eight in East Asia and Pacific, nine in the Middle East and North Africa, and one in South Asia). The CRP's activities to engage with cities vary from the provision of analytical products to assess exposure to risks, rapid assessments of the enabling environment to mobilize private capital, to more complex support on the design of potential delivery mechanisms through PPP's on several themes, such as Solid Waste Management, regeneration of sites linked to targeted public transport stations, and overall resilience infrastructure investments that reduce exposure to floods, landslides and drought. A detailed description of activities can be found in section 6.



Cities that have engaged with CRP since the program's inception

4.2 Planning for Resilience

In FY19, the CRP developed the **City Scan**, a tool which combines large amounts of spatial and socio-economic information pertinent to city-level decision-makers to inform initial dialogue around urban resilience challenges. The City Scan enables cities, World Bank teams, and development partners to engage in preliminary dialogue about natural hazards and disaster risks in key sectors and geographic areas which need to be addressed through coordinated investment. The City Scan can be produced quickly and for minimal costs by relying primarily on global, openly available data. It provides an entry point to engage with cities around broader, integrated investment planning to highlight key sectors for intervention, identify interrelated challenges (e.g. solid waste management and flood risk), and provide for an initial screening of where further investments in data collection may be required to make informed decisions. The City Scan product continues to improve based on feedback from beneficiary cities regarding their data needs. The development of the City Scan, benefited from internal collaboration of more than 30 World Bank experts and consultants, including multiple technology firms (e.g. GAF or Flood Tags) who contributed technical expertise to strengthen and develop new tools. The launch of the product took place at the first CRP Resilience Investment Planning Workshop in Durban, South Africa, in November 2018.



In Focus: Resilience Investment Planning Workshop, Durban, South Africa

From 26-30 November 2018, the CRP's first Resilience Investment Planning Workshop took place in Durban, South Africa. The one-week interactive workshop focused mainly on the Planning for Resilience thematic area of CRP. It brought together officials representing eleven cities around Africa to discuss and refine their infrastructure investment options in the urban resilience agenda. City delegates were joined by their respective World Bank Project leads and had access to internal and external technical experts in the areas of solid waste management, housing, urban mobility, geospatial solutions, or urban service delivery and municipal finance, among others.

The workshop featured a mix of ignite presentations, problem and risk mapping and solutions visioning, identification of potential investments and respective investment plans. It resulted in a list of priority infrastructure investments and project proposals for each participating city with preliminary technical and financial specifications. Financing needs identified in these proposals amounted to over \$4.8 billion, highlighting the significant need to provide cities the adequate access to capital to fund urban resilience investments.

Aligned with its objectives, the workshop provided the platform to connect decision makers with the relevant and adequate expertise. The interactive format allowed and enabled concrete and tailored support to cities from the technical experts, allowing participating cities to visualize more concretely what approaches could result in more comprehensive, risk-informed investment planning for them

The workshop also hosted the launch of the newly developed City Scan tool, as a conversation starter and eye opener for risk communication with cities. Furthermore, the pitch day demonstrated that many of the represented cities had concrete project ideas with potential to mobilize private capital. After the workshop, CRP engaged with its financial advisors to seek a path forward to develop these concepts further into well-prepared, risk-informed and bankable projects. The CRP team has engaged since in follow up discussions with several cities e.g. Bamako in Mali and Kigali in Rwanda., to identify potential projects to be supported by the CRP and/or RECIDE.



Participant at the CRP Resilience Investment Planning workshop in Durban, South Africa.

The City Scan continued to be improved during the year under review mainly to refine risk information and introduce new data products and visualizations. City Scans now include highly localized urban heat mapping, flood extent layers derived from synthetic aperture radar, and economic hotspot analysis. Building on the City Scan, the CRP also supported selective, more intensive city-level engagements targeting informal settlement mapping in Bamako, an urban expansion analysis in Kampala, and a bicycle accessibility analysis in Monrovia. Cities continue to benefit from CRP's expanding network of cutting-edge geospatial technology firms.

During the year under review, 41 cities have benefitted from the City Scan. This has proven a particularly helpful tool in cities with a dearth of available up-to-date geospatial data. In Sub-Saharan Africa, 19 City Scans were developed for cities in Côte d'Ivoire, Ethiopia, Mali, The Gambia, Malawi, Benin, Tanzania, Cameroon, Sierra Leone, Somalia, Nigeria, Uganda, Rwanda, the Democratic Republic of Congo, Mozambique, Liberia and Kenya, resulting in various follow-up engagements.

In Focus: City Scan applied in practice

Following the Resilience Investment Planning Workshop in Durban, the City Scan was applied to advance dialogue across several cities.

In **Abidjan**, Côte d'Ivoire, the City Scan identified more than 96 sq. km of accumulated built up area which may be at risk to flooding. Abidjan's urban areas are exposed to higher risk of flash flooding due to the presence of large impervious surfaces and an inefficient drainage system. The city is developing a large investment program for flood risk reduction and solid waste management integrating information and data from the City Scan.

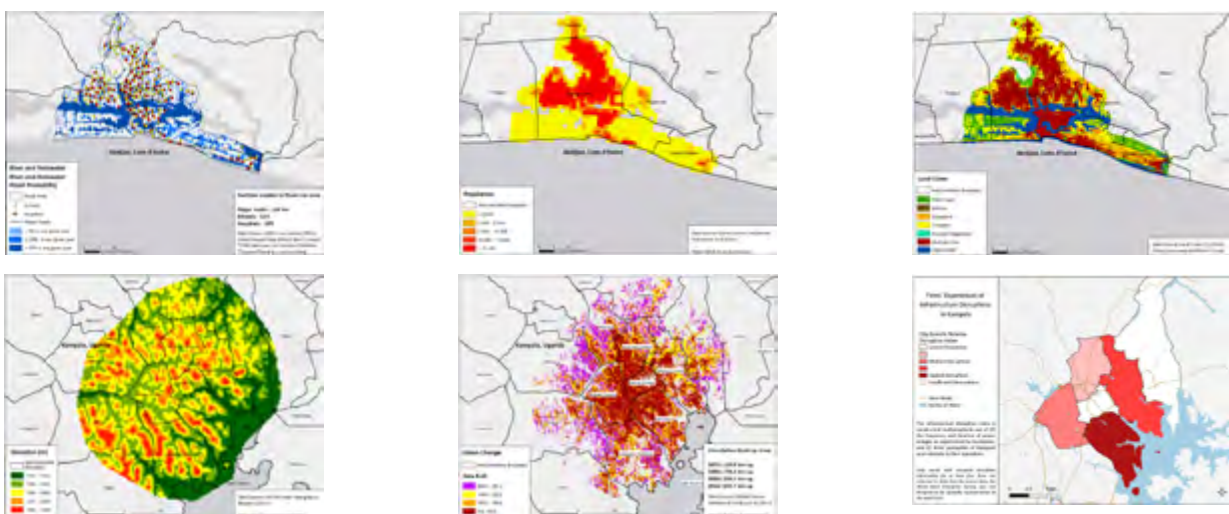
In **Kampala**, Uganda, the City Scan has proved instrumental in supporting officials at the Kampala Capital City Authority (KCCA) and their key stakeholders in national government and development partners to visualize the city's risk drivers – from the rapid pace of unplanned development to the nature of its flood hazards - and plot a course to manage and reduce them. The City Scan provided critical information to KCCA, including showing that Kampala has faced a more than four percent annual increase in its built environment for more than 40 years running, which prompted KCCA to build a partnership with the World Bank to draft the Kampala Disaster Risk and Climate Change Strategy. The Strategy, which will launch in March 2020 and benefited from CRP support, shows that floods cost Kampala an average of \$100 million per year and frequently affect more than 170,000 people, but also sets out key actions and coordinated investments to better manage these risks, including through resilient neighborhood planning, improvements to the drainage system, and enhancing emergency preparedness and response capacity. The Resilience Strategy is being integrated into KCCA's Development of Strategic Plan 2020 – 2025 and is now being considered by national authorities as a potential model for national planning efforts.

In FY19, the CRP also supported a case study on Wroclaw, Poland which analyzed the indirect benefits of flood reduction investments over two decades, measured through real estate values and land price impacts. The Program also supported a study on the impact of flooding on supply chains and firms in Dar es Salaam, Tanzania which served to highlight the importance of resilience across infrastructure systems and the need to consider infrastructure disruptions in spatial planning activities.

In Focus: Wroclaw and Dar es Salaam Case Studies

In the years following the major 1997 flood in Wroclaw, Poland, the government invested approximately €500 million in flood protection infrastructure and management with financing from the World Bank. This case study provides evidence that public investments in flood protection can generate large indirect impacts on local land values and the real estate market. A 20-year record of land and residential market transactional data and real estate development investments on areas both previously non-flooded and flooded from the 1997 event were analyzed. The analysis demonstrates substantial differences in development of these areas and potential additional value being generated on the order of hundreds of millions of US dollars. As other cities face increased flood risks due to climate change, these findings support the idea of using LVC techniques to pre-finance future needed flood protection investments.

In a collaborative effort with the GFDRR, the CRP also supported the development of an infrastructure disruption analysis, conducted for Dar es Salaam, Tanzania, to understand the potential impact of urban flooding on firms and supply chains. Specific objectives of the study were to understand: i) the spatial distribution of infrastructure disruptions within cities, ii) the role of urban flooding in driving these infrastructure disruptions, and iii) what share of the urban economy is directly and indirectly affected by flooding. Using data from the World Bank’s Enterprise Survey and two sets of flood maps, the analysis showed that firms in flood zones tend to experience more infrastructure disruptions, but that disruptions outside of flood zones are not far behind. This illustrates that flooding may occur locally, but the impacts quickly spread across infrastructure networks. Additionally, the analysis showed that floods directly threaten areas with high employment densities and thus a large portion of all economic activities, highlighting the imperative of improving urban resilience as well from this angle.



Examples of layers from the City Scans for Abidjan and Kampala

4.3 Finance for Resilience

The CRP strategy for mobilizing financing for cities involves bringing city representatives together with financial and technical experts to help create connections, deliver technical resources to decisionmakers, enable knowledge sharing, and highlight what the CRP and the wider IFI community and private investors can offer to cities. Over the last two years, CRP's Financial Solutions for City Resilience workshops have proved to be an effective convening platform to collaboratively advance urban resilience investments.

At the beginning of FY19, the CRP organized the second Financial Solutions for City Resilience Conference in Bangkok, Thailand. The conference, that brought together delegates from 20 cities, aimed to catalyze longer term, more comprehensive, multi-disciplinary packages of technical and financial services, building the pipeline for viable resilience building projects at the city level. *See In Focus story on page 16 for more details about the event.*



Urban development in Brazil

In Focus: Financial Solutions for City Resilience Conference, Bangkok, Thailand

From 9-13 July 2018, the Financial Solutions for City Resilience Conference in Bangkok, Thailand brought together delegates from 20 cities, World Bank task team leaders, technical experts from global financial advisory companies, and private developers to discuss and refine infrastructure financing options in the urban resilience agenda. The conference objective was to help cities navigate a range of options for deploying private capital in resilience building and identify opportunities of mobilizing private finance in cities' capital plans. The conference focused on each type of financial instrument, based on case studies of how these instruments have been used in different markets.

Ahead of the conference and for each participating city, the CRP team carried out an assessment to better understand: i) the real estate market environment and how it enables implementation of various land value capture tools; ii) transparency of land and real estate pricing; and iii) the track record of cities' engagement in direct negotiations with private investors including deployment of land-based financing tools (development contracts with infrastructure conditions, assessing impact fees, development charges, etc.). The information collected throughout these assessments was instrumental in tailoring the agenda to the specific needs of participating cities, including contents of working sessions, composition of subject-specific working groups, etc.

At the conference, city delegates had access to technical experts in areas of capital budgeting, municipal finance, land value capture, and PPPs/concessions, who discussed concepts and methods of deploying private-sector financing in the resilience-focused capital investment plans. The event culminated in a "shark tank" event on the final day where city leaders presented their investment ideas to a panel of financial advisors who gave feedback on how to structure the resilience investment opportunities. The conference outputs were integrated into subsequent capital mobilization efforts with the aim to further elaborate and verify the feasibility of identified infrastructure transactions and advance with transaction structuring.

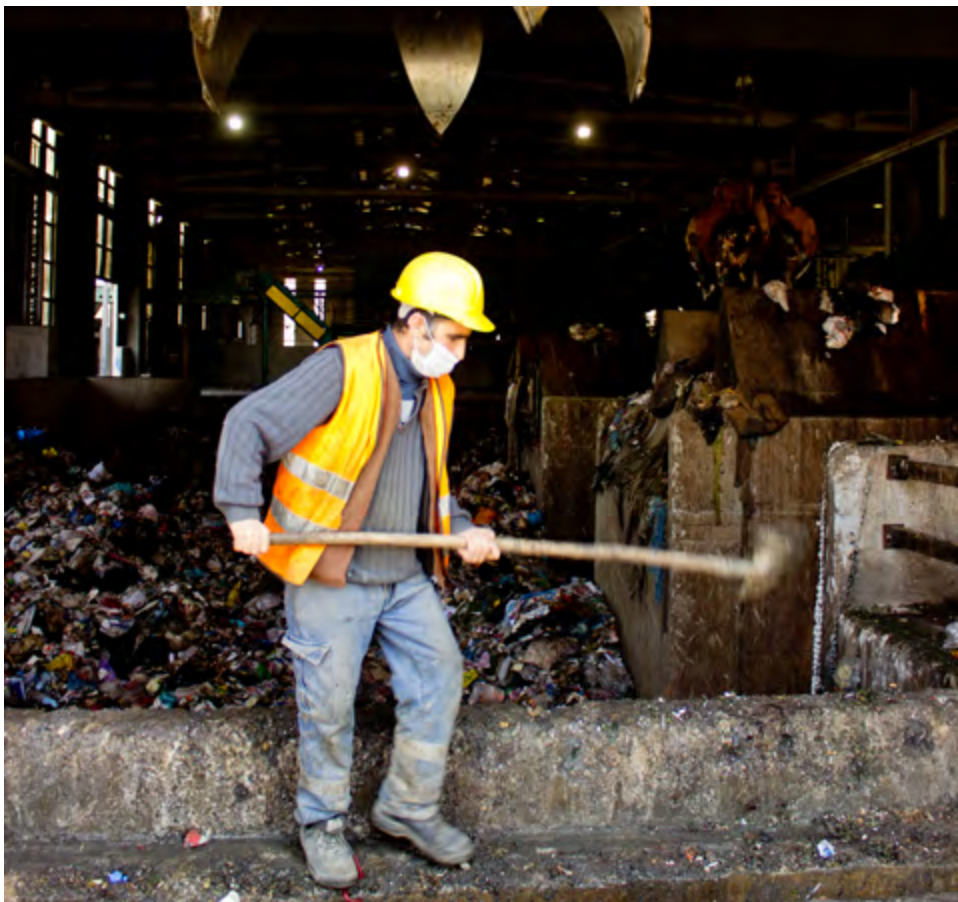
Towards the end of the year in review the CRP Team focused on the organization of the first Resilience Planning Investment Workshop in Madrid, Spain. The event was organized in closed collaboration with the Government of Spain and the European Union in the framework of the preparation of the RECIDE Program (see dedicated In Focus story on page 24 for more details about RECIDE) and took place from 8-12 July 2019.



Participants of the CRP Financial Solutions for City Resilience Conference in Bangkok, Thailand

More specifically on project financing, since its launch in 2017 the CRP has engaged with about 80 cities mainly through supporting the participation of city delegates in workshops and, in some cases, through providing dedicated support to task teams on financing options at projects preparation stage. Moreover, the CRP has supported 24 of the 80 cities with general upstream advisory services, which has led to the identification of specific transaction opportunities in eleven cities¹, most of them receiving ongoing upstream support to evaluate options that may allow them to unlock private capital into the project financing structure.

The completion of rapid diagnostics such as Rapid Capital Assessments (RCAs) and tailored technical assistance are other main outputs under this thematic area. Activities include assistance to identify potential for private capital mobilization through financial advisory services conducting regulatory review, market testing, financial modeling, building the business case, and supporting a potential identification and deployment of financial de-risking mechanisms.



Working at a waste facility in Turkey

¹ These cities are Accra, Barranquilla, Medellin, Porto Alegre, Casablanca, Irbid, Abidjan, Kampala, Buenos Aires, Quilmes and Dakar.

For instance, in Greater Buenos Aires, the CRP supported public agencies with devising an optimized asset disposition strategy for an underused 2.5-hectare land site near Sáenz Peña Station. This included identification of land site's market value based on its highest and best use potential, as well as determining the optimal market positioning strategy to optimize revenues which could be reinvested in public infrastructure. This engagement exemplifies an approach for generating additional financial resources for public infrastructure upgrades through monetization of underutilized public assets. It may be replicated at a wider scale, especially where productive land uses are constrained due to infrastructure deficiencies including exposure to flooding, lack of transit infrastructure, among others.

On the other hand, dealing with solid waste is an integral part of flood control in urban areas and solid waste management investments and servicing can include opportunities for private sector involvement and potentially for the use of de-risking mechanisms including guarantees. Several World Bank projects in preparation in West Africa include important solid waste management components that are benefitting from CRP support and could potentially involve private capital mobilization for parts of its financing structure. This also applies to projects that addresses flood risk, and in the process generate land value increase. Some of these are combined with transit-oriented development, and other site-based improvements like refurbishments of public markets.

Going forward, the CRP team aims to continue organizing an annual workshop in Madrid in partnership with AECID, primarily financed through the EU-funded RECIDE program currently being established. These events are meant to help generate a pipeline of engagements for CRP support, and possible support from co-financing and other external partners.



Urban development in Lebanon

4.4 Partnerships for Resilience

During FY19, the CRP invested significant efforts into building a community of practitioners, technical specialists and investors to expedite urban resilience investments. The CRP's engagement with partners is driven by a three-tiered approach, focusing on a) fostering collaboration within the wider World Bank Group; b) building external partnerships with private, public and multilateral organizations; and c) advocacy and outreach activities.

Collaboration within the World Bank:

The CRP is contributing to enhance collaboration among World Bank Global Practices (GPs) to ensure that most, if not all, urban resilience investments consider alternative sources of capital.

During FY19, the CRP worked closely with a variety of formalized technical working groups which serve to complement the Planning for Resilience thematic area in pertinent topics such as resilient housing, nature-based solutions, and solid waste management. The CRP has also benefited from close collaboration with the GFDRR Labs team, particularly on the development of geospatial layers integrated into the City Scan product, and guidance from the World Bank Geospatial Operations Support Team (GOST).

The World Bank PPP specialists provided advice and support on the realization of well-structured, bankable projects through its global network of staff with a deep, nuanced understanding of markets where the CRP engages.

Lastly, the CRP has supported the World Bank's cross-sectoral effort to build a "Resilience Rating" that assesses the extent to which a project's promised outcomes may be threatened by climate and disaster risks². The CRP led this endeavor for the urban sector, interviewing over 40 project leaders and as such systematically deploying the World Bank's set of expertise to design a cohesive ecosystem of activities that support incorporating resilience elements throughout the entire lifecycle of infrastructure investments. This work contributed to facilitate a Bank-wide understanding and collaboration of how various project stakeholders regard resilience during project preparation and implementation.

² The resilience rating does not rate projects on their probability of failure or success.

External Partnerships:

CRP's Planning for Resilience thematic area focuses on several types of external partnerships:

- *Local entrepreneurs and startups:* To maximize the quality and usage of localized data collection, the CRP has supported partnerships with local entrepreneurs and startups to collect data and build local capacity around open source data and technology. In FY19, the CRP worked with Where is My Transport, a startup from South Africa that uses data and technology to develop solutions for sustainable urban mobility focused on informal transit routes. The CRP supported the collection of General Transit Feed Specification (GTFS) files and accompanying mobility studies in Douala, Cameroon, and Zanzibar, Tanzania.
- *International agencies:* The CRP has benefited from the ongoing work of NASA and the European Space Agency (ESA) as a source of raw and derived geospatial data for the City Scan tool. The partnership with ESA has been formalized through the CRP's engagement with ESA's Earth Observation for Sustainable Development (EO4SD) Program, which aims to achieve a step increase in the uptake of satellite-based environmental information in the IFIs regional and global programs.
- *Technology companies:* The CRP has directly supported city-specific engagements, new product development, and broader strategic partnerships with several technology companies, including GAF (Germany), INDRA (Spain), Where Is My Transport (South Africa), Flood Tags (Netherlands), EBP (Switzerland), Cloud to Street (United States), New Light Technologies (United States), and DigitalGlobe (United States). In doing so, the CRP is building a network of firms that can be mobilized to support city-level engagements and broader programmatic objectives to provide better insights for resilience planning.

Under the Finance for Resilience thematic area, to effectively support cities to mobilize finance the CRP also relies on external partnerships. These include but are not limited to:

- *City networks:* The CRP interacts extensively with the ongoing work of important city networks aiming to scale investments in climate-smart investments. Some examples include the Cities Climate Finance Leadership Alliance (CCFLA); the Global Network of Cities, Local and Regional Governments (United Cities and Local Governments, UCLG); the Global Covenant of Mayors for Climate and Energy.
- *Other IFIs and donors:* Understanding that capital mobilization efforts go beyond the realm of private capital, the CRP is building strong partnerships with other IFIs and donors including RVO, AECID, and UK AID, to jointly explore grant/loan co-financing opportunities in urban resilience.

During FY19, the CRP has been an active member in the preparation of the Leadership of Urban Climate Investments (LUCI) initiative which was eventually launched at the UN Climate Action Summit in October 2019 in New York City. LUCI is an opportunity for the CRP to build a larger network of partners across city networks, donors, IFIs, and climate finance groups that will continue to be further engaged as the program evolves further in the next year.

Advocacy and outreach:

In the past fiscal year, the CRP continued to increase the visibility of its programs and has developed a strong community of urban resilience actors. Sharing the program's underlying approaches and innovations at a variety of external events, the Program aims to incentivize climate risk decisionmakers to think differently and spatially about urban resilience and to spur cooperative action accordingly.

The CRP's main support to the larger resilience community has been the *Understanding Risk (UR)* event series led by the GFDRR. The Program first showcased its offerings at the global edition of UR in May 2018 in Mexico City. Similarly, the CRP's engagement in various other events has facilitated a consistent presentation of the Program's services to cities. Such events include the August 2018 Decarbonizing Transport Conference in Iguassu, Brazil, the November 2018 Resilience Shift Workshop in New Orleans and the April 2019 MENA Regional Urban Resilience Conference in Beirut, Lebanon where the CRP team presented its integrated approach to supporting cities through planning and finance activities, creating new demand for the Program's services and promoting city decision-makers to seek comprehensive, risk-informed investment programs for resilience.

In order to create a more structured approach, the CRP explored ways to develop a co-financing platform for IFIs and bilateral donors, that eventually will be anchored in the Madrid workshop series going forward. Such platforms would connect cities presenting urban resilience projects with IFI/donors to explore opportunities to expand the scope of public financing.

Finally, in the margins of the 2018 Steering Committee Meeting in Bern, Switzerland, the CRP organized a Partnership Day with the aim to take stock of existing urban resilience initiatives, share information about new and innovative instruments, maximizing what already works, and identify synergies and links between programs and initiatives to address these missing gaps to future-proof cities to ultimately withstand natural disasters and climate shocks. The event was well attended and sparked interesting discussions with local stakeholders interested in the Program.



CRP's Steven Rubinyi at MENA Regional Urban Resilience Conference in Beirut

RECIDE

Over the past year, significant efforts have been allocated to the establishment of the Resilient City Development Program (RECIDE), a partnership between the World Bank and the Spanish Development Agency (AECID) accessing funds through the European Commission's External Investment Program (EIP). Through RECIDE, risky projects in challenging CRP client environments, primarily in Sub-Saharan African and EU Southern Neighborhood³, would be able to access a total of €100 million in guarantees, making the financing and delivery of services more efficient for investors. These guarantees can potentially reduce project financial risks and may in the future be combined with other types of development investment.



Municipal worker cleans canals that reduce the risk of flooding in Mozambique

³The European Neighborhood Policy (ENP) is a regional cooperation program of the European Union and governs the EU's relations with its 16 closest Eastern and Southern Neighbors. The Southern Neighborhood includes Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Palestine*, Syria and Tunisia.

In Focus: Resilient City Development (RECIDE)

The markets of most CRP target cities are often not sufficiently developed to enable the flow of capital into infrastructure projects. While there may be strong interest to invest, investors find it difficult to deploy their capital because transaction opportunities are sporadic, unpredictable, and widely dispersed across sectors. Several market barriers make transaction costs higher than desired returns. A prevailing lack of risk data and transaction track records increases potential stakeholders' hesitation to invest.

To address this issue, over the past year, the CRP has started to work on supporting de-risking mechanisms, namely guarantees for incentives for private sector participation, under the Resilient City Development Program (RECIDE), a partnership in preparation between the Spanish Development Agency (AECID) and the World Bank.

The program was initially approved by the Operational Board of the European Unions' External Investment Plan in June 2018 and has been in the stage of finalization of agreements during FY19. The signature of agreements is expected to be completed in the second half of FY20.

RECIDE is an effort to assist city governments in African and EU Southern Neighborhood countries to build greater resilience to climate and disaster risks and to attract more private sector financing solutions, with a priority around investments in flood protection, solid waste management, sustainable transport, and sustainable energy. The program attempts to target situations where infrastructure gaps represent untapped opportunities for private-sector engagement, provided that an appropriate investment planning and risk mitigation platform is in place.

On the World Bank side, the CRP team has been leading the preparatory work for the World Bank's internal decision-making process on how the Bank will engage with RECIDE and pathway for the official launch including working closely with the Guarantees team to ensure the program is built on an adequate foundation. Since approval of the RECIDE proposal in June 2018, the CRP has specifically focused time and effort on building a pipeline of investment opportunities, with a focus on Africa. The highlighted CRP Workshops in Durban and Madrid particularly contributed to these ongoing efforts, zooming in on opportunities within Sub-Saharan Africa, and targeting RECIDE priority sectors.

5. Monitoring of Results

The CRP uses monitoring, evaluation, and a focus on results to drive improved performance. The CRP's logical framework is guided by the Sendai Framework for Action and fully aligned with GFDRR's overall results framework⁴ to which the Program feeds into. The CRP's log frame gives an overview of the objectives, outcomes and activities.

The tables below are used for monitoring of results as stipulated in the CRP Log Frame. They provide a numeric indication on the current state of achieving the overall strategic objectives and the individual outputs thereunder.

Strategic Objective 1: Cities have increased access to tools and technical support to effectively plan for resilience

Intermediate Outcome	Results Indicator	FY18	FY19 (cumulative)
1.1 New digital technology and knowledge products developed to support cities in their resilience planning.	# Number of digital technology products developed	0	9
	# of knowledge products and case studies developed which focus on planning for resilience	0	1
1.2 Cities provided with upstream operational and technical support in areas of resilience planning.	# of City Scans delivered to cities	0	41
	# of CRP workshops organized that included a resilience planning focus	0	1
	# of cities participated in CRP workshops that included a resilience planning focus	0	11
1.3 Cities provided with support to design and implement resilience enhancing investments.	# of cities receiving scaled up technical assistance on design and implementation of resilience-enhancing investments	3	7

⁴ More information about GFDRR's results framework is available here: <https://www.gfdr.org/en/monitoring-evaluation>.

Progress Results:

- > **9 new digital technology products** were developed and incorporated into the City Scan, including: 1) economic hotspots derived from nighttime light intensity; 2) extent and pace of deforestation; 3) land suitability for spatial urban expansion; 4) road intersection density, network criticality and disruption points; 5) urban green spaces; 6) access to health facilities and schools; 7) infrastructure assets exposed to flooding (pluvial and fluvial); 8) built up area exposed to flooding (pluvial and fluvial); and, 9) population exposed to flooding (pluvial and fluvial).
- > **1 case study** was developed targeting a city level analysis of infrastructure disruptions in Dar es Salaam
- > **41 City Scans** were delivered to 20 cities in Sub-Saharan Africa, nine cities in the East Asia Pacific region, and each four cities in Europe and Central Asia, Latin America and Caribbean, and Middle East and North Africa.
- > **1 workshop** on resilience planning was organized in Durban, South Africa, in November 2018, and
- > **11 African cities** participated in this event.
- > **4 additional cities** received scaled up TA, including: 1) Brena, Peru; 2) Independencia, Peru; 3) La Paz, Bolivia; and, 4) Santa Cruz, Bolivia.



Rehabilitating waterways to mitigate flood risk in Indonesia

Strategic Objective 2: Cities have increased access to multiple sources of financing to ensure that planned investments in resilience come to fruition

Intermediate Outcome	Results Indicator	FY18	FY19 (cumulative)
2.1 Development of new operational and knowledge products to support cities in mobilizing investments in resilience	# Number of operational products developed	3	3
	# of knowledge products and case studies on finance for resilience developed	0	1
2.2 Cities assisted in upstream operational and technical support in areas related to mobilizing capital for investments in resilience.	# of Rapid Capital Assessments delivered to and utilized by cities	45	72
	# of CRP workshops organized that included a resilience financing focus	1	2
	# of cities participated in CRP workshops that included a resilience financing focus	45	45
2.3 Cities supported to mobilize capital for investments in resilience	# of cities received dedicated financial advisory services to identify and structure investment opportunities	12	24
	# of de-risking mechanisms deployed in project operations	0	0

Progress Results:

- **0 operational** products were developed during this reporting period. The previous three included PPP, LVC, and city finances desk top assessments which fed into RCAs.
- **1 case study** on Wroclaw was developed (see box for more details)
- **27 RCAs** have been completed in FY19 for eight cities in Sub-Saharan Africa, six cities in the Middle East and North Africa region, five cities in the Europe and Central Asia region, four cities from East Asia and Pacific, three cities from Latin America and Caribbean, and one city in South Asia.
- **1 workshop** focusing on resilience financing was held in Bangkok, Thailand, in July 2018. In addition, but not reflected in this indicator, significant preparatory work for the workshop in Madrid in early July 2019 was undertaken this FY.
- Even though the **Bangkok workshop** was organized during FY19, 0 cities are being counted against the number of cities participating in workshops that focus on resilience financing. This is because the 21 participating cities were already including in the FY18 Annual Report.
- **12 cities** started working with financial advisors in FY19, bringing the total number up to 24 cities.
- **0 de-risking mechanisms** have been deployed by the end of FY19.



Construction workers in Africa

Strategic Objective 3: Cities can leverage global partnerships to support their resilience objectives

Intermediate Outcome	Results Indicator	FY18	FY19 (cumulative)
3.1 Technical knowledge about resilience leveraged for application in cities.	# of World Bank technical teams engaged to operationalize and scale support to cities	6	31
	# of digital technology firms engaged in developing CRP products	0	6
3.2 Co-financing agreements generated with development partners	# of IFIs mobilized as co-financiers of CRP investment programs	0	0
3.3 Participation in international events to highlight CRP programmatic approach and showcasing CRP products.	# of international events showcasing CRP	4	7

Progress Results:

- > **25 additional technical** working groups have been supported by the CRP in FY19.
- > **6 new partnerships** with digital technology firms have been built whose products have found entry into the City Scan and other project components. The firms are based in the Netherlands, Switzerland, United States, and South Africa.
- > **0 IFIs** could be mobilized as co-financiers yet, but the CRP made progress in establishing an IFI co-financing platform and supporting other initiatives, such as the Gap Fund, which aim to scale up future collaboration and partnership among development partners and city networks.
- > CRP participated at **3 external events** throughout FY19, including: 1) August 2018 Decarbonizing Transport Conference in Iguassu; 2) November 2018 Resilience Shift Workshop in New Orleans; and, 3) April 2019 MENA Regional Urban Resilience Conference in Beirut

6. CRP engagement by region



PROGRESS FROM LAST YEAR

Latin America and Carribbean
5
cities

Middle east and North Africa
5
cities

Africa
19
cities



PROGRESS FROM LAST YEAR

Europe and Central Asia
3
cities

East Asia Pacific
4
cities

The below section describes the CRP's progress in providing technical assistance (beyond City Scans) to cities across the globe. The information is structured by region, in alphabetical order, and gives examples of city-level engagements which aim to portray the variety and multi-sectoral nature of CRP projects. Geographic difference in deeper technical assistance from the program at city level is reflected by geographic priorities of donor partners of the program.

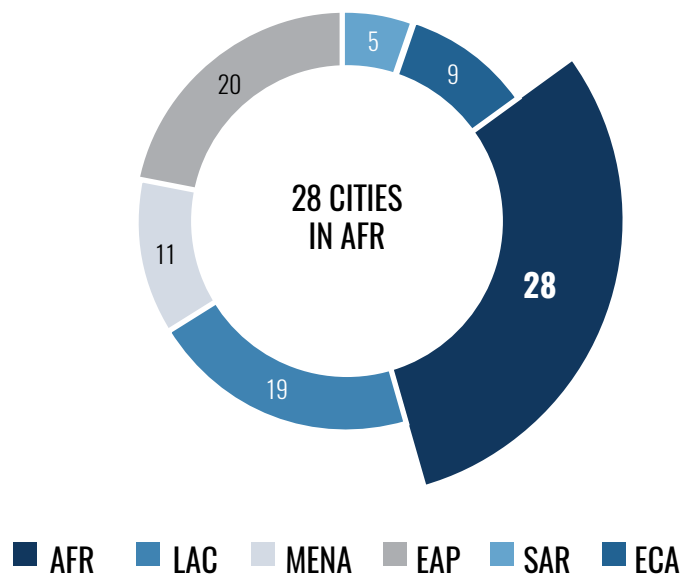
6.1 Africa (AFR)



Since its inception in FY17 and incrementally in FY19, the CRP has been significantly engaged in the Sub-Saharan Africa region, both on Planning for Resilience and on Finance for Resilience.

Over FY19, the CRP has developed a partnership with the Spanish Development Agency (AECID) to seek access to up to €100 million in grant-financed guarantees in Sub-Saharan Africa, which could potentially unlock private financing in urban resilience (on page 24). Against this background, the CRP has focused on upstream project engagements in 28 African cities, to support urban resilience project scoping through resilience planning and financial advisory. For six of these engagements, World Bank task teams and their city clients have identified a potential for private sector involvement in an aspect of the urban resilience engagement. To deliver more ambitious investment packages and crowd-in support from other IFIs, the program has also focused on unlocking co-financing, with ten concrete opportunities identified to date and progressing in their dialogue with the respective IFI and through the CRP.

African cities were the first to benefit from City Scans and to be connected to technical advisory from World Bank and external expertise through CRP as part of the November 2018 workshop in Durban, South Africa. Moving forward, the CRP will scale its technical support to African cities through next generation City Scans that include several additional data layers, and the deployment of spatial planning platform that utilize different technology and geospatial solutions to support teams with project scoping and investment planning.



Progress by City with Technical Assistance Beyond City Scans

In **Abidjan**, the CRP is supporting the design of a potential PPP for the improvement of Solid Waste Management services and looking into potential Land-Value-Capture opportunities to support surrounding drainage investments. The CRP mobilized PricewaterhouseCoopers (PWC) who together with the World Bank task team have focused the engagement on a possible solid waste management transaction involving the construction of landfill facilities, transfer stations, recycling and reusing facilities and overall solid waste operations, and to perform in parallel a preliminary review of the peripheral districts' waste collection opportunities. Market analysis and financial modeling of viable delivery options will be performed in accordance with identified project parameters. The improvements in the solid waste management facilities in connection with the drainage improvements, will enable better runoff of precipitation, thereby reducing floods from occurring in parts of the city. As such, the project aims to significantly enhance Abidjan's capacity and preparedness to better handle future flooding.

In **Bamako**, the CRP has been actively supporting preliminary studies that would support improved solid waste management activities and increased resilience to floods, in vulnerable areas in the District of Bamako and in targeted neighboring communes. Further, the program provided funding for an informal settlement mapping exercise to inform potential areas prime for urban regeneration. Following this and after two missions, two concrete opportunities have been identified: the redevelopment of the Sogoniko Bus Terminal and a possible wholesale market PPP in Kabala Coura. The program will continue working jointly with the task team to further explore these and other capital mobilization opportunities.

In **Dakar**, the CRP is supporting the design of a PPP to build and operate a new network of waste sorting and processing facilities in Greater Dakar, formalizing and improving the existing municipal system of waste processing. This project would address waste-related resilience challenges in the city, associated with issues with human health, the environment and urban flooding, which have furthermore disproportionately impacted low-income households. Specifically, the CRP supported the project's task teams with a high-level regulatory review, financial modeling and an indicative term-sheet where public resources, including potential World Bank and IFIs funding, could attract a reputable and capable operator for the new SWM system. The program has also provided and will continue providing support in the design and deployment of a guarantee. Following the CRP's recommendations, city authorities have hired a transaction advisor to take the project forward and have asked the CRP to support with further advice in for the oversight.

In **Dar es Salaam**, the CRP is identifying entry points for private sector investments in the underused sections of the Msimbazi river basin; a 57-hectare site close to the city's central business district (CBD), catalyzed by a \$130-million drainage and resilience-enhancing measures proposed by the World Bank's and UK AID's Tanzania Urban Resilience Program (TURP). Market analysis funded by the CRP showed potential for implementing an 800,000+ sqm mixed-use, mixed-income development anchored by mid-income and low-income housing delivered in 3-4 phases over the course of up to 20 years. However, share and structure of affordable housing component needs to be verified and aligned with the overall objectives of the city. The CRP will reconcile market assumptions and confirm the regulatory context for PPPs and land-based financing to help inform the thinking about a feasible transaction structure.

In **Freetown**, the World Bank is exploring the areas where it may be able to assist in improving institutional capacity and performance of select district councils, increasing access to resilient services and infrastructure, and enhancing technical and financial capacities for emergency preparedness and response. The CRP is supporting the project's task team in identifying opportunities to mobilize private finance that could potentially increase the development impact of this project. Seven potential transactions were identified as part of an ignite mission, and these were prioritized based on a combination of their alignment with project goals and their suitability for consideration for private sector participation. One key priority transaction entails the co-development of low-income housing using private financing, with the final site being identified during a second implementation phase. The other priority transaction would be related to supporting a transaction around Solid Waste Management investments.

In **Accra**, the World Bank's Greater Accra Resilient and Integrated Development (GARID) Project aims at improving flood and solid waste management, and provision of public services to targeted flood prone communities within the Odaw Basin of the Greater Accra Region. The CRP supported analytics to help leverage private sector opportunities for land development, specifically through LVC mechanisms and private sector participation in maintenance of the Project financed activities. An in-depth regulatory review, a high-level market testing and financial modeling found that the proposed delivery structure for private sector participation in widening of parts of Odaw Primary channel (needed for improving flood risk mitigation) was financially un-viable in the short-term. The Minister of Sanitation has requested further financial advisory support to look at potential to incorporate PPPs in the development and operation of a new sanitary landfill under the GARID. The World Bank task team is initiating conversations with SECO on possible resource mobilization for future phases of the Project.

In **Kigali**, the CRP provided technical advice to city authorities on the most effective strategies to mobilize private capital in the construction (and possible operation) of a land fill. Despite recommendations from both the World Bank and Deloitte on the benefits of opening a competitive process for the selection of a qualified operator, city authorities have decided to pursue an unsolicited proposal scheme. The program will keep this engagement on hold and will re-assess entry points as part of the World Bank's Rwanda Urban Development Project.

IN FOCUS: Strengthening Urban Resilience in DAKAR

CITY BACKGROUND

Dakar has been experiencing significant population growth, corresponding to a densification of the habitat and a modification of consumption modes. The resulting generation of waste poses a major challenge, particularly in terms of solid waste management. Dakar does not have any professional sanitary disposal sites and almost 70 percent of the solid waste generated by the city is deposited at numerous unauthorized waste disposal sites. The city's only landfill in Mbeubeuss is an inadequately planned open dumpsite, which has expanded more than tenfold in recent years, stretching to over 170 hectares and processing an estimated 450,000 tons of waste annually. These challenges have exacerbated issues with human health, the environment and urban flooding, and have disproportionately impacted low-income households.

WORLD BANK ENGAGEMENT

The Government, with the support of AECID, the World Bank and other development partners, is preparing a *Projet pour la Promotion de la Gestion Integree et de l'Economie des Déchets Solides au Sénégal (PROMOGED)*. The main objectives will be to:

1. Improve waste management services in Senegal;
2. Support the development of a long-term waste treatment and disposal facility in Greater Dakar and a few selected secondary agglomerations;
3. Strengthen institutional robustness, citizen engagement and capacity building.

IN FOCUS: Strengthening Urban Resilience in DAKAR (continue)

PROPOSED IMPLEMENTATION STRUCTURE

The CRP has been advising the government and the World Bank task team leading the preparation of the PROMOGED project to identify opportunities for a potential PPP that could be backed by a payment guarantee issued by ICO with financing through the RECIDE, to build and operate a new network of waste sorting and processing facilities, formalizing and improving the existing municipal system of waste processing. In addition, the CRP has supported partnership connections to help the government crowd in further concessional financing for its planned sector reforms and investments from the Spanish Development Agency (AECID) and the French Development Agency (AFD)

LESSONS LEARNED

Due to institutional instability, Dakar has struggled to attract private sector investment in the waste management sector, resulting in high operating inefficiencies and the underfunding of waste and garbage collection. This track record showed challenges in outsourcing waste collection operations even to credible international partners. Learning from experience, the project needs to ensure an effective, continuous outreach and engagement of affected communities, including but not limited to informal and formal waste workers. Through the support of the World Bank, AECID and AFD, PROMOGED aims to achieve this by prioritizing job placement and professional training programs for waste workers (both formal and informal) – an estimated 2,000 people on the current landfill site - who become at risk of losing their source of income due to operational improvements on the site.

6.2 East Asia and Pacific (EAP)

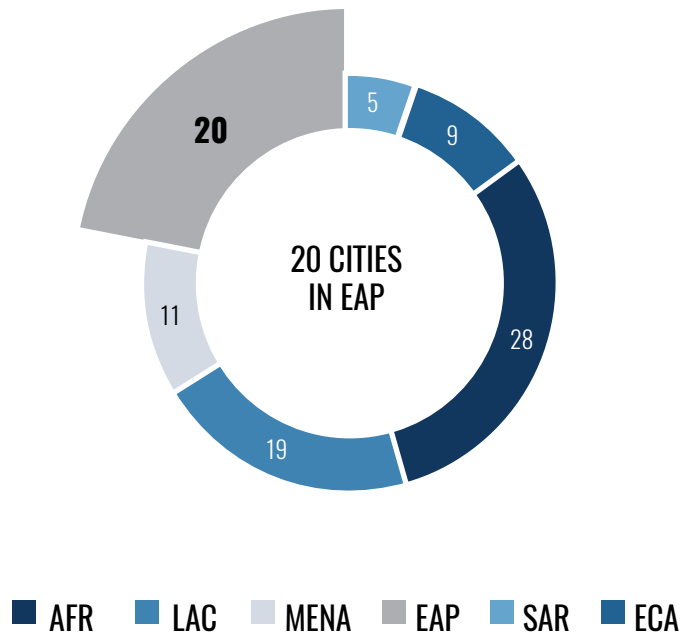


EAP represents a myriad of untapped opportunities to crowd in private capital around urban resilience. Conscious of this, the CRP has engaged in this region since the program's inception and incrementally during FY19. Specifically, the program has provided financing advisory to several pre-identified opportunities, with a strong focus on the transport sector in Vietnam.



Rapid urbanization in Vietnam

Nonetheless, have led the program to put most of ongoing engagements on hold and to focus more on co-financing possibilities and technical support, with significant progress to date.



Progress by City with Technical Assistance Beyond City Scans

In **Can Tho**, the World Bank signed an agreement for a \$250 million loan for the Cần Thơ Urban Development and Resilience Project (CTUDR), aiming to reduce flood risk and improve connectivity between Cần Thơ city center and the new urban areas. Framed within this operation and through CRP support, a long list of 82 investment opportunities was identified. Following a shortlist of ten projects and consultations with city authorities, the Provincial Road 918 was prioritized as a pilot to explore potential for mobilization of private capital.

Similarly, in **Hải Phòng**, the CRP has supported the identification of opportunities to unlock private financing around the Ring Road 2 and Ben Lam bridge project. The construction of the western sector of RR2 will provide much-needed additional cross-river capacity to stimulate and support development to the north of the Song Cam; The development of Ben Lam Bridge will create a system of three bridges linking Hong Bang District with Thuy Nguyen District. Initial findings based on high level estimates indicated that through the application of an LVC mechanism, the uplift value generated/captured could probably cover about 31-38 percent of total current estimated capex of the project. Taking this into account, LVC could be considered as a complementary mechanism to primary financing sources, such as public investment through an ODA loan or private investment through a PPP. Given the early stage of the project (with key pre-feasibility, environmental and social assessments still pending) and budgetary constraints on the side of the government, this engagement was put on hold until conditions improve for a new World Bank operation.

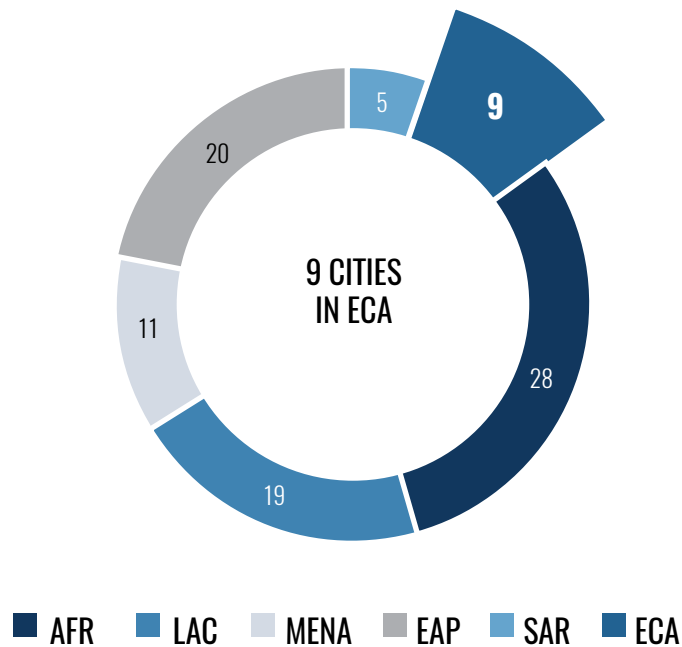
In **Ulaanbaatar**, the CRP is supporting the implementation framework for the development of the Argalant-Emeelt industrial park specialized in the tannery industry. The park would consolidate outdated tannery facilities which are currently scattered around Ulaanbaatar and provide a state-of-the art and environmentally-sound infrastructure platform for the city's leather processing businesses, one of the strongholds of Mongolian economy, and free up land in currently flood prone but centrally located areas for potential redevelopment. The World Bank task team leading the engagement is working on identifying the potential entry points for the World Bank to support the identified project, along with finding other infrastructure development opportunities in Ulaanbaatar and in Mongolia's secondary cities.

In **Vientiane**, the World Bank aims to support city authorities in developing a riverbank erosion protection and construction of urban flood protection systems on the Mekong River's six km long section from Kaoliew to Ban Mai. The proposed project will help address the issue of flooding and the associated damages along the proposed stretch of the river. The CRP support has focused on high-level market analysis for establishing land price estimates along the project stretch and potential delivery mechanisms to leverage the government available resources.

Among the options considered, three were presented to the project task team, including i) recouping cost of embankment works and cost of acquiring private land for the embankment works by selling land in the Development Area post the embankment works); ii) recouping costs by developing residential and commercial properties on the Development Area and selling them post the embankment works; and iii) a land exchange through which the government would procure a private developer for constructing the embankment works and in return recoup its costs by developing and selling residential and commercial properties in the Development Area. Currently, the CRP is awaiting confirmation from the project task team on the most appropriate moment to test the proposed delivery mechanisms through a full-fledged market sounding and financial modelling.

6.3 Europe and Central Asia (ECA)

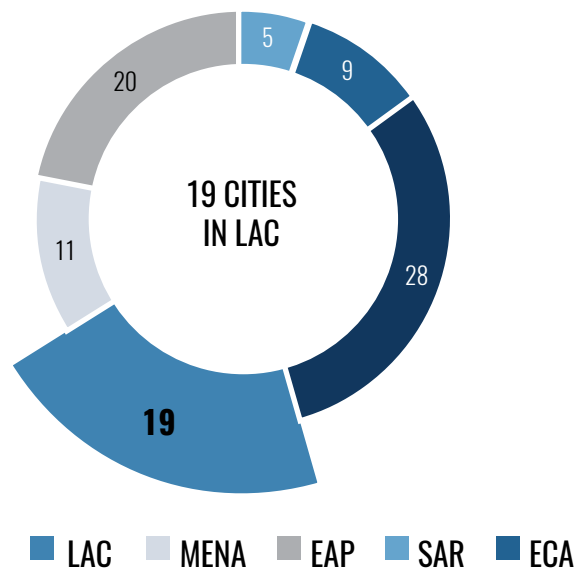
Through FY19 and since the program’s inception the CRP has presented a slower uptake in Europe and Central Asia that has been limited to the development of case studies to leverage resilient investments for revenue generation; and the delivery of City Scans and RCAs as conversation starters with local authorities. One such example is the city of Tashkent, where the CRP’s City Scan highlighted the city’s development and economic growth following the collapse of the Soviet Union in the early 1990s, as well as its vulnerability to various urban flood and seismic risks. The main findings of the City Scan were presented to various government stakeholders during a mission to kickstart the engagement with the client. Bearing in mind not only the potential of the region, but also that demonstrating the program’s added value to more advanced cities is cumbersome, the program will remain active and open to tailor its services to World Bank project teams’ needs initially focusing on cities in Turkey, Kyrgyz Republic, Albania, and Kosovo to support partnership for co-financing, resilience planning, and potential for private capital mobilization.



6.4 Latin America & Caribbean (LAC)



Throughout FY19, the CRP adapted its strategy to better render support to cities in the region, where the program has been engaged since its inception in 2017. The level of sophistication that many cities in Latin America have, means that the CRP is exploring the potential for influencing larger impact (than in other regions). That is for example highlighted through the engagements in Medellin and Buenos Aires, where the program's support could lead to the regeneration of key sites linked to targeted public transport stations and be extended to entire transport corridors. In some cases, the program's approach has been also linked to working together with National Development Banks to channel funds where subnational lending is cumbersome. One such example is Porto Alegre and other municipalities in Southern Brazil that could tap into investment packages funneled through the Banco Regional de Desenvolvimento do Extremo Sul (BRDE).



Progress by City with Technical Assistance Beyond City Scans

In **Buenos Aires**, local authorities and the Ministry of Transport are aiming to redevelop a publicly owned 2.5-hectare site in the surroundings of Saenz Peña Metro Station, located in the outskirts of the city of Buenos Aires. The station will benefit from infrastructure upgrades that will increase access and ridership. Supported by Cushman & Wakefield, the CRP identified the best and highest use of the targeted site in a way that meets the city’s objectives and recoups the future increase in land values. Following market sounding, it was recommended that the site should be taken to the market on a parcel by parcel basis and after some infrastructure upgrades take place. This would allow maximizing the final sale price to about \$16.5 million (more than 50 per cent increase from the original plan). The CRP and the respective task team are working with the government to implement this strategy in the short term.

In **Medellin**, Metro de Medellin have estimated an investment of ca. \$18 million for transport-oriented developments around one of their main stations. Scaling the intervention to two other stations in the same area would require ca. \$50-60 million. Market sounding, and high-level financial modeling supported by the CRP evidenced that \$121 million public investment could catalyze the redevelopment around the three targeted stations and generate a positive cashflow of about \$111 million over a 30-year period. In addition, through a trust fund of the Public-Private Infrastructure Advisory Facility, in the past three years the urban team of the World Bank has supported the National Planning Department and the Medellin City to define and develop a pilot case for Tax Increment Financing (TIF) instrument in Colombia, as an innovative land base finance instrument.

Following the TIF pilot case guidelines and the recommendations of the CRP, the city, through Metro de Medellín, would like to continue this engagement through reimbursable advisory services (RAS) in which the CRP would advise the World Bank urban team in Colombia, on the implementation of these and other transport-related redevelopments through TIF and the sale of air rights. The RAS request has been officially submitted and its scope is in the negotiation process.

In **Barranquilla**, the municipality has carried out important public investments and is planning to change land regulations to unlock private investment in the form of real-estate developments in the riverfront area. The CRP's support has focused on leveraging private sector opportunities for land development, specifically through LVC mechanisms or other forms of private sector participation. As part of an ignite mission with the support of Deloitte and HR&A, the CRP recommended the development of a master plan that defined land uses and densities in the waterfront area, as a precondition for the city to negotiate with possible investors and developers.

Following a second mission, the city has asked for the World Bank's support in the possible implementation of a TIF district to finance the redevelopment of a 51-hectare site adjacent to the waterfront area; and a 95-hectare site imbedded within the "Barranquillita Partial Plan" where the City Hall will be relocated. Preliminary calculations undertaken by the CRP indicate that the 51-hectare could take up to 6,000 housing units and the largest public park in the city. The city, through Puerta de Oro, estimates construction costs (park and enabling infrastructure) of up to \$60 million and an increase of property tax revenue from \$0.5-10 million, after the proposed real estate development. City authorities have officially requested Reimbursable Advisory Services (RAS) from the World Bank for support on these opportunities, which the local task team is in the process of scoping.

In **Quilmes**, the CRP is supporting the Province of Buenos Aires with the involvement of the private sector in the comprehensive redevelopment of land in informal settlements, and specifically on a ten-hectare site adjacent to Villa Itatí. Provided there is a potential for high margin private real estate development on some of the underdeveloped land, there are opportunities for raising private project finance for major infrastructure upgrades. Through PwC, the CRP has been carrying out a market sounding with potential investors and developers and will present the results in early FY20.

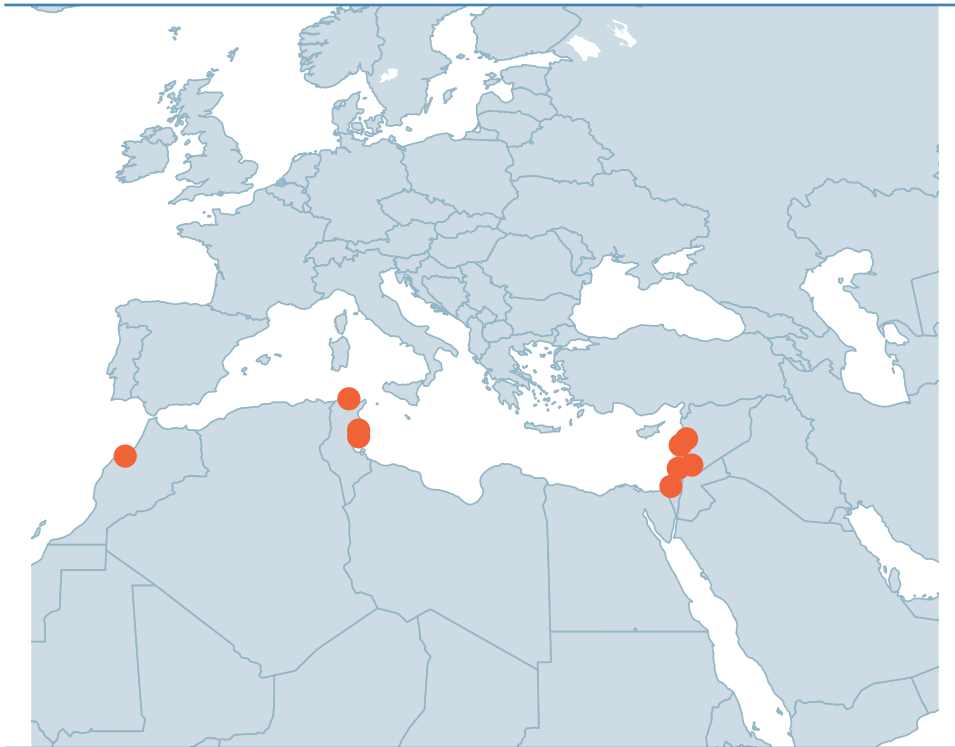
In **Porto Alegre**, the CRP provided capital investment recommendations for a potential World Bank anchor project within Porto Alegre's Fourth District, which would be possible following drainage upgrades to be financed by the City or through the World Bank. This could attract interest from major private sector property investors, catalyze commercial and economic development, increase jobs and trigger the densification in the area. In addition, funds could also be channeled through the Banco Regional de Desenvolvimento do Extremo Sul (BRDE) with whom the Bank has been preparing an operation to support municipal urban resilience investments.

In **La Paz and Santa Cruz**, the CRP supported a range of technical assistance activities to support the Government in the preparation of the World Bank \$70 million Bolivia Urban Resilience lending operation, which aims to reduce vulnerability to hydrometeorological hazards and improve living conditions in selected low-income areas in participating municipalities. The assistance supports the local governments of La Paz and Santa Cruz to develop and operationalize hazard maps and to integrate LVC tools to support municipalities to monetize public assets. Additionally, the CRP has also engaged with these cities to identify entry points for capital mobilization, and particularly around resilient infrastructure investments that reduce exposure to floods, landslides and drought. City officials have further benefited from the CRP capital investment trainings delivered in Bangkok, Thailand in July 2018. Moving forward, and as the World Bank operation comes into fruition, the CRP will follow up with the project task team to provide further assistance both on the technical and the financing side.

In **Lima**, the CRP has provided on demand financial support for project scoping and concept development of future technical assistance activities. This has allowed the task team to scope the \$38 million Peru National Urban Cadaster and Municipal Support Project, aiming to establish and / or strengthen urban cadasters in selected municipalities in Peru. Although tax collection is a primary driver for improving cadasters, the Project will also support the development of a strategy to strengthen municipalities and national government capabilities to use spatial data not only for land taxation but also for land use planning, enforcement of land use regulations, building resilience in face of disasters and promoting development projects. Framed within this operation and as the country strengthens its cadasters, the CRP will look for entry points to mobilize private capital specially through public-private arrangements and land-based financing, where some opportunities have already been pre-identified in the municipalities of Breña and Independencia.

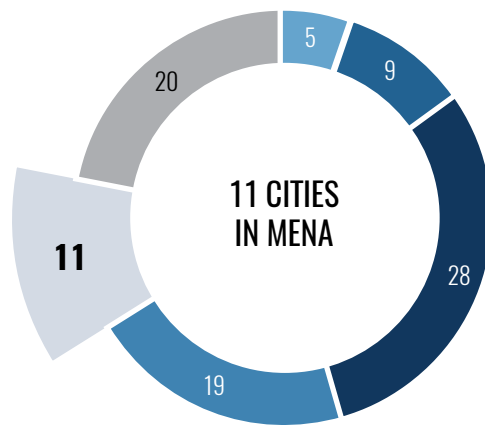
In **Panama City**, the CRP focused on identification of potential infrastructure investments for private capital mobilization in the context of an ongoing World Bank Waterfront Redevelopment Program. Through PwC's advisory, the program shortlisted seven potential projects (among 25 identified) suitable for further structuring and transacting. Among the shortlisted projects, two of them were prioritized: a pilot PPP project around affordable housing within public land (Schools Area Readjustment) and the adjacent San Sebastian neighborhood, as well as the El Marañon Urban Revitalization project. Given the early stage of both projects, the presidential and local elections that took place in May 2019, and a series of gaps identified in the CRP's advisory services that led to adjustments in the program's capital mobilization strategy, both engagements were put on hold. Moving forward, the CRP will keep in close touch with the corresponding task team and continue to advance the pre-identified opportunities as per World Bank lending possibilities.

6.5 Middle East and North Africa (MENA)



In MENA, the CRP has aimed to leverage cities' existing track record and enabling environment to mobilize private capital around mature investment opportunities. This can be seen for example in the cases of Irbid, Jordan and Casablanca, Morocco, where the program has identified concrete entry points to unlock private investment through the monetization of landmark real estate assets. Given the complexity of both markets and the multiplicity of stakeholders involved in each transaction, these engagements have helped the program refine its private capital mobilization strategy.

Moving forward, the CRP aims to deliver sound recommendations on how to take both transactions to the market. The CRP has also focused on less mature markets in the region where upcoming World Bank operations could attract co-financing from different IFIs, with eight opportunities identified to date. During FY20, program support to the region is planned to be scaled also from the planning for resilience stream, not only through City Scans to inform project planning, but also through geospatial solutions.



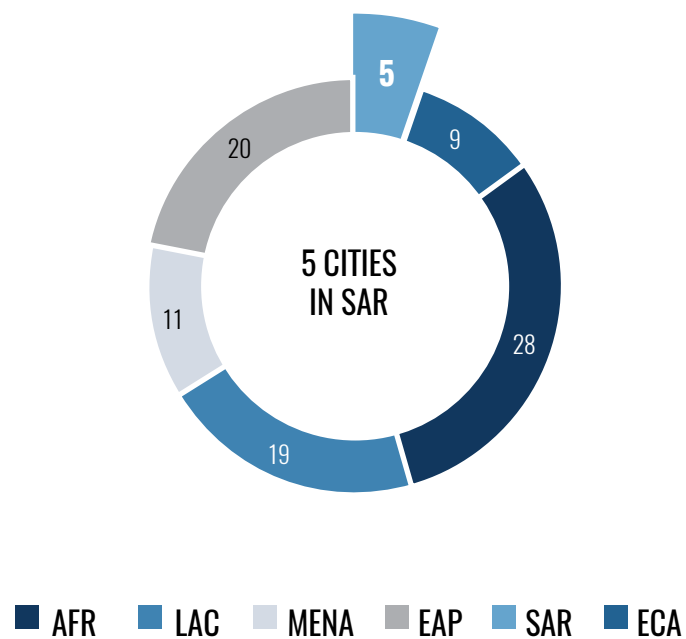
Progress by City with Technical Assistance Beyond City Scans

In **Casablanca**, the CRP is working with the municipality to create a framework for leveraging underused public assets for financing and activation of catalytic urban upgrades. This includes repositioning of two public sites – a former Municipal Library in the Central Business District (CBD) and the city’s former slaughterhouses (Abattoirs) strategically located near the new high-speed train terminal – with the aim of fostering urban renewal around the Abattoirs and generating additional municipal revenue. The Abattoirs represent an enticing pilot project that could be replicated in cities throughout MENA, with high potential of LVC as a financing mechanism. Currently, financial advisory provided through the CRP is reconciling cost and revenue assumptions and working on redevelopment concepts and regulatory reviews which will be followed by a prospectus of potential real estate operations pertaining to the redevelopment of each site. Moving forward, the CRP would help the city government ensure that new developments have appropriate flood protection and seismic resilience.

In **Irbid**, the CRP in partnership with the IFC is facilitating the delivery of a new vegetable wholesale hub in a well-connected decentralized location that previously has suffered flood issues to replace the existing wholesale market, unsuitably located in the city’s downtown. The new market is intended to double the capacity, accommodating up to 200 stalls. The new market will not only help decongest the city center where it is located currently, but also benefit a wider customer and producer base, with its opportune location that also caters to surrounding municipalities, in addition to Irbid municipality. In the longer term, the new market will also be accompanied by a light industrial (packaging, food and commercial uses). This opportunity was prioritized after an ignite mission where eight projects were analyzed.

6.6 South Asia (SAR)

To date, the CRP's engagement in SAR has been minimum and limited to the delivery of RCAs as conversation starts with client cities in Bangladesh, Nepal and Sri Lanka. This limited engagement has been mainly due to greater demand from other regions and limited trust fund resources. If donor support for the CRP is increased, the CRP could more proactively explore possible avenues for collaboration in this subregion, both for finance, partnership and resilience planning support activities.



7. What's next in FY20

Building on the initial lessons learned during the first two years of implementation, and the recent changes made to its business model, the CRP's vision for FY20 is to expand and improve upon its current products and tools, explore new avenues for support and partnerships. If an increase in resources allocated by donors to the program is secured in FY20, this would enable the program to scale up the number of city engagements in FY21, while keeping innovating across its areas of support to plan, finance and partner for urban resilience.

On "Planning for Resilience", the CRP will continue to support the development of new geospatial tools, case studies, and knowledge products which will strengthen the analytical foundation of resilience-informed planning and expand the suite of tools available to cities. Efforts to integrate the wide range of World Bank technical teams will continue and technical assistance on design and implementation of resilience-enhancing investments will be scaled up to additional cities.

With the growing demand for "Finance for Resilience" support as identified in FY19, customized support to support cities in mobilizing capital for investments in resilience is planned through new knowledge and operational products. The Program will scale up dedicated financial advisory support to include new client cities. The CRP will aim to ensure that cities have access to the necessary technical advice related to project financing options that could help them uncover financing options that would otherwise not be considered. The CRP will continue its workshop series in FY20, including the workshop on resilience planning to be organized in partnership with AECID in Madrid in July 2019 as part of the RECID Initiative.

In FY20, the CRP will also enhance its efforts to expand "Partnerships for Resilience". This includes reaching out to potential new donors and continuing to explore opportunities for project co-financing with other IFIs. The CRP will further engage in outreach activities with other development partners, private sector investors or technology firms to expand partnerships for urban resilience and plans to showcase its work and innovative approach at several events, including the Understanding Risk series in Tanzania and Austria. Lastly, the CRP will explore the expansion of framework agreements where cities can benefit from pre-negotiated terms from vetted firms in specific high-demand technical areas such as flood modeling.

A larger knowledge base builds a stronger, evidence-based imperative for investing in resilience, which the CRP sees as critical for advancing its programmatic objectives globally. The CRP will therefore continue to support and expand its knowledge products and tools through case studies, but also through robust peer-reviewed validation of developed geospatial products. The CRP will furthermore focus on developing streamlined procurement methods to provide rapid and systemic support to cities through World Bank task teams in high-demand technical areas like flood mapping, nature-based solutions, sedimentation analysis, and participatory planning processes. By providing a platform for integrating multi-sectoral investments to address urban resilience challenges, the CRP intends to streamline a joint-planning effort and remove some of the technical binding constraints that discourage cities from addressing their urban resilience challenges holistically.



Aerial view of Dhaka, Bangladesh

8. Donors and Partners

The CRP cooperates with partners who have an interest in urban development and disaster risk management, and priorities in financing efforts aimed at urban resilience, capital mobilization, private sector development and innovation. The Program provides its donors with maximum visibility and a say over program design, work plan, targets and results.

The CRP focuses on raising funds for the overall program as well as co-financing opportunities. Bilateral donors are mainly approached for grant financing opportunities, with a few exceptions where donor co-financing at country level is a promising entry point. Co-financing arrangements with other multilateral banks will be pursued either on an ad-hoc basis or through systematic arrangements and framework agreements.



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs FDEA
State Secretariat for Economic Affairs SECO



GFDRR

Global Facility for Disaster Reduction and Recovery



**Federal Ministry
Republic of Austria
Finance**

8.1 Summary of Financial Contributions

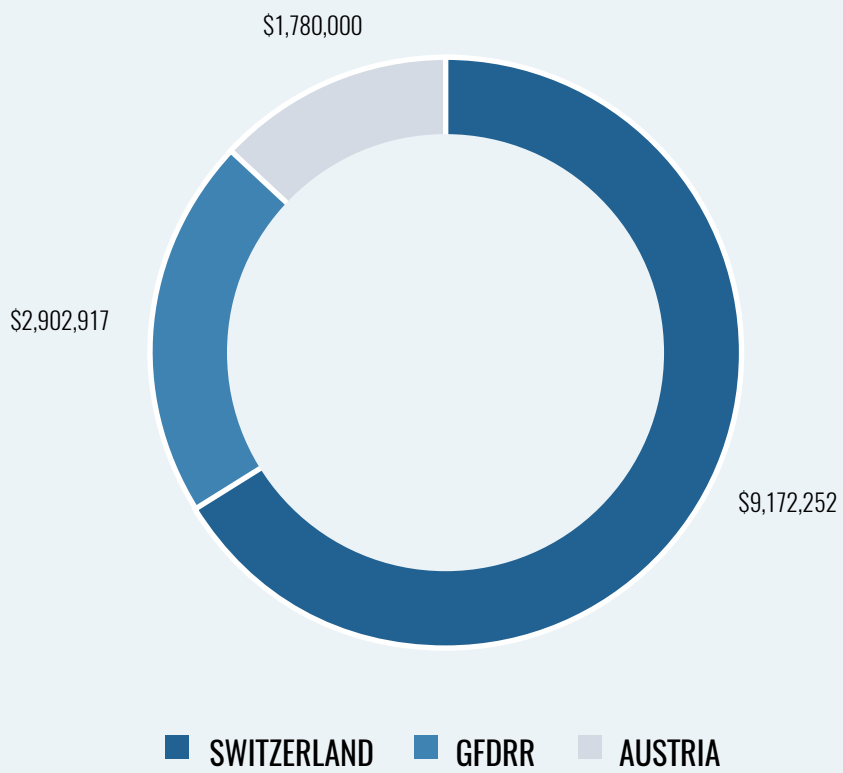
This section provides a brief overview of the financial contributions to the CRP.

In October 2017, the Government of Switzerland (SECO) pledged \$9 million to the City Resilience Program Multi-Donor Trust Fund (CRP MDTF), managed by GFDRR. As agreed in the Administrative Agreement (AA) between SECO and the World Bank, these funds were allocated across four installments. The first installment of \$4 million was transferred upon signing of the agreement in 2017, the second installment of \$2 million was transferred in March 2018, and the third installment of \$2 million was transferred in March 2019. The final installment of \$1 million is expected to be transferred in March 2020. Since the first installment, the Swiss contribution produced a financial investment income of \$172,252.19 which has been added to the trust fund as stipulated in the AA.

In addition, the Program has benefitted from financial supported through the core GFDRR MDTF. This includes \$1.78 million from the Austrian Federal Ministry of Finance and \$2.9 million from the GFDRR MDTF core resources. Funding for the CRP totals \$13,855,169 at the end of the FY19.

Additional sources of funding from new donors are expected in FY20, including through the RECIDE program which will be set up as a separate program funded by the EU and managed by a dedicated World Bank team.

FINANCIAL CONTRIBUTIONS TO CRP





Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs FDEA
State Secretariat for Economic Affairs SECO



Federal Ministry
Republic of Austria
Finance



GFDRR

Global Facility for Disaster Reduction and Recovery



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