RESILIENCE STRATEGY
Metropolitan District of Quito
Throughout their history, the people of Quito have shown their ability to respond to the numerous challenges that their city has faced. Nevertheless, as Quito’s urban area and the challenges it faces become more and more complex, the city requires a new, more solid foundation to create plans and actions to be able to systematically respond to our vulnerabilities. The Quito Resilience Strategy provides a framework for the city to develop the planning and preparedness necessary for us to achieve our 2040 vision, building on our strengths and addressing our challenges.

This Strategy’s overarching principles are to ensure a high quality of life for all the residents of the Quito Metropolitan District. These principles are based on five multidimensional pillars of action. Central to these actions are citizen participation, environmental management to support the life of our residents, and the construction of the city’s first metro line. Together, these will lead to achieving an integrated and efficient city. Other key elements of the Strategy include developing capacity through inclusion, strengthening our urban fabric, and guaranteeing safety and security from both natural and manmade threats.

Our partnership with The Rockefeller Foundation through the 100 Resilient Cities initiative has made it possible to create a rigorous strategy that integrates actions by various municipal departments as well as members of civil society and academia. The partnerships created through this initiative led to valuable exchanges of ideas, best practices and lessons learned from around the world.

This strategy is much more than an important input for the city’s future. It represents a commitment to following and integrating its principles into a governing approach. At the one year anniversary of Quito’s hosting the New Urban Agenda Habitat III conference, we reaffirm this important step toward achieving a resilient city in which all of Quito’s residents can live together safely and securely.
6

system presents an unprecedented opportunity for resilient
Apart from its importance in linking a sprawling city, the new
metro line, the city’s largest infrastructure project in history.
Also fundamental to Quito’s resilience-building efforts is its new
city’s economy and strengthen it overall.
professional and technical programs that will contribute to the
contains several initiatives that aim to match young talent with
also disproportionately young: 1 out of 2 is under the age of 29.
Known for their solidarity, energy and ingenuity, Quiteños are
Quiteños themselves are key to the city’s Resilience Strategy.
Quito’s Resilience Strategy reflects this potential, the amazing
progress the city has made in understanding its natural assets
and vulnerabilities, and how they present opportunities for
developing strength and adaptability. To build Quito’s resilience,
it’s necessary to have a deep understanding of the shocks and
stresses the city endures, including severe natural hazards such
as earthquakes, landslides, wild fires, and active volcanos; a
history of economic instability; and unchecked urban sprawl
and environmental degradation.
Quiterios themselves are key to the city’s Resilience Strategy.
Known for their solidarity, energy and ingenuity, Quiterios are
also disproportionately young: 1 out of 2 is under the age of 29.
In order to harness the momentum this presents; the Strategy
contains several initiatives that aim to match young talent with
professional and technical programs that will contribute to the
city’s economy and strengthen it overall.
Also fundamental to Quito’s resilience-building efforts is its new
metro line, the city’s largest infrastructure project in history.
Apart from its importance in linking a sprawling city, the new
system presents an unprecedented opportunity for resilient
urban development for the benefit of all Quiterios, by enabling
a better quality of life through connectivity to job centers
and to one another. It also presents a major environmental
intervention that can reduce congestion, pollution, and the
erosion of the city’s rich biodiversity.
Other initiatives that will provide multiple benefits include
a program for safe public spaces; green infrastructure
interventions to protect vulnerable neighborhoods and the
transportation system; actions for embedding principles of
sustainability and resilience in the Innovation Agenda of the city
and for strengthening the information system with a risk index
that strategically allows planning for risk reduction.
This Strategy is only the beginning of the exciting work to
come in the months and years ahead. And 100 Resilient Cities’
partnership with the city of Quito is also just beginning. Now we
can collectively begin implementing the actions and initiatives
contained in the following pages, which will positively impact all
Quiterios. We at 100 Resilient Cities could not be more pleased
to be a partner in these efforts. Congratulations to the city of
Quito!

On behalf of the entire 100 Resilient Cities team, I want to
congratulate the city of Quito, Mayor Mr. Mauricio Rodas,
and Chief Resilience Officer David Jacome, on the release of
the Resilient Quito, a major milestone for the city and for our
partnership. This document lays out an extraordinary vision of
urban resilience that can serve as a model to all. We are excited
to see this ambitious Strategy take shape and lead to a stronger
and even more dynamic Quito.
Standing 2,800 meters above sea level at the center of the
world on the equator, Quito is the political heart of Ecuador.
The city not only boasts a rich history and cultural patrimony
represented by its beautiful historic center that received
recognition as the first UNESCO World Heritage Site in 1978, but
also an incredible wealth of biodiversity. With its central role as
the host of the Habitat III Conference one year ago, Quito stands
poised to become a model of urban resilience and signal to the
rest of the world how the priorities of the New Urban Agenda
can be realized.

Today, when we must work on a global agenda that focuses
on the well-being of all citizens, and with so many profound
changes under way in our city’s positive evolution, the
Metropolitan District of Quito is in a unique position to
take advantage of its human and biological capital while
remaining faithful to its goal of becoming a more robust and
inclusive city, and to identify our challenges and turn them
into opportunities to create a prosperous future.

Through the Quito 2040 Vision, the city’s residents have
decided that the city will not only have a high quality of
life but also be able to maintain that quality of life despite
the many challenges that it faces and will continue to face
in social, cultural, economic, and environmental terms.
Building resilience for the city will ensure sustainable
development for its inhabitants and set a clear agenda
for the Metropolitan District’s variety of management
instruments.

The work reflected in this strategy reveals the Metropolitan
District of Quito’s strengths and opportunities as it addresses
the city’s acute shocks and chronic stresses and prepares
its citizens to face this century’s challenges. While the
scope is quite broad, the Resilience Strategy is not exactly
a plan in the traditional sense of the word; instead it is an
invitation to participate in a comprehensive work agenda.
Resilient Quito establishes the path that we need to follow
to strengthen our city by integrating procedures, programs,
and policies that achieve pointed, multidimensional, and
effective results.
The problems we are facing in the 21st century cannot
also overcome with traditional tools and solutions. Urban
resilience means taking on and adapting to complex
challenges without forgetting to look ahead to the future.
It is about being able to change our point of view, critically
reviewing contributions to and from the city continuously,
and developing abilities that make us stronger. The Quito
Resilience Strategy places importance on what is possible.
It proposes that we take advantage of the existing potential
of our workforce, and it applies technical resources and best
techniques to equip Quito’s residents for success.
RESILIENT QUITO

100RC: 100 Resilient Cities
100RC Summit: 100 Resilient Cities Summit in New York City
AGRUPAR: Participatory Urban Agriculture Project
AMC: Metropolitan Control Agency
AMT: Metropolitan Transit Agency
APIVE: Association of Real Estate Developers of Housing in Ecuador
BRT: Bus Rapid Transit
CAE-P: Provincial College of Architects of Pichincha, Ecuador
CAMICON: Construction Industry Chamber
CO2: carbon dioxide
ComQuito: Economic Promotion agency
CRO: Chief Resilience Officer
CRF: City Resilience Framework
DMQ: Metropolitan District of Quito
EAP: Economically Active Population
EMASED: Metropolitan Public Authority of Cleaning
EMSEGURIDAD: Metropolitan Public Authority of Security
EMAPAPS: Metropolitan Public Authority of Drinking Water and Sanitation
EMPHU: Metropolitan Public Authority for Habitat and Housing
EMANOP: Metropolitan Public Authority of Mobility and Public Works
EMTP: Metropolitan Public Authority of Passenger Transportation
FONAG: Water Protection Fund - Quito
FOO: Field of Opportunity Workshop
GDP: Gross Domestic Product
GFR: Global Facility for Disaster Reduction and Recovery
GHG: greenhouse gases
GNP: Gross National Product
GU: Green Urban Index
ha: hectare(s)
ICLIE: Local Governments for Sustainability
ICQ: Quito City Institute
IMH: Metropolitan Heritage Institute
IMPU: Metropolitan Urban Planning Institute
km: kilometer
km/h: kilometers per hour
MDMQ: Metropolitan District of Quito Municipality
MDUV: Ministry for Urban Development and Housing
NEC: National Electrical Code
NGO: non-governmental organization
NUA: New Urban Agenda
PMDOT: Metropolitan Plan for Development and Land Management
PRAs: Preliminary Resilience Assessment
QHCC: Quito Historic City Center
RIA: Rapid Integrated Assessment
RUAFA: Urban Agriculture and Food Systems Global Partnership
SA: Environment Department
SC: Communications Department
SCTyPC: Department of Territorial Coordination and Citizen Participation
SCU: Director of Culture
SDG: Sustainable Development Goals
SDPyc: Department of Productive Development and Competitiveness
SE: Education Department
STHV: Department of Territory, Habitat and Housing
SGD: General Planning Department
SGVS: General Department of Security and Governability
SIM: Metropolitan Information System
SIID: Department of Social Inclusion
SM: Department of Mobility
SMA: Subject Matter Advisors
SOW: Scope of Work
SP: Strategy Partner
SS: Health Department
STHV: Department of Territory, Habitat and Housing
TNC: The Nature Conservancy
TOO: Transit Oriented Development
UNDP: United Nations Development Program
UNISDR: United Nations Office for Risk Reduction
UN-Habitat: United Nations Human Settlements Program
V30: seismic shear wave velocities
WB: World Bank
ZEDE QUITO: Special Economic Development Zone of Quito

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1. VISION OF QUITO’S RESILIENCE STRATEGY

The Metropolitan District of Quito builds resilience based on its human, biological, and geographic diversity. The city is prepared for the future thanks to its high adaptive capacity, which is in turn based on social and economic inclusion. By improving efficiency, the city guarantees a high quality of life for its residents and ensures environmental sustainability. Quito looks forward, and grows ready to face the challenges of the 21st century, emerging as a stronger and more equitable city.

Perched high in the Andes, the Metropolitan District of Quito (DMQ) stands out for a number of factors formed by its dynamic diversity. At 2,800 meters above sea level, the city sits amid volcanoes and deep valleys. Quito was named a World Heritage Site in 1978 not only for its architecture but also because of this dramatic landscape and its biological diversity. At the same time, this cultural and natural wealth is threatened by a variety of environmental, economic, and social challenges.

The Quito Resilience Strategy is based on an analysis of these dynamics and the weaknesses and opportunities they represent. It sets forth an integrated, cross-disciplinary approach to the city’s main acute shocks and chronic stresses. The Strategy was developed through tools that establish a new way of planning as developed through a resilience lens. It is aligned with the Sustainable Development Goals (SDGs), the New Urban Agenda (NUA), which was approved in Quito during Habitat III, and the Metropolitan Plan for Development and Land Management (PMDOT), which governs the municipality’s work. A key contribution of the 100 Resilient Cities initiative for the Metropolitan District of Quito is that its resilience-building process can be used throughout the city’s planning. It integrates the efforts of various levels of government, the private sector, civil society, and the scientific community. The Strategy achieves this by through the parameters proposed in the city’s comprehensive long-term plan to 2040. These parameters define development as centered on achieving a high quality of life for all residents, and a city that is integrated, safe, inclusive, and prosperous. Fundamental to this vision of DMQ is the city’s first metro line, the largest infrastructure project in Quito’s history. This project can enable the kind of planning that leads to real transformation, of space, of social structures, and of economic development, and that is a key element in building urban resilience. The first metro line is also an important component in the city’s promotion of mitigation and adaptation to climate change. It plays a role in effective risk management and is an important opportunity to change the city’s patterns of growth and development.

With most of the world’s population living in urban areas, establishing urban resilience as a governing principle is fundamental to living in fairer and more sustainable societies. By building a resilient Quito, the city will be better able to find new opportunities, capitalize on existing ones, and be prepared to meet the challenges and risks it will face. This long-term commitment includes not only the Municipality as an institution, but all the people of Quito.
Resilient Quito highlights the need to develop mechanisms that strategically respond to the acute shocks and chronic stresses that affect the city. While the city’s complex location creates structural vulnerabilities, other characteristics, such as its human and biological diversity, are clear signs of its historic ability to adapt. Resilient Quito is developed at a time of transformation for the Metropolitan District of Quito, both in terms of mobility and urban development. Construction of the first metro line and dedication to the New Urban Agenda, which was approved in Quito during Habitat III, define the new planning parameters.

The DMQ was selected to be part of the 100 Resilient Cities (100RC) initiative, which supports cities around the world in their efforts to build urban resilience. This opportunity made it possible for Quito to analyze the city’s vulnerabilities and challenges, evaluate its responsiveness to face them, and apply a planning approach focused on resilience as part of the local government’s guiding principles.

The first phase of this strategy consisted of preparing a Preliminary Resilience Assessment (PRA) based on stakeholder engagement, action identification and risk assessment tools provided by 100RC. With the participation of local government, academia, and the private and civil sector, The Resilience Office of Quito held a series of workshops to conduct surveys and interviews to determine the acute shocks and chronic stresses most relevant to the city. The PRA identified the challenges and helped the CRO establish priorities.

The second phase identified the five key areas of the city with the highest priority for support in order to build meaningful resilience. The prioritization process was driven by the Municipality’s ongoing actions and inspired by other cities’ best practices. 100RC offered technical support, and the local government supported the implementation of the work. This two-phase process established the pillars, goals, and actions that helped create the resilience strategy, as detailed below.

A. INCLUSIVE AND EMPOWERED CITIZENS

Building urban resilience begins with strengthening social fabric. This pillar focuses on facilitating participatory processes as guidelines for democracy, validating the public administration’s work, and strengthening processes of co-responsibility between citizens and the municipality. It aims at strengthening institutional and community capacities to build participatory processes and provide clear and effective mechanisms for citizen engagement.

B. ROBUST AND SUSTAINABLE ENVIRONMENT

Management and conservation of the city’s natural areas make sustainable urban development possible. The environmental pillar proposes developing efficient, participatory administration mechanisms for these areas that foster environmental consciousness and citizen involvement. This pillar also aims to encourage the use of nature based solutions for urban problems.

C. INTEGRATED AND COMPACT CITY

Scattered and uncontrolled urban sprawl has made the Metropolitan District of Quito a segregated and inefficient city. This pillar focuses on controlling urban sprawl, maximizing the positive impact of Quito’s first metro line, and creating an integrated and efficient mobility system that favors active mobility.

D. RESOURCEFUL AND SOLID ECONOMY

Building economic resilience requires strengthening productive sectors and diversifying lines of business, all with an environment-friendly focus. This pillar creates an economic environment conducive to strengthening job supply and demand, with a special focus on youth. It fosters a diverse, sustainable, and innovative economy, and promotes the food-related economy as a guideline for development.

E. REFLECTIVE AND SAFE TERRITORY

This fifth pillar focuses on addressing the multiple threats and the high risk exposure due to the city’s physical and socioeconomic vulnerability. This fifth pillar seeks to avoid creating new risks, mitigate existing risks, and prepare the city to respond to potential natural and man-made disasters.

The strategy also proposes mechanisms that facilitate cross-disciplinary planning and allow continuity over time. This includes the institutionalization of the resilience agenda and its monitoring mechanisms, alignment with international development plans, adherence to the Metropolitan Plan for Development and Land Management, and training of resilience practitioners.
2.1 STRATEGY SUMMARY AND CONTRIBUTION TO 2040 VISION

Quito’s Resilience Strategy contributes to the 2040 Quito Vision in a comprehensive way. The multidimensionality of this strategy’s goals and actions allows it to contribute to all of the vision’s challenges.

VISION OF QUITO TO 2040

“Quito in 2040, will be a city with a high quality of life, capable of successfully facing all the challenges that arise in the social, cultural, economic and environmental fields and in the territory. It will thus become a resilient city and will have ensured the sustainable development of its population.”
3. CONTEXT

3.1 HISTORICAL CONTEXT

ACUTE SHOCKS, CHRONIC STRESSES, AND CITY MILESTONES THROUGHOUT HISTORY

3.1.1 HISTORICAL CONTEXT

NATIVE PEOPLE

The Spanish Conquest was motivated by a rumor that Atahualpa’s treasure was located in Quito. Before the Spaniards arrived, Inca general Rumiñahui burned the city to the ground.

COLONIAL QUITO

1534: San Francisco de Quito, a new “village”
1541: Quito declared as city
1563: Quito named as a Royal Audience
1566: Mount G. Pichincha eruption
1575: Mount G. Pichincha eruption
1587: San Antonio de Pichincha - Richter: 6,3; MSK: 8
1592: Tax Revolution
1660: Mount G. Pichincha eruption
1692: Mount Cotopaxi eruption
1734: Mount Cotopaxi eruption
1742: Mount Cotopaxi eruption
1744: Mount Cotopaxi eruption
1768: Mount Cotopaxi eruption
1802: Mount Reventador eruption
1814: First indigenous uprising
1822: Quito - Ritcher: 6,3; MSK: 8
1822: Battle of Pichincha
1846: Rosalía Arteaga takes power as president and then is removed from power in a period of 2 days
1856: Mount Reventador eruption
1868: Ibarra - Richter: 6,3 y 6,7; MSK: 10
1875: Mount Cotopaxi eruption
1877: Mount Cotopaxi eruption
1894-1898: Mount Reventador eruption
1908: Four-day war
1914: Cocoa crisis
1919: Tambillo / Uyumbicho - MSK: 8
1921: Fall of President Abdalá Bucaram
1925: Fall of President Lucio Gutierrez
1932: Four-day war
1946: First indigenous uprising
1950: Military triumvirate takes power for a few hours
1955: Fall of President Juan钦력
1960: Fall of President Juan钦力
1976-1979: Military dictatorship
1977: Rosalía Arteaga takes power as president and then is removed from power in a period of 2 days
1980: First indigenous uprising
1983: Mudslides  Cotocollao and former Quito Airport
1986: Mudslide La Gasca - La Mariscal
1987: Mount Cotopaxi eruption
1990: Pomasqui - Richter: 5,0; MSK: 7
1991: 1,231 Sioux Fires
1995: 3,070 forest fires
1997: Fall of President Abdalá Bucaram
1998-1999: Mount G. Pichincha eruptions
2000-2002: Mudslides in Cotocollao and Q. Pichincha
2005: Fall of President Lucio Gutierrez
2005: Fall of President Rafael Correa
2008: Guayaquil-Quito Railroad Route
2010: 30S
2012: 70S
2014: Indigenous protests against oil exploitation in the Yasuni National Park
2015: Indigenous protests
2017: Post-presidential election protests
2019: New Airport
2020: Metro
2021: Mudslide Santa Clara de San Millán
2022: Mudslide La Raya
2023: Mudslide Cotocollao
2026: Mudslide Ibarra neighborhood
2030: Mudslide Rumihurco
2035: Mudslide Quilotoa

VOLCANIC THREAT

A number of active volcanoes are located in or near the DMQ. The volcanic threat that is most frightening because of its level of destruction is mud and debris flows (lahar). (MDMQ, 2016)

INNOVATING MOBILITY

Systems for mobility have brought with them development and have become mechanisms for reducing social vulnerability.

GUAYAQUIL-QUITO RAILROAD ROUTE

4,300 km

RESILIENT QUITO

New airport, metro, and city expansion reduce social vulnerability.

FOREST FIRES

A significant percentage of the DMQ contains areas that are highly susceptible to forest fires, especially in the forests that run from north to south (MDMQ 2016).

ECONOMIC CRISES

The marked cycles of Ecuador’s economy and a number of market trends have influenced the city’s socioeconomic fabric.

RAINY SEASON

The rainy season poses a risk to the city due to rain-induced flooding and landslides. The winter season causes material losses and, on occasion, human casualties.

HORIZONTAL HISTORY

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INNOVATING MOBILITY

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Due to its designation as Ecuador's capital city, its geographic position, and its tangible and intangible heritage, the DMQ has an economic, ecological, and cultural role to play on the world stage. Archaeological remains discovered at the foot of Mount Ilañó (at the El Inga site in the southeastern part of the city) show the existence of workshops that attest to the presence of human settlements in the area dating back at least 10,000 years (Lozano, 1991). Since that time and throughout its history, the city has been a mosaic of cultural diversity expressed through its traditions, art, and architecture. The population is settled along a horizontal strip surrounded by mountain ranges and high peaks, including Mount Pichincha and Mount Itchimba. For many years, these high elevations contained urban sprawl. Within this plateau, the city has many faces, among them the Quito Historic City Center (QHCC), whose streets, squares, buildings, churches, convents, and monuments reflect a past that is connected to the present and needs to be preserved. Another face is modern Quito, a city driven to become a prosperous urban center while addressing structural inequalities.

From a social perspective, Quito is a young city. Its demographics offers potential for significant economic development. The working age population (economically active) in the city is of higher proportion than the dependent population (children and senior citizens). If appropriately taken advantage of, the city’s current age distribution is an opportunity to boost the city’s economic engine and contribute to its socioeconomic growth. Additionally, the city’s social capital is characterized by a long tradition of collaborative practices and participation in decision-making processes required for planning the city’s and its diverse communities’ development (MDMQ, 2015). The DMQ’s social fabric is highly dynamic, which is reflected in the city’s history, initiatives, and notable ability for creativity and innovation. However, this historic strength has been affected by the social fragmentation caused by political factors, social differences, and the dynamics of the market, technology, and urbanization. All of these have had corrosive effects on social cohesion and mobility (MDMQ, 2015).

In environmental terms, the city’s diverse ecosystems are part of the planet’s life support systems. Its territory contains immensely rich valleys and mountains as well as conservation corridors that are part of the Tumbes-Chocó-Magdalena bioregion, one of the planet’s biodiversity hotspots. As a result of their biological, cultural, and social assets, these areas meet the conditions needed for sustainable development opportunities in the DMQ. However, these areas are under pressure from practices that contribute to environmental degradation, such as mining, intensive livestock grazing, and overproduction of wood, which are affecting native forests and moorland. Urban expansion has also had a detrimental effect on the environmental and the city’s ecology. All of these actions exacerbate the stresses on the different ecosystems, contaminate water sources and networks, and put the city’s capacity to supply ecosystemic services at risk (MDMQ, 2015).

Mobility significantly influences the quality of life for city residents; its inefficient operation affects day-to-day activities. In the DMQ, inadequate mobility is one of the main chronic stresses, reflected mainly in the quality of service, measured by its accessibility, quality, and use of public places; transfer time, coverage, environmental impacts due to greenhouse gas emissions (GHG), and decline in air quality. The city’s disorganized growth hinders the efforts of the municipality to address its citizens’ demands for access to services, including transportation. The construction of the city’s first metro line and its integration with existing mobility systems represent a historic opportunity to rethink urban development and its dynamics. A weak approach to capitalizing on this opportunity would reverse the city’s potential for transformative action and worsen existing segregation and lack of coordination issues.
From an economic standpoint, in addition to being an important financial center, the DMQ achieves high marks for education, human talent, infrastructure, and access to credit (MDMQ, 2015), all of which are significantly better than the rest of the country. Nevertheless, the lack of job opportunities is an underlying problem, which is often due to the lack of coordination between job-training efforts and the job market demands. The city has high concentrations of wealth and levels of inequality and informality, resulting in an economy that shows levels of employment and underemployment that are above the national average (INEC 2017). The economy is also vulnerable to factors such as the national dependence on oil prices and international markets for raw materials, especially in the case of the flower industry, the DMQ’s main export. The need to strengthen the economy and diversify productive industries is closely related to the macroeconomics environment; in Ecuador’s case, this is specifically related to dollarization. The absence of monetary management policy tools significantly reduces the ability to respond to external economic shocks.

In relation to land management, the city’s unregulated growth affects its functionality and increases its vulnerability to natural threats, such as earthquakes, landslides, and wildfires. The risk focal points in the territory are located in places vulnerable to both natural and man-made threats. The level of exposure is augmented by physical and socioeconomic factors. Given the city’s topography, many informal settlements are located in areas with non-mitigable risk, such as slopes or gorges. Many of these areas do not have access to public utilities, infrastructure, and equipment, making them prone to violence and unsafe conditions. Given the demographic growth forecasted for these areas in the coming decades, the construction of safe habitat needs to be a priority.
### 3.3 CITY STATISTICS

**ACUTE SHOCKS AND CHRONIC STRESSES**

**Ecuador**
- 16.5 million (INEC, 2017)
- 97.8 billion (ICT, 2016)
- 28,356,000 ha.

**Quito**
- GDP
- Surface Area

**Population**
- 2.6 million (INEC, 2017)
- 2020: 2.6 million (INEC, 2017)
- 2040: 3.4 million (INEC, 2016)

**Green Urban Index (inhabitants/m²)**
- DMQ 89
- OMS 13

**Of the population does not have access to quality public space**

**Physical Vulnerability of Households**
- Settlements in risk-prone areas
- Exposed Infrastructural Services
- Socio-economic Vulnerability
- Environmental Degradation
- Biodiversity Loss

**Total Unemployment Rate**
- 7.8% (INEC, 2017)
- 11.9% (INEC, 2017)

**Youth Unemployment**
- 60% (INEC, 2015)

**Gender Gap**
- 20% (INEC, 2017)

**Employment**
- 80.3% Employed (INEC, 2017)

**Youth Unemployment**
- 60% (INEC, 2015)

**Population**
- 2040: 3.4 million (INEC, 2016)
- 2020: 2.6 million (INEC, 2017)

**GDP**
- 97.8 billion (ICT, 2016)

**Surface Area**
- 28,356,000 ha.

**One out of every 2 Quiteños is under 29 years of age**

**Surface Area**
- 28,356,000 ha.

**Mobility**
- 22.6% Private Transportation
- 61.7% Public Transit
- 70% of the population used by 30% of the public transport

**Average Public Transit Trip Duration**
- 50.6 min

**Average Speed**
- 12.1 km/h

**Average temperature**
- 14.78 °C

**Temperature Increase**
- in the last 100 years

**Emissions per capita per year**
- 2.08 tons of CO₂

**Per day (60% domestic)**
- 2,037 tons of Trash

**Mobility**
- 22.6% Private Transportation
- 61.7% Public Transit
- 70% of the population used by 30% of the public transport

**Average Public Transit Trip Duration**
- 50.6 min

**Average Speed**
- 12.1 km/h

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- in the last 100 years

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4. URBAN RESILIENCE

“Urban resilience refers to the ability of people, communities, companies and systems that form part of a city to survive, adapt, and grow regardless of the types of acute shocks and chronic stresses they experience.”

- 100 Resilient Cities

* Acute shocks are sudden and intense events that threaten a city.
* Chronic stresses weaken the fabric of a city on a daily or cyclical basis.

Planning for urban resilience requires an understanding of the systems and subsystems that make up the city and its surroundings. “Socioecological systems” refer to environmental life support systems, which includes moorlands, mountains, forests and rivers; while “sociotechnological systems” are related to infrastructure, mobility systems, and water or electrical supply (Meerow et al., 2016). The interaction and interdependence between such systems generates synergies and clashes. The constantly changing dynamics of these systems require prepared responses and resilience structures that both support and depend on each other (Kristinsson, 2012).

In a changing world, cities and their populations need to adjust, recover quickly and come out stronger after acute shocks and stresses in their habitat. Building urban resilience does not mean returning to a previous or normal condition. It is about developing the capacity to prepare and adapt to change, and to be able to continue functioning in a more effective and efficient way.

Cities have proven to be historically resilient. However, while the increasing size of the world’s urban population offers opportunities to increase efficiency in access to services, economic opportunities, political participation and other areas, it also presents new challenges associated with scattered and informal settlements, environmental degradation, greater demand for resources, and increased inequality. This makes resilience a fundamental factor in guaranteeing the quality of life in cities. Given its importance, resilience principles are aligned with global agendas, such as the SDGs, which propose to eradicate poverty, protect the planet, and ensure prosperity for all as part of the 2030 agenda, the NUA, the Paris Climate Change Agreement, and the Sendai Framework for Disaster Risk Reduction.
100 Resilient Cities (100RC) – Pioneered by The Rockefeller Foundation, is dedicated to helping cities around the world become more resilient to the physical, social, and economic challenges that are a growing part of life in the 21st century. The 100RC initiative supports the cities in their efforts to adopt and incorporate resilience into their urban planning processes by providing access to forefront tools and technical assistance, as well as by channeling resources for action implementation. The 100RC Network receives this support through four mechanisms:

1. Financial and logistical guidance for establishing an innovative new position in city government—a Chief Resilience Officer (CRO), who will lead the city’s resilience efforts;
2. Support for a CRO to lead stakeholders in the development of a resilience-building strategy. This strategy, developed over the course of 6 to 9 months, will serve as the city’s roadmap to resilience;
3. Access to tools, service providers, and partners from the private, public, and non-profit sectors who can help cities develop and implement their resilience strategies. Current partners include data analysis companies, reinsurers, companies, architects, energy experts, among others;
4. Membership of the 100RC Network, through which CROs can share best practices, solve problems collectively, and learn from each other and from other resilience experts.

The Metropolitan District of Quito Municipality (MDMQ) has been part of this network since the first round, after being chosen from among more than 400 cities around the world. The development of the Resilient Quito Strategy underscores its commitment to building Quito’s resilience and implementing concrete actions aimed at improving the city’s capacity to adapt and thrive in the face of potential acute shocks and chronic stresses. The Quito Resilience Strategy followed the 100RC methodology and program guidelines, and was developed through a participatory process that included meetings and consultations with a wide variety of stakeholders from both the public and private sectors, non-governmental organizations (NGOs) and academia. The process has been enriched by the various perspectives, opinions, and sources of information. The city’s collaboration in this global program is an opportunity to share knowledge, techniques, and best practices in order to consolidate an urban vision that considers resilience in its development within the context of a global learning community.

*Based on the challenges identified under the 100RC initiative*
5.1 TOOLS AND APPROACH

The 100RC program provides cities with an established set of methodologies and tools that can be adapted to each local context. The City Resilience Framework (CRF), developed by Arup with support from The Rockefeller Foundation, is a tool that helps cities explore the strengths and weaknesses of their systems in terms of four dimensions: Health and Well-being, Economy and Society, Infrastructure and Environment, and Leadership and Strategy. Each dimension contains three “drivers” that subdivide into 12 components. The CRF aims to provide a uniform analysis framework for all cities that are part of the 100RC Network. The 100RC program uses several diagnostic tools based on the CRF in its work with cities to examine interdependencies and identify where they need to build their capacities.

5.2 QUALITIES OF RESILIENT SYSTEMS

Urban resilience qualities were defined as part of the development of the CRF. The following qualities determine how the systems proposed through the actions presented in this strategy address the possible acute impacts and chronic stresses, including the way in which they contribute to building resilience.

1. Reflective: learning from past experiences and incorporating the acquired knowledge to evaluate future decisions.

2. Robust: implementing well-designed, built, and managed systems.

3. Inclusive: prioritizing citizen participation in decision making to establish mechanisms for arriving at appropriate public decisions.

4. Integrated: coordinating a wide range of systems and institutions to reach a goal.

5. Resourceful: considering alternative and innovative ways for using resources and find solutions.

6. Redundant: purposely creating additional capacity to keep the city’s operating systems going in the event of a failure or collapse.

7. Flexible: systems capable of adapting to unforeseen changes that may arise in moments of risk, in critical situations, when data is lacking, or when new stakeholders are being included.
5.3 PROCESS TO CREATE A RESILIENCE STRATEGY

PHASE 1. Preliminary Resilience Assessment - Discovery Areas

This phase consists of a preliminary comprehensive diagnosis of the city, which is used as a basis to identify the areas where efforts need to be made to build a resilient city. In addition, a Resilience Steering Committee is created within local government, identifying important stakeholders to successfully develop and implement the strategy.

PHASE 2. Development of the Resilience Strategy

Based on the shocks and stresses identified in Phase 1, the strategy establishes specific actions to be implemented by the local government and other key players to strengthen different systems. This phase delves into the issues identified in Phase 1 through a process that includes stakeholders and teams throughout the city, platform partners, and other cities within the network. Subsequently, actions, teams, and partnerships with new stakeholders are presented to contribute and validate the process of building the city’s resilience. This phase concludes by publishing a roadmap to resilience.

Implementation

During this phase, the activities established in the Resilience Strategy are implemented and monitored, together with the stakeholders identified in the first two phases.
6. PROBLEM STATEMENT
RESILIENCE CHALLENGES AND OPPORTUNITIES

Given that cities are the sum of several interdependent systems, their problems require multidimensional solutions. This is why building urban resilience is fundamental to achieving robust, sustainable and inclusive cities.

The 2.6 million inhabitants of the DMQ are exposed to a wide range of acute shocks and chronic stresses. According to the results from the tools used in the first phase to produce the PRA, earthquakes, volcanic eruptions and economic crises are dominant. However, there are other, smaller-magnitude and more frequent shocks like floods or forest fires. The vulnerable population is concentrated in critical areas, which exacerbates their exposure to threats and amplifies the impact an event may have.

At the same time, the city’s functioning continues to be affected by chronic stresses. The most relevant are social exclusion, environmental degradation, lack of an efficient transportation system, and lack of a diversified economy that provides job opportunities. These issues mainly harm the most vulnerable sectors of the population.

However, there are a number of factors that contribute to building the city’s resilience. One of these is the age demographic, which offers favorable conditions for the economy. Natural areas that are part of the urban and peripheral habitat constitute life support systems with wide-ranging positive effects on the population’s quality of life. Infrastructure projects rethink the approach to sustainable urban development and contribute to efficient mobility, while the city’s social structures allow the consolidation of containment networks and disaster response and preparation actions. This last factor also involves citizen co-responsibility plans that enhance the ability to manage and validate public participation development agendas.

The risk formula in this strategy is not presented in a conventional way. Sustained in several studies, including the Preliminary Resilience Assessment, the formula has been adapted to show the multidimensionality of factors within the DMQ that create or increase new risk.

The risk formula in this strategy is not presented in a conventional way. Sustained in several studies, including the Preliminary Resilience Assessment, the formula has been adapted to show the multidimensionality of factors within the DMQ that create or increase new risk.
Social, economic, and environmental issues are present throughout the DMQ. Therefore, the Quito Resilience Strategy should be applied in such a way that its pillars and actions work hand in hand. For example, the issues of traffic and air pollution are best addressed by applying various actions from all pillars. A first step in the short term might be to encourage citizens to use low-emission public transportation and adopt active mobility mechanisms (e.g., public bicycles). A complementary step is to improve public space with nature-based solutions that improve environmental quality and promote the use of public spaces. These improvements could include components that help increase citizen safety and foster a culture of mass transit system use. In the long term, planning and developing a compact city with a wide range of uses and services would help to reduce the number of trips, trip distances, and dependence on private vehicles while boosting the local economy. Replacing cars with non-emission vehicles is an important strategy, but it is not realistic to expect that citizens will switch to non-emission vehicles or stop using cars in favor of mass transit in the short or medium term. Therefore, problems may continue to appear in different ways, causing other unintended shocks, which is why the actions taken should be reviewed periodically.

The Chakana is an important polysemic symbol of several Andean cultures. This geometric figure was used as a guideline for mathematical, philosophical, social, and religious concepts. The Chakana also symbolizes the relation of man to the cosmos, being the object of a millenary cult by offering the “order” and the “measure”. This symbol collects the concepts behind each of the pillars of the resilience strategy and unifies them under a single objective: “balance”.

The Quito Resilience Strategy has been developed in collaboration with AECOM, the strategy partner provided by 100 Resilient Cities.
7.1 STRATEGIC APPROACH TO BUILDING A RESILIENT CITY

People constitute the basis of this strategy to make the DMQ resilient. The starting point is to create the ability to plan the development of neighborhoods, communities, and the city in general in a participatory manner. This mechanism aims to strengthen social cohesion and promote self-organization (Peterson et al., 2005), which, in turn, strengthens the city’s ability to cope with, recover from, and stand stronger against potential acute shocks and chronic stresses. This strategy takes into account the willingness of Quito’s residents to share or participate in planning and decision making; based on this interest, the proposal seeks to create an environment that builds social institutions and, in turn, the capacities associated with human development (Stewart, 2013).

In this sense, citizen participation becomes a vehicle to engage the strategy’s various pillars. The actions identified will facilitate participatory processes that should be accompanied by other processes focused on strengthening the ability of communities to organize and empower themselves. At the same time, the Municipality must strengthen its receptiveness to demands coming from society while furthering its own participation in them.

Effective environmental conservation and management mechanisms based on participatory processes are fundamental to building urban resilience. Resourceful management requires that those who benefit directly and are related to local natural resources get involved in the planning and management of the use of such resources (Ingles et al., 1998). Given the importance of the Metropolitan District of Quito’s natural heritage, conservation of such areas fostering the provision of ecosystem services (such as air quality improvement, water supply, temperature regulation, or recreational experiences such as scenic walks) are not only urgently needed, but also provide an adequate and available housing in safe areas with the necessary infrastructure. This helps to decrease existing risk and avoid the generation of new risk. By these means a compact, integrated, and low-emission urban growth is proposed.

The proposed urban development has the potential to generate employment for the DMQ’s human capital. To fulfill this potential, productive agendas should be fostered to create decent, high-quality job opportunities and bridge the knowledge and skill gaps between human capital and the productive sector. Promoting innovation and entrepreneurship from a sustainability perspective complements this potential. This approach highlights proposals that contemplate an added value, such as circular economy or urban agriculture, as part of a broader understanding of the food system. Such proposals not only focus on economic production, but also strengthen food security. The goal is to create resilient economies that have the ability to recover from possible acute shocks and an economic environment that allows for an ongoing diversification of sectors.

Quito’s economy is characterized by deep inequalities. Thus, urban areas have replaced many previously existing ecosystems, thereby changing natural dynamics (UN Habitat, 2015). This trend should be redirected through solutions that prioritize environmental care. This strategy sets out the idea of maximizing ecosystem services while decreasing their demand, which is reflected in GHGs, water consumption, and waste. The proposal also focuses on generating environmental consciousness among citizens to increase the effectiveness of such efforts.

Urban, periphery, and rural areas depend on the economic and social dynamics of their environment. A decisive part of this context is mobility, one of the greatest sources of pollution in the Metropolitan District of Quito. The search for zero- or low-carbon alternatives, such as the Quito Metro, is crucial to reducing demands on the environment, and these alternatives contribute to the city’s sustainable development.

Such infrastructure projects also have a positive economic effect. They offer opportunities to take advantage of the benefits of the economies of agglomeration, related to the benefits that companies obtain by locating near each other, and to provide adequate and available housing in safe areas with the necessary infrastructure. This mechanism aims to build networks and interaction between different stakeholders, making it possible to develop and refocus proposals in an ongoing search for effective results.

Building resilience needs to be an ongoing process; therefore, the principles need to be embedded in the Metropolitan District’s planning and administration. Its multidimensional aspects require sustained analysis and follow-up with the aim to re-evaluate approaches and renew commitments. This multidimensional characteristic is defined by the ability to build networks and interaction between different stakeholders, making it possible to develop and refocus proposals in an ongoing search for effective results.
7.2. STRATEGY STRUCTURE

RELATED TO SDG AND PMDOT

1. Ensure continuity and facilitate planning processes with a resilience lens
2. Encourage co-responsibility between citizens and the municipality through capacity building
3. Create quality public spaces for citizens
4. Manage natural and semi-natural areas and urban parts of the Metropolitan District of Quito
5. Take advantage of the benefits of nature in urban infrastructure planning
6. Control urban sprawl
7. Promote environmental awareness
8. Enable citizen participation
9. Ensure continuity and facilitate planning processes with a resilience lens
10. Mitigate existing risks
11. Develop institutional mechanisms that enable citizen participation
12. Create quality public spaces for citizens
13. Manage natural and semi-natural areas and urban parts of the Metropolitan District of Quito
14. Take advantage of the benefits of nature in urban infrastructure planning
15. Encourage co-responsibility between citizens and the municipality through capacity building
16. Mitigate existing risks

CROSS-CUTTING ACTIONS

1. Promote the food economy as an axis for development
2. Foster a diversified, sustainable, and innovative economy
3. Achieve an integrated and efficient transportation system
4.  Promote active mobility in the city
5. Mitigate existing risks
6. Prepare the Metropolitan District of Quito to address threats

INCLUSIVE AND EMPOWERED CITIZENS

1. Reflective and safe territory
2. Integrated and compact city
3. Resourceful and solid economy
4. Robust and sustainable environment

5. Pillars Resilience Strategy

<table>
<thead>
<tr>
<th>16 GOALS</th>
<th>PMDOT</th>
<th>ODS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ensure continuity and facilitate planning processes with a resilience lens</td>
<td>P11, P22</td>
<td>PTE1</td>
</tr>
<tr>
<td>2. Encourage co-responsibility between citizens and the municipality through capacity building</td>
<td>P2, P31, P44</td>
<td>PTE2</td>
</tr>
<tr>
<td>3. Create quality public spaces for citizens</td>
<td>P2, P31, P44</td>
<td>PTER2</td>
</tr>
<tr>
<td>4. Manage natural and semi-natural areas and urban parts of the Metropolitan District of Quito</td>
<td>P2, P31, P44</td>
<td>PTER2</td>
</tr>
<tr>
<td>5. Take advantage of the benefits of nature in urban infrastructure planning</td>
<td>P1, P22</td>
<td>PTE1</td>
</tr>
<tr>
<td>6. Control urban sprawl</td>
<td>P03, P04, PTER2</td>
<td></td>
</tr>
<tr>
<td>7. Promote environmental awareness</td>
<td>P04, PTER2</td>
<td></td>
</tr>
<tr>
<td>8. Enable citizen participation</td>
<td>P04, PTER2</td>
<td></td>
</tr>
<tr>
<td>9. Ensure continuity and facilitate planning processes with a resilience lens</td>
<td>P11, P22</td>
<td>PTE1</td>
</tr>
<tr>
<td>10. Mitigate existing risks</td>
<td>P01, P02, PA1</td>
<td></td>
</tr>
<tr>
<td>11. Develop institutional mechanisms that enable citizen participation</td>
<td>P01, P02, PA1, PA5</td>
<td></td>
</tr>
<tr>
<td>12. Create quality public spaces for citizens</td>
<td>P01, P02, PA1, PA5</td>
<td></td>
</tr>
<tr>
<td>13. Manage natural and semi-natural areas and urban parts of the Metropolitan District of Quito</td>
<td>P01, P02, PA1, PA5</td>
<td></td>
</tr>
<tr>
<td>14. Take advantage of the benefits of nature in urban infrastructure planning</td>
<td>P01, P02, PA1, PA5</td>
<td></td>
</tr>
<tr>
<td>15. Encourage co-responsibility between citizens and the municipality through capacity building</td>
<td>P01, P02, PA1, PA5</td>
<td></td>
</tr>
<tr>
<td>16. Mitigate existing risks</td>
<td>P01, P02, PA1, PA5</td>
<td></td>
</tr>
</tbody>
</table>
### 7.3 HOW TO READ THE STRATEGY

The strategy is constituted of 5 pillars, 16 goals, and 64 actions. They are defined throughout this strategy and are the result of the analysis of the discovery areas established in the Preliminary Resilience Assessment and the activities outlined Scope of Work during Phase 2.

Each pillar includes a problem statement and the current framework within which the strategy has been developed. Next, goals for each pillar are defined and from there actions are proposed. Here, the platform partners who have collaborated on assessment and technical advice in developing each of the pillars are identified. The cities in the 100RC Network that have inspired the proposal are also identified.

Each pillar details actions or projects that are local, international or within the 100RC Network that have served as inspiration. It also describes platform partners that have been building resilience or have had a major influence on developing goals and actions in the strategy. The discussion of each pillar highlights the contribution, creativity, influence, or similarity of these actions or projects and compares them with the actions of the Metropolitan District of Quito Resilience Strategy.

The following details are provided for each action: a description, the type, status, implementation timeline, owners, other implementation partners, and how it relates to other goals of the strategy. A set of performance indicators is presented that makes it possible to measure implementation. Impact indicators, PMDO alignment, and contribution to the SDGs are discussed in the appendices at the end of document.

<table>
<thead>
<tr>
<th>ACTION NUMBER</th>
<th>PILLAR GOAL ACTION</th>
<th>DESCRIPTION</th>
<th>RESILIENCE DIVIDEND</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1.1</td>
<td>Capacity strengthening program to allow for effective citizen participation</td>
<td>Consists of a citizen training program with four strategic issues: leadership, strategic planning, entrepreneurship, and participation in citizen assemblies. This program is currently found in neighborhood assemblies and will be expanded into schools and universities to include young people between the ages of 16 and 29 years. This action will aid in promoting a new generation of neighborhood leaders</td>
<td>Training programs contribute to generating empowered citizens and improved social cohesion. Inclusion of diverse groups in this process ensures ongoing training of community leaders and further organization of existing participation tools and mechanisms, thus ensuring that the decisions made in participatory processes effectively represent the city’s social diversity (Putnam, 1993).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STATUS:</th>
<th>Action that already exists in the Municipality that will be reinforced.</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNDERWAY:</td>
<td>Action planned together with the Resilience Office that is already being implemented.</td>
</tr>
<tr>
<td>PLANNED:</td>
<td>Action that has an implementation plan.</td>
</tr>
<tr>
<td>ASPIRATIONAL:</td>
<td>Action that requires further research and planning.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TIMELINE:</th>
<th>Implementation time</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHORT-TERM:</td>
<td>6 months to 1 year</td>
</tr>
<tr>
<td>MEDIUM-TERM:</td>
<td>1 to 2 years</td>
</tr>
<tr>
<td>LONG-TERM:</td>
<td>2 or more years</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACTION OWNER:</th>
<th>Actor who is responsible for carrying out the action.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>IMPLEMENTATION PARTNERS:</th>
<th>Participating departments, private-sector stakeholders, academia, community, 100RC platform partners</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>NETWORK OF CITIES:</th>
<th>Cities in the 100RC Network with similar actions that have worked or that could be used as support and inspiration.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>PERFORMANCE INDICATORS:</th>
<th>How the implementation of this action will be measured.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>CONTRIBUTION TO OTHER GOALS:</th>
<th>How this action contributes to other goals in the strategy</th>
</tr>
</thead>
</table>

### TYPE

- **Flagship**: An action that differs from others because of its major contribution to the city’s resilience.
- **Priority**: An action needed to build the city’s resilience.
- **Support**: A supporting action, or part of priority or flagship actions.

### RESILIENCE DIVIDEND

How this action contributes to build city resilience

### RESILIENCE QUALITIES

Reflective Robust Inclusive Integrated Resourceful Redundant Flexible

### CONTRIBUTION TO OTHER GOALS

How this action contributes to other goals in the strategy
PILLAR A

INCLUSIVE AND EMPOWERED CITIZENS

A1 - Encourage co-responsibility between citizens and the municipality through capacity building

A2 - Develop institutional mechanisms that enable citizen participation

A3 - Create quality public spaces for citizens

This pillar has been developed with the collaboration of the Department of Territorial Coordination and Citizen Participation, with input from Santiago, Chile, and Porto Alegre, Brazil, cities of the 100RC Network. It also received input from the city of Madrid, Spain.
The city's accelerated and unplanned growth creates challenges, including lack of integration and social cohesion. The Metropolitan District of Quito has a fragmented and weak social fabric, with minimal public empowerment. This is partly due to the poor application of social participation tools, loss of community ties, and low citizen initiative and commitment.

Effective land management requires integrated and participatory planning and administrative processes. Strengthening the social fabric and encouraging citizen participation are crucial factors for these processes. In turn, these processes require promoting actions that include stakeholder meetings to facilitate work with neighborhoods or communities, identifying groups of people in vulnerable situations, creating places for citizens to meet up and promote cohesive communities, and applying public policies that focus on reducing existing gaps (MDGQ, 2015).

Participatory policies must recognize citizen needs and the significant social diversity, while facilitating collaborative processes in an inclusive manner. The city has sufficient social capital to build solid institutions while the municipal administration has developed mechanisms to facilitate the process. However, the dynamics that are key to an effective citizen participation have not always come together as required. The Metropolitan District of Quito has more than 2000 neighborhoods, however only 189 have established assemblies. This indicates a still-developing participatory agenda, resulting in a large majority of the population, which includes vulnerable groups, with no representation.

Citizen participation is based on the ability of communities and citizens to self-manage, coupled with the receptive attitude of the city's institutions. The Municipality of the Metropolitan District of Quito has been making changes to its management model to adopt this definition of participatory policies. These changes, which include tools and social programs, along with a closer relationship and openness with its citizens, need to be further reinforced. A government that has a close relationship with its citizens needs to make connections with key social players when making decisions, and promote consultations and participatory mechanisms during the entire lifecycle of local public policies.

Participatory democracy not only validates the work of public administration, but also strengthens and provides feedback on responsiveness and reaction abilities in the face of acute shocks and chronic stresses. The goal of promoting citizen representation in local administration contributes to form an environment that facilitates co-responsibility between citizens and the Municipality by democratizing decision making for inclusive development.
A1.1 Encourage co-responsibility between citizens and the municipality through capacity building

Capacity strengthening program to enable effective citizen participation

**DESCRIPTION**
Consists of a citizen training program with four strategic categories: leadership, strategic planning, entrepreneurship, and participation in citizen assemblies. This program currently exists in neighborhood assemblies and will be expanded into schools and universities to include young people between the ages of 16 and 29. This action will help to promote a new generation of neighborhood leaders.

**RELIANCE DIVIDEND**
Training programs contribute to generating empowered citizens and improved social cohesion. Inclusion of diverse groups in this process ensures ongoing training of community leaders and further appropriation of existing participation tools and mechanisms, thus ensuring that the decisions made in participatory processes actively represent the city's social diversity (Putnam, 1993).

**RESILIENCE QUALITIES**
CONTRIBUTION TO OTHER GOALS

**STATUS:** Pre-existing

**TIMELINE:**

**ACTION OWNER:** Department of Territorial Coordination and Citizen Participation

**IMPLEMENTATION PARTNERS:** Private trainers, neighborhood assemblies, students

**NETWORK OF CITIES:** Boston, Byblos, Mexico City, Pittsburgh

**PERFORMANCE INDICATORS:**
- Number of programs carried out
- Number of participants

---

A1.2 Citizen participation training programs for municipal employees

**DESCRIPTION**
This program is coordinated with training sessions for municipal employees in relation to citizen participation mechanisms as established in the ordinances that provide the rules for participatory processes in the Metropolitan District of Quito. The target is to promote and foster these methods in the Municipality’s activities that involve relationships with citizens, including:
- Curriculum design and delivery method
- Delivery of training courses

**RELIANCE DIVIDEND**
Training municipal employees based on existing mechanisms seeks to promote citizen participation processes and to put them into practice within the municipal administration. Facilitation and proper implementation of existing tools has a great effect on the results of participation processes, while strengthening the municipality's image and ensuring the continuity of policies, programs and projects over time and across future administrations (Coscaírs and Whitmore, 2006).

**RESILIENCE QUALITIES**
CONTRIBUTION TO OTHER GOALS

**STATUS:** Aspirational

**TIMELINE:**

**ACTION OWNER:** Department of Territorial Coordination and Citizen Participation

**IMPLEMENTATION PARTNERS:**
- General Administrations: CARE, municipal employees, private trainers

**NETWORK OF CITIES:** Boston, Oakland

**PERFORMANCE INDICATORS:**
- Number of training sessions
- Number of civil servants trained

---

A1.1.1 Comprehensive stakeholder mapping

**DESCRIPTION**
Comprehensive mapping of Metropolitan District of Quito stakeholders is a technical process that involves visiting neighborhoods, communities, and organizations to identify key stakeholders that are representative leaders. This work in the field makes it possible to include other stakeholders in the citizen participation process, including communities that are excluded otherwise.

**RELIANCE DIVIDEND**
Effective mapping of community stakeholders makes it possible to have more direct and inclusive citizen participation. Effective mapping also allows the municipal administration to more easily identify the needs of its citizens. A well-organized and well-represented neighborhood is likely to transmit its needs to the corresponding authorities, allowing that neighborhood to receive better attention, while improving community control of the territory (Sullivan et al., 2006).

**RESILIENCE QUALITIES**
CONTRIBUTION TO OTHER GOALS

**STATUS:** Planned

**TIMELINE:**

**ACTION OWNER:** Department of Territorial Coordination and Citizen Participation

**IMPLEMENTATION PARTNERS:**
- Zonal administrations, community

**NETWORK OF CITIES:** Santa Fe

**PERFORMANCE INDICATORS:**
- Designed and implemented work methodology
- Number of identified new stakeholders that participate in the processes

---

Encourage co-responsibility between citizens and the municipality through capacity building
STRATEGY | PILAR A | RESILIENT QUITO

A2.1 Digital citizen participation platform

STATUS: Pre-existing

DESCRIPTION

Today’s digital age dictates public institutions to create a paradigm shift in the way they develop public policies and requires the active participation of citizens. A digital platform seeks to facilitate this process by channeling digital citizen participation to support traditional face-to-face participation and focusing on implementing different decision-making mechanisms, such as participatory budgets or “empty-chair” as a place at the city council to discuss policies, or other citizen advocacy strategies like advisory committees or public hearings. The platform’s main contributions are: (1) Access to relevant information; (2) Free expression and exchange of opinions; (3) Fostering training of social capital; (4) Automation of citizen participation processes; and (5) Youth involvement in public decisions.

RESILIENCE QUALITIES

CONTRIBUTION TO OTHER GOALS

A2

A2.1 Develop institutional mechanisms that enable citizen participation

STATUS: Pre-existing

DESCRIPTION

This type of tool not only helps to spark the interest of people who are not usually actively involved in public interest matters, but also gets them to take action, thus contributing to a better understanding of accessible and transparent information. The platform works to diversify participants and public discussion. If democratic participation has been seen as the closest thing to direct democracy (Hague Loader. Eds. 1999), then digital participation is the way to achieve it.

RESILIENCE QUALITIES

CONTRIBUTION TO OTHER GOALS

A2

A2.3 Citizen participation manuals

DESCRIPTION

This action involves creating two citizen participation manuals. The first will be aimed at municipal employees to facilitate participatory processes, and the second will be aimed at citizens, detailing the processes and tools that they can use to participate in the Municipality’s procedures. The manuals will include regulations, guides, and best practices and processes and will be easily accessible, in both hard copy and digital formats.

RESILIENCE DIVIDEND

Manuals for citizen participation processes ensure that processes are correctly followed (Cousins and Whitmore, 1998) and aids in creating continuity of such best practices over time. This action also contributes to efforts in promoting transparency and the Metropolitan District of Quito’s open government program.

RESILIENCE QUALITIES

CONTRIBUTION TO OTHER GOALS

A3

* The Metropolitan District of Quito’s citizen participation platform is being developed thanks to the support of the Madrid City Council, which has been in the process of implementation since the middle of 2017 using transfer of knowledge. The DMQ platform is based on the CONSUL platform, which is linked to its web domain: www.decidemadrid.es.
Neighborhood agenda program for community development

**DESCRIPTION**

Building neighborhood development agendas involves defining strategies, guidelines, and priorities as a social organization mechanism. The purpose of the program is to facilitate and promote participatory planning co-management, and self-organization. These agendas are designed through workshops held with the community and neighborhood assemblies. They promote mechanisms, tools, and best practices to facilitate the process and follow up at implementation. These agendas will be used as the basis to define neighborhood programs and projects to be carried out.

**RESILIENCE DIVIDEND**

By promoting autonomous community organizations with the capacity to make planning decisions at a neighborhood level, the population becomes committed and responsible, thus strengthening social cohesion. In each neighborhood, the city is built as a proactive community, and its management is fueled by its own citizens (Nelson and Wright, 1995).

**NETWORK OF CITIES:** Porto Alegre, Helsinki, Rotterdam, Hini,

**IMPLEMENTATION PARTNERS:** Department of Territorial Coordination and Citizen Participation

**ACTION OWNER:** Department of Territorial Coordination and Citizen Participation

**PERFORMANCE INDICATORS:**
- Number of neighborhoods with a neighborhood assembly
- Number of neighborhoods with a set development agenda

**CONTRIBUTION TO OTHER GOALS**

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<th>A1</th>
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Communication campaigns on citizen participation tools

**DESCRIPTION**

Participatory budgets are a useful mechanism for client investment in projects and services that address the community’s needs. There is also a clear system for involving the community in planning for its own development, thus promoting citizen empowerment (Cabannes, 2004).

**RESILIENCE DIVIDEND**

Participatory budgets are a useful mechanism for client investment in projects and services that address the community’s needs. There is also a clear system for involving the community in planning for its own development, thus promoting citizen empowerment (Cabannes, 2004).

**NETWORK OF CITIES:** Madrid, Mexico City, Rotterdam, Thessaloniki

**IMPLEMENTATION PARTNERS:** Department of Territorial Coordination and Citizen Participation

**ACTION OWNER:** Department of Territorial Coordination and Citizen Participation

**PERFORMANCE INDICATORS:**
- Designed and implemented campaign
- Surveys on campaign impact

**CONTRIBUTION TO OTHER GOALS**

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The “Decide Madrid!” website, launched in September 2015 by the Madrid City Council, is a place where Madrid residents can decide on their city’s priorities. The website works through four participatory phases:

- **Proposals:** In this phase, citizens can create proposals to improve their quality of life. The proposals can be validated by other Madrid residents. Once they receive 1% support from Madrid’s registered voters, the proposals are moved to the debate section.
- **Debates:** In this phase, citizens can propose a topic or weigh in on a debate using agree or disagree buttons.
- **Voting:** In this phase, citizens decide on how the available budget will be spent. Votes are taken on the different proposals that have gained support in the previous phases.
- **Implementation:** In addition to simplifying and expanding the City Council’s participatory processes, this website provides information on projects that are already being implemented.

The campaign seeks to transmit and increase citizens’ importance and influence in the city’s development. The campaign seeks to transmit and increase citizens’ importance and influence in the city’s development.
A3
Create quality public spaces for citizens

A3.1
Safe Public Areas Program

DESCRIPTION
The Safe Public Areas Program, run by the General Department of Security and Governance, focuses on areas facing social safety problems by recovering and/or building public places through a participatory planning and design process. By providing services and infrastructure that are agreed upon by the community, functional and useful areas are created. The program has had positive results around the city. Currently, four pilot projects have been planned in Conocoto, Calderón, Nueva Aurora, and Tumbaco. The action strengthens this project by providing technical advising in both design and planning through a resilience lens, focusing on environmental sustainability, and monitoring of shocks.

RESILIENCE DIVIDEND
The participatory design of public areas actively and responsibly promotes its use, and therefore, has a direct influence on the area’s security and social cohesion. By meeting the needs of the population and creating a joint work plan, social capital, appropriation and inclusion are achieved, while also encouraging entrepreneurship at the neighborhood level (Forester, 1999).

RESILIENCE QUALITIES
CONTRIBUTION TO OTHER GOALS

A3.2
Public areas activation project

DESCRIPTION
This project complements efforts to build safe and functional public areas; organizes free activities, such as open-air movie screenings, in the city’s different parks and public squares. It includes activating free Wi-Fi areas with the support of the QuitoTeConecta program. The activities are financed through public-private partnerships.

RESILIENCE DIVIDEND
Activating public areas through recreational, cultural, or sporting activities provides a series of benefits that include strengthening social cohesion, increasing safety in public areas, and even leading to improvements in health and education for the population (Stevens, 2007).

RESILIENCE QUALITIES
CONTRIBUTION TO OTHER GOALS

A3.3
Safe public spaces for women program

DESCRIPTION
This program is a campaign against harassment of women on public transportation and in public areas. It includes a digital platform where a text message can be used to report any type of harassment that occurs. This action is related to the campaigns carried out to promote appropriate use of the Quito Metro.

RESILIENCE DIVIDEND
Facilitating reports of harassment in public areas contributes to preventing their practice, while empowering women and activating public areas that used to be considered unsafe.

RESILIENCE QUALITIES
CONTRIBUTION TO OTHER GOALS
PILLAR B

ROBUST AND SUSTAINABLE ENVIRONMENT

B1 - Manage natural and semi-natural areas and urban parks in the Metropolitan District of Quito

B2 - Promote environmental awareness

B3 - Take advantage of the benefits of nature in urban infrastructure planning

This pillar has been developed in collaboration with the Environmental Department, Water Protection Fund - Quito (FONAG), and 100RC’s platform partner, The Nature Conservancy (TNC).
About 60 percent of the Metropolitan District of Quito is covered by natural vegetation. These areas are characterized by a diverse topography and a variety of climates; they consist of 120,000 hectares (ha) of rainforests in the western part, 47,000 ha of bushes and dry forests in the Guayllabamba basin, 45,000 ha of paramo (andean moor) which appear at 3,600 meters (m) above sea level (Environment Department, 2016). This natural heritage is the city’s backbone, and its future seems prosperous given that close to 40 percent of the territory is protected by a variety of legal instruments to safeguard its high environmental value. There is urgency to properly manage this natural heritage, based on the relation communities - natural areas, becomes a critical need since our quality of life depends on that.

The city’s agricultural production systems, which take up 119,366 ha (28.2 percent of the area of the metropolitan district) produce a wide variety of products, including food, flowers, commercial forests, and aquaculture (Environment Department, 2016). While the Metropolitan District of Quito’s rich ecosystems significantly contribute to the city’s habitat and economic production, ecological management should focus on reducing the pressure affecting them. However, above all, actions should be focused on avoiding the loss of these areas and their biodiversity, as they provide important services such as water, air, and carbon sequestration capacity, to name a few. Valuing ecosystem services allows us to not only obtain resources but also propose participatory mechanisms for managing and administering such areas.

At the urban level, environmental degradation and physical vulnerability are underlying problems. When the city’s planning and design take nature and its benefits into account, it is possible to find solutions with positive outcomes. One clear advantage of nature’s presence in cities is air pollution reduction; improved air quality also contributes to reducing urban heat island effect and creates micro-climates that encourage prolonged use of public areas (TNC, 2016). If they are correctly implemented, nature-based solutions can also help improve conditions involving physical vulnerabilities,

PROBLEM STATEMENT

<table>
<thead>
<tr>
<th>Natural pastures</th>
<th>Suro with shrubs</th>
<th>Eucalyptus forest</th>
<th>High-andean low shrubs and scrub</th>
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<tr>
<td>Cultivated pastures</td>
<td>Seasonal evergreen forest</td>
<td>Saxicolia vegetation</td>
<td>Semi-permanent and permanent crops</td>
</tr>
<tr>
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<td>Inter-andean dry forest</td>
<td>North Andes mountain rainforest</td>
<td>Rock</td>
</tr>
<tr>
<td>North Andes mountain shrub</td>
<td>Regenerating scrub</td>
<td>Permanent cultivated land</td>
<td>Glaciers</td>
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<td>Short cycle crops</td>
<td>Mountain grassland</td>
<td>North Andes pre-mountain rainforest</td>
<td>Sandbanks</td>
</tr>
<tr>
<td>Suro with trees</td>
<td>High-mountain and mountain grasslands</td>
<td>Inter-andean dry shrubland</td>
<td>Eroded soils</td>
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<td>Low forest and high-andean grasslands</td>
<td>High-mountain draw</td>
<td>Canteras</td>
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</table>

LEGEND

MAE Protective forests
AER Live ravines
APHL Puntas Hill
ACUS New-Pichin-Andes
ACUS Mashpi-Guanacuaro-Sahuayango
Andean bear corridor
ACUS Pachayal
AER Pichincha-Atacazo
Urban Area
B1.1 Management program to conserve natural and semi-natural areas

DESCRIPTION
One of the 21st century’s defining challenges is to improve the ability to manage complex and changing social and ecological systems. By incorporating different stakeholders, participatory management models can be developed based on practices that are friendly to the environment and natural areas. This financial and administrative management is based on institutional, community, academic, or entrepreneurial needs. Four strategies will be considered: (1) using adaptive management or co-management, (2) engaging and integrating various stakeholders, (3) facilitating self-organization, and (4) establishing safe boundaries to avoid ecosystem degradation (Biggs et al., 2015).

RESILIENCE DIVIDEND
Incorporation and coordination of numerous stakeholders and systems, both in terms of environmental conservation and promoting the socio-economic development of populations in natural areas, makes it possible to take advantage of knowledge gained from successful experiences, leading to diversification of management efforts and empowering a more proactive population. This also raises environmental awareness about the benefits and responsibilities we have with nature to avoid its degradation (Biggs et al., 2015).

RESILIENCE QUALITIES
CONTRIBUTION TO OTHER GOALS
A1 B2 B3 C1 D3 E3

Water conservation and supply is vital to a resilient city. The FONAG trust was created in 2000 to guarantee sufficient quantity and quality of water for Metropolitan District of Quito residents using resources from Metropolitan Public Authority of Drinking Water and Sanitation (EPMAPS) and other public and private stakeholders. FONAG executes, finances, and co-finance processes that contribute to protecting, conserving, maintaining, and recovering the city’s water sources.

Important progress has been made in working with communities to conserve and maintain strategic areas inside of the Metropolitan District. The Atacazo initiative is coordinated with TNC, and fosters activities such as aiding members of the community with the gradual replacement of 400 sheep with alpacas. This project is helping achieve lower environmental impact from economic activities in the area, while maintaining or even increasing the revenue for families generated from selling sheep wool.

The project includes socialization, training, and ongoing collaboration so that changes to productive activities are successful and the community members can become protection and recovery agents of the area. The results of this process are already evident: topsoil and native plant growth are recovering, thus protecting the city’s water sources.
**B1.2**

**STATUS:** Underway

**TIMELINE:**

**ACTION OWNER:** Environmental Department

**IMPLEMENTATION PARTNERS:** SGP, STHV, SGCTyPC, TNC

**NETWORK OF CITIES:** ConQuito, STHV, SGCTyPC

**PERFORMANCE INDICATORS:**

- Number of training workshops
- Number of municipal employees trained
- Number of designed policies and programs with valued ecosystem contributions

**DESCRIPTION**

Using in-person workshops and lectures, municipal employees, activists, and other stakeholders are trained on the InVEST (TNC) tool for valuing ecosystem services. The objective of this program is to assign a monetary value to the services provided by nature and place them into categories as either supply (food, water, wood, fuel), climate regulation (climate control, heat reduction, water supply) or cultural (recreation, aesthetics, religion, education). Collecting new data and systematizing existing data on natural assets facilitates a cost-benefit analysis to evaluate the social suitability of environmental projects. Data collection and systematization also foster the ability to create policies and programs with environmental benefits.

**RESILIENCE QUALITIES**

**CONTRIBUTION TO OTHER GOALS**

A1, B3, C1, D2, D3, E2

**RESILIENCE DIVIDEND**

Economic growth affects ecosystems. These effects, in turn, have consequences for human well-being. The valuation of ecosystem services makes it possible to incorporate environmental, economic, and social considerations in the decisions related to the city’s development for the benefit of all of its residents. (Brink et al., 2012)

**RESILIENCE DIVIDEND**

- Valued ecosystem contributions
- Number of designed policies and programs with valued ecosystem contributions
- Number of municipal employees trained
- Number of training workshops

**CONTRIBUTION TO OTHER GOALS**

A3, B2, C1, D3, E1

**B1.3**

**STATUS:** Underway

**TIMELINE:**

**ACTION OWNER:** Environmental Department

**IMPLEMENTATION PARTNERS:** SGP, STHV, SGCTyPC, ConQuito, STHV, SGCTyPC

**NETWORK OF CITIES:** Mexico City, Medellín

**PERFORMANCE INDICATORS:**

- Number of hectares recovered
- Number of decontaminated riverbed meters

**DESCRIPTION**

This project is a comprehensive recovery project for rivers and gorges in the southern part of the city. The project includes river sanitation, flood prevention infrastructure, garbage cleaning and recovery, streambed recovery, and a linear park. Project actions are supplemented by participation and empowerment of the local community.

**RESILIENCE QUALITIES**

**CONTRIBUTION TO OTHER GOALS**

A1, A2, D2, C4, E2, E3

**RESILIENCE DIVIDEND**

This activity has environmental benefits, provides quality public areas, social cohesion and citizen participation, and aids in protecting against flooding. It also includes possible recovery of flora and fauna in the sector.

**RESILIENCE DIVIDEND**

- Number of decontaminated riverbed meters
- Number of hectares recovered

**CONTRIBUTION TO OTHER GOALS**

A1, A2, D2, C4, E2, E3

**B2**

**B2.1**

**STATUS:** Aspirational

**TIMELINE:**

**ACTION OWNER:** Environmental Department

**IMPLEMENTATION PARTNERS:** EPMAPS, SC, Pacifico

**NETWORK OF CITIES:** Quito, Bristol

**PERFORMANCE INDICATORS:**

- Audience and impact survey
- Campaign designed and implemented

**DESCRIPTION**

Generate an environmental awareness campaign

**RESILIENCE DIVIDEND**

- Reduced the city’s environmental demands
- Based on citizen awareness of their effect on the environment.

**RESILIENCE DIVIDEND**

- Reduced the city’s environmental demands
- Based on citizen awareness of their effect on the environment.

**CONTRIBUTION TO OTHER GOALS**

A1, A3, B1, B2, E1, E2, E3

**B2.2**

**STATUS:** Underway

**TIMELINE:**

**ACTION OWNER:** Environmental Department

**IMPLEMENTATION PARTNERS:** Community

**NETWORK OF CITIES:** Toyama, Bristol

**PERFORMANCE INDICATORS:**

- Tons of recycled waste diverted from landfills
- Campaign designed and implemented

**DESCRIPTION**

Promote environmental awareness

**RESILIENCE DIVIDEND**

- Reduce the city’s environmental demands
- Based on citizen awareness of their effect on the environment.

**RESILIENCE DIVIDEND**

- Reduce the city’s environmental demands
- Based on citizen awareness of their effect on the environment.

**CONTRIBUTION TO OTHER GOALS**

A1, A2, E1, E3

**Quito Recycles Campaign**

**DESCRIPTION**

The Quito Recycles Campaign seeks to foster environmental awareness among residents and involve people in reducing the tons of domestic and industrial waste that goes into landfills. The campaign encourages knowledge exchange, social cohesion, and empowerment.

**RESILIENCE DIVIDEND**

- Reduce the city’s environmental demands
- Based on citizen awareness of their effect on the environment.

**RESILIENCE DIVIDEND**

- Reduce the city’s environmental demands
- Based on citizen awareness of their effect on the environment.
B3.1

**STRATEGY:** PILLAR B | RESILIENT QUITO

**B3.1**

**Status:** Planned

**Description:** Implementing solutions based on the numerous benefits of nature in facing various physical, environmental, and social challenges in the city requires the understanding of policymakers and urban planners. This program seeks to provide training and knowledge transfer through workshops and courses designed for municipal employees, scholars, and other stakeholders. The goal is to foster capacity for future implementation.

**Resilience Dividend:**

Understanding the benefits that nature provides to the city is important, especially given that the challenges of adapting to climate change require a comprehensive approach that can differentiate between green and grey infrastructure. This action encourages the design and adaptation of public areas to include green infrastructure through training and providing appropriate planning tools and regulations. The initiative also involves pilot programs along the metro line and its stations to show the benefits of green infrastructure and developing legislation to promote the use of such options.

**Network of Cities:**

**Implementation Partners:** IMPU, SGP, STHV, Metropolitan Heritage Institute (IMP), ConQuito, EPMMOP, EPMAPS, AECOM

**Performance Indicators:**

- Formulation of regulations on the inclusion of nature-based solutions for mobility systems
- Number of green infrastructure projects implemented

**Contribution to Other Goals**

- A3
- B2
- C1
- C2
- C4
- D1
- E1
- E2

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B3.2

**Status:** Aspirational

**Timeline:**

**Action Owner:** Department of Territory, Habitat and Housing

**Network of Cities:**

**Implementation Partners:** SA, SGP, EPMMOP, Metro of Quito, TNC, AECOM

**Performance Indicators:**

- Formulation of regulations on the inclusion of nature-based solutions for mobility systems
- Number of green infrastructure projects implemented

**Resilience Dividend:**

Taking advantage of the wide variety of solutions that nature can offer brings multiple benefits, including safer transportation system operations and better conditions to encourage the use of public transport. This initiative improves the urban landscape, contributes to the Green Urban Index (GUI), and encourages greater use of public areas.

**Resilience Qualities**

**Contribution to Other Goals**

- A3
- B2
- C2
- C3
- C4
- E2

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**Resilience from the 100RC network: Atlanta BeltLine**

The Atlanta BeltLine is a sustainable re-urbanization project that connects 45 Atlanta neighborhoods using a circuit of pedestrian trails, trolleys, and parks along old city railroad lines. This infrastructure belt has increased environmental awareness in a city known for its suburban expansion and points to several lessons learned on urban revival.

Green infrastructure and local ecosystem recovery are keys to the system’s success. Insertion of native species has had a positive impact on the increase in biodiversity, and nature-based solutions for rainwater collection and treatment have saved money to the city. Since the city faces chronic droughts, using this same strategy, an abandoned quarry next to one of the trails will be turned into a park-reservoir that will provide 30 days of water supply for the city, as opposed to Atlanta’s current three-day reserve.

The Atlanta BeltLine has changed the lifestyle and transportation habits of many Atlanta residents in areas that were completely abandoned and polluted nine years ago.

---

**Inspiration from the 100RC network: Atlanta BeltLine**

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The Atlanta BeltLine has changed the lifestyle and transportation habits of many Atlanta residents in areas that were completely abandoned and polluted nine years ago.
**B3.3**

**Green infrastructure program in neighborhoods with vulnerable physical space**

**DESCRIPTION**

The large number of potential shocks and chronic stresses that affect vulnerable neighborhoods must be tackled with effective and low-cost solutions. Nature plays a fundamental role; both as a containment element, reducing the risk of landslides, and by improving the quality of neighborhood spaces. The inclusion of nature-based solutions through workshops, training, and providing appropriate planning tools for vulnerable communities will be promoted through incentives. The training will be imparted to municipal employees and the community. This action includes developing pilot participation programs with the community to show the benefits of green infrastructure and develop regulations to aid in implementing these interventions.

**RESILIENCE DIVIDEND**

Understanding the benefits of nature makes it possible to prioritize cost-effective actions that have ecological impact; this prioritization can generate social and urban benefits. These solutions can be planned and built through citizen participation and can result in risk reduction, strengthened social cohesion among the most vulnerable people, and an improved urban image.

**RESILIENCE QUALITIES**

**CONTRIBUTION TO OTHER GOALS**

A1 A2 A3 B2 C1 C4 D4 E1 E2 E3

**STATUS:** Underway

**TIMELINE:**

**ACTION OWNER:** Department of Territory, Habitat and Housing

**NETWORK OF CITIES:** Mexico City, Medellín, New Orleans, Rotterdam

**IMPLEMENTATION PARTNERS:** SA, SGP, EPMMOP, EPMAPS, TNC, academic sector

**PERFORMANCE INDICATORS:**

- Formulated norms on the inclusion of nature-based solutions for neighborhood protection
- Number of green infrastructure projects implemented

---

**B3.4**

**Program for public recreational areas with environmental contributions**

**DESCRIPTION**

The action aims to include the benefits of nature in recreational areas through design regulations. The program includes creating pilot projects to show the benefits of green infrastructure.

**RESILIENCE DIVIDEND**

Appropriate design of recreational areas in the city helps these areas to gain benefits from nature and improves the physical, environmental, and aesthetic quality of these spaces. By including green infrastructure in the design of such areas, numerous physical and psychological advantages boost the quality of life for city residents (Beatley, 2011).

**RESILIENCE QUALITIES**

**CONTRIBUTION TO OTHER GOALS**

A2 B2 C1 C4 E2

**STATUS:** Aspirational

**TIMELINE:**

**ACTION OWNER:** Department of Territory, Habitat and Housing

**NETWORK OF CITIES:** Bangkok, Mexico City

**IMPLEMENTATION PARTNERS:** SA, SGP, EPMMOP, EPMAPS

**PERFORMANCE INDICATORS:**

- Regulation on the inclusion of nature-based solutions
- Number of parks and squares that have included this practice
PILLAR C

INTEGRATED AND COMPACT CITY

C1 - Control urban sprawl

C2 - Maximize the impact of the first Quito Metro line on the city's development

C3 - Achieve an integrated and efficient transportation system

C4 - Promote active transportation in the city

This pillar has been developed with the collaboration of the Territory, Habitat and Housing Department; the Metropolitan Heritage Institute; the Metropolitan Quito Metro Authority; the Municipality main office, and the input of Medellín, a member of the 100RC Network.
The Metropolitan District of Quito has experienced scattered and unplanned growth since the 1970s. This phenomenon, in some cases resulting from unregulated land use, has resulted in approximately 140,000 people (about 7 percent of the population) living in unregulated communities as of 2014 (MDGM, 2015). The pace at which these settlements are occurring exceeds the city’s ability to plan its urban development and has caused expansion of the urban footprint beyond the initial model of a “compact central city” into an expansive and uncoordinated city. Today, the Metropolitan District of Quito has a low-density structure that is scattered, segregated, not very compact, and dysfunctional (MDMQ, 2015). Thus, homes are in places that are increasingly far from the central city, but employment and services are still mainly concentrated (54 percent) in the main central area (8 out of the 65 DMQ parish centers) (City Institute, 2015).

This situation leads to serious problems involving mobility, accessibility, and the provision of services, all of which affect the city’s efficient functioning and, therefore, the quality of life for Quito residents. Controlling this growth, and planning an appropriate type of development is an important alternative available to reduce social and land inequality. A well-planned and managed land results in sustainable and efficient urban, social, and productive growth leading to appropriate population and economic distribution (MDMQ, 2015). Planning for this type of development should include areas with greater density, urban quality, and safety. The plan should also provide for greater diversity in land use. The objective is to leverage the vitality generated by an integrated mass transportation system while also promoting alternatives such as walking and bicycling (The World Bank, 2013), and providing an incentive to the real estate market around the transportation system to support the city’s progress.

According to the city’s Environmental Department, transportation generates the greatest amount of CO2 emissions (56 percent) in the city (2,902,402 tons of CO2 per year) (2016), and its operation affects both urban environmental conditions and the health of Quito residents. For this reason the city requires mobility alternatives that contribute to reducing the carbon footprint and improving environmental quality, while coping with the possible effects of climate change and other natural hazards. The first Quito Metro line, as the main spine of the city’s mobility system, enables the generation of environmentally friendly alternatives that contribute to sustainable development and build resilience towards the year 2040.
C1 Control urban sprawl

C1.1 Community territorial control program in hillside areas

**STATUS:** Aspirational

**TIMELINE:**

**ACTION OWNER:** Department of Territorial Coordination and Citizen Participation

**NETWORK OF CITIES:** Mexico City, Medellín

**IMPLEMENTATION PARTNERS:** Zonal administrations, STHV, General SGSyG communities

**PERFORMANCE INDICATORS:**
- Designed and implemented mechanisms
- Number of projects co-managed between the Municipality and the community in the identified areas.

### DESCRIPTION

Controlling the city boundary helps to prevent urban sprawl. The action proposes the use and co-management of hillside land with the communities. This objective is achieved through productive, recreational, and artistic projects, as part of a plan for territorial appropriation and empowerment as an alternative way for protecting urban limits. The action focuses on hillside areas, which have particularly vulnerable buildings with high exposure to natural hazards.

### RESILIENCE DIVIDEND

The action would establish city limits, curb urban sprawl into sensitive natural areas, prevent the creation of new risks by avoiding settlements in unsafe places, and provide community services, including income-generating activities. The communities also benefit from an improved urban image and greater community participation in urban development.

### RESILIENCE QUALITIES

### CONTRIBUTION TO OTHER GOALS

**Inspiration from the 100RC network:**

**Comprehensive Project Rehabitar la Montaña:**

Anticipating the informal growth on the slopes of Medellín

Rehabitar la Montaña is a proposed project that was developed by the EAFIT University in Medellín and Leibniz University of Hannover, together with the Mayor’s Office of Medellín, to provide alternatives to urban problems derived from informal settlements on the slopes of Medellín. Settlements in these areas are more vulnerable to natural disasters, like landslides and floods, and also deteriorate the environment due to unplanned and uncontrolled expansion of urban sprawl. The initiative focuses on two strategies: (1) anticipating settlements and (2) mitigating existing risk.

The anticipation strategy consists of analyzing the land to identify areas that are inclined to be occupied by informal settlements. This effort is then followed by settlement discouragement through environmental restoration, sustainable forestry, nature trails, parks, or urban agriculture in the identified areas. It also redirects growth to areas that are more appropriate for human settlements. This redirection is done by providing facilities, public utilities, public parks, etc., to make the areas more attractive.

The mitigation strategy focuses on actions that reduce risk and improve the quality of life in communities that are already occupying hillside slopes. This strategy involves slope stabilization using bio-engineering, sustainable water and solid waste management, and resettlement of high-risk dwellings.

The project uses a community model in which citizen participation is key for its success. Social involvement includes communication, training, and awareness programs for the communities to become allies and co-manage the areas where they live.
C.1.2

STATUS: Aspirational

TIMELINE:

ACTION OWNER: Department of Territory, Habitat and Housing

IMPLEMENTATION PARTNERS: SA, SGP, CaQuito, Quito-Metro, AECOM, SGP, Metropolitan Public Authority for Habitat and Housing (EPMHV), IMP, Quito Metro, AECOM, SGP, Metropolitan Public Authority for Habitat and Housing (EPMHV), IMP, Quito Metro, AECOM, SGP, Metropolitan Public Authority for Habitat and Housing (EPMHV), IMP, Quito Metro, AECOM, SGP

NETWORK OF CITIES: Byblos

PERFORMANCE INDICATORS:
- Study of the operation of land markets
- Design and implementation of land-use management policies

RESILIENCE QUALITIES

CONTRIBUTION TO OTHER GOALS

A1 B2 C1 C2 D1 D2 E1 E2

DESCRIPTION

The strong pressure to change the use of urban periphery and rural land areas requires a comprehensive understanding of the phenomenon, with accurate and systematic information about the land market. The study proposes evaluating the socio-economic pressures and dynamics influencing the city’s land market to support a series of technical decisions, both in public and private programs that promote better land management, planning, and development.

RESILIENCE DIVIDEND

One of the biggest challenges the city faces is urban sprawl. Controlling this expansion prevents environmental degradation, traffic congestion, and the financial burden caused by the municipality having to provide unpranned yet quality public services and utilities. Development can be planned based on this information to address rapid urban growth (Dowall, 1995).

RESILIENCE QUALITIES

CONTRIBUTION TO OTHER GOALS

B3 C2 C1 D3 E1 E2 E3

DESCRIPTION

The sheer size of the land and other problems undermine the city’s capacity to control its horizontal and vertical growth. The proposal includes developing a technological tool that makes it possible to monitor dynamics involving real estate development (height and extension) using satellite geo-referencing. The action aims to strengthen and facilitate the application of control units. This tool has been evaluated positively for its inclusion in the city’s Seismic Risk Reduction Plan.

RESILIENCE DIVIDEND

Action identifies anomalous construction and settlements in areas that are sensitive either due to risks that cannot be mitigated or because of their potential ecosystem services. The objectives are to avoid the creation of new risks and further environmental degradation, and prevent associated social problems like lack of safety. This action also contributes to the development of a more cost-efficient city (Carruthers and Ulfarsson, 2003).

C.2.1

STATUS: Underway

TIMELINE:

ACTION OWNER: Department of Territory, Habitat and Housing

NETWORK OF CITIES: Mexico City, Thessaloniki

IMPLEMENTATION PARTNERS: SGP, SGP, Metropolitan Public Authority for Habitat and Housing (EPMHV), IMP, Quito-Metro, AECOM, Construction Industry Chamber (CANCONG), Provincial College of Architects of Pichincha, CAE-P, Association of Real Estate Developers of Housing in Ecuador (APPE)

PERFORMANCE INDICATORS:
- Pilot plans implemented as part of the implementation process
- Developed and validated plan
- Metropolitan ordinances developed and implemented
- Developed and implemented

CONTRIBUTION TO OTHER GOALS

A3 B1 B3 C1 C2 C3 C4 D1 D2 E1 E2 E3

DESCRIPTION

The construction of the Quito Metro system has a high impact on the city’s structure. A comprehensive plan for transit-oriented development (TOD) is key to organizing and maximizing the benefits associated with public transportation, land use, planning of public areas, and economic dynamics for sustainable and resilient urban development. This proposal is a powerful alternative that is capable of contributing to changing the city growth trends from horizontal and scattered to concentrated and compact. The plan proposes implementing two pilot plans to test the proposed designs.

RESILIENCE DIVIDEND

TOD maximizes the amount of residential, business, and recreational areas within easy reach of public transportation. TOD can potentially affect the well-being of much of the population. When implemented with an equitable vision, TOD is a robust strategy that enhances the benefits associated with urban development for the city’s different groups (Suzuki et al., 2013).

Metro Quito “La Carolina” station influence area. Photo: Miguel Páez, Drones Creativity EC, Drones Creativity EC
The Transmilenio transportation system was implemented in Bogotá in the year 2000, and today it is one of the world’s top bus rapid transit (BRT) systems. With 110 kilometers (km) of exclusive lanes, 138 stops, nine terminals, and a fleet of 2,207 buses, the system transports more than 2.4 million passengers per day, making it the most used BRT in the world. In Bogotá, public transportation accounts for 41 percent of all daily trips made.

El Pedregal is a BRT station located where two major city roads cross: Seventh Avenue, the most important street in Bogotá, with stores, institutions, and universities, and 100th Street, which connects the city business center to the western part of the city and the airport. There are plans to expand the Transmilenio to include BRT lanes on both streets, thus increasing public transportation arrivals in the western part of the city and the airport. There are plans to expand the Transmilenio to include BRT lanes on both streets, thus increasing public transportation arrivals at the station. The Bogotá Land Use Plan identified El Pedregal as a possible site to include BRT lanes on both streets, thus increasing public transportation arrivals at the station.

The El Pedregal Partial Plan was adopted in 2015. Aldea Proyectos, a private company with experience on similar projects in Bogotá, was chosen to manage the development project. Commercial towers and a transit hub are already under construction, and the estimated completion date for the project is 2020. The city requires the developer to either pay for or provide public assets like roads, schools, or, in this case, a public transit station. The advantage of available space, the developer is required to either pay for or provide public assets like roads, schools, or, in this case, a public transit station. The city requires the developer to either pay for or provide public assets like roads, schools, or, in this case, a public transit station.

The planning agency has established that development will follow a SAP (Small Area Plan), which is the legal concept used to design districts or neighborhoods as either new developments or renovation projects. The SAP can be promoted by the public or private sector, provided that a successful public consultation process is carried out before the plan’s approval. By law, a SAP must meet certain requirements essential to urban design. For example, at least 17 percent of the plan area needs to be set aside for public use. To increase population density and take advantage of available space, the developer is required to either pay for or provide public assets like roads, schools, or, in this case, a public transit station.

El Pedregal is a BRT station located where two major city roads cross: Seventh Avenue, the most important street in Bogotá, with stores, institutions, and universities, and 100th Street, which connects the city business center to the western part of the city and the airport. There are plans to expand the Transmilenio to include BRT lanes on both streets, thus increasing public transportation arrivals at the station. The Bogotá Land Use Plan identified El Pedregal as a possible site to include BRT lanes on both streets, thus increasing public transportation arrivals at the station.
C2.4

**STATUS:** Pre-existing

**TIMELINE:**

**ACTION OWNER:** Department of Territory, Habitat and Housing

**IMPLEMENTATION PARTNERS:** CAREC/CONAE, CEIE-AFPE, academic sector

**NETWORK OF CITIES:** Amman

**PERFORMANCE INDICATORS:**
- Developed and validated plan
- Existing regulation instrument
- Number of projects developed with incentives

**DESCRIPTION**

This action seeks to incentivize real estate projects to incorporate environmental efficiency principles into construction through regulations. The proposed regulations are based on criteria involving resource use and consumption efficiency, social inclusion, and economic and urban development. The proposal builds on existing tools that need to be improved, updated, and given greater reach so that they can become more effective.

**RESILIENCE DIVIDEND**

Encouraging real estate development with a lower environmental impact reinforces the characteristics of a compact and eco-efficient city. Constructing buildings with eco-efficient parameters leads to resilience and co-responsibility from the construction and real estate sectors (Tergil and Jalal, 2011).

**CONTRIBUTION QUALITIES**

- Contribution to other goals

**CONTRIBUTION TO OTHER GOALS**

- A1
- A2
- A3
- A4
- B1
- B2
- B3
- B4
- C1
- C2
- C3
- D1
- D2
- E1
- E2
- E3

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C2.5

**STATUS:** Pre-existing

**TIMELINE:**

**ACTION OWNER:** Quito Metro

**IMPLEMENTATION PARTNERS:** Municipal Foundation San José dos, SIS

**NETWORK OF CITIES:** Mexico City

**PERFORMANCE INDICATORS:**
- Campaign implemented
- Target audiences
- Users’ satisfaction
- Satisfaction of users with special needs

**DESCRIPTION**

The campaign is part of a social, educational, and cultural management model for the use of the Quito Metro system. The objective of this campaign is to consolidate a new civic culture, harmonious coexistence, good behavior, solidarity, respect for basic rules in using public resources, self-respect, and respect for others.

**RESILIENCE DIVIDEND**

Campaign to promote the use of safe and inclusive public transportation—“Metro Culture”

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C3

**RESILIENT QUITO**

Achieve an integrated and efficient transportation system

**C3.1**

**STATUS:** Underway

**TIMELINE:**

**ACTION OWNER:** Mobility Department

**IMPLEMENTATION PARTNERS:** STHV, SM, EPMTP, AECOM, Metro de Quito, BID, AECOM

**NETWORK OF CITIES:** Bangkok, Mexico City, New Orleans, Santiago, Santa Fe

**PERFORMANCE INDICATORS:**
- Number of modifications in the mobility system of the city using the evaluation table
- Integration of the model with the mobility master plan

**DESCRIPTION**

This study proposes to prepare a city model with a development policy that focuses on resilience and sustainability. It proposes a system to evaluate and integrate different means of transportation and a series of measures to make trips within the city more efficient and with fewer environmental impacts. Specifically, this study proposes an analysis and recommendations based on energy efficiency and a smaller ecological footprint. It also incorporates the qualities of resilient systems and involves adaptation to and mitigation of climate change. These variables will be part of an evaluation tool that will be used in making decisions and creating contingency plans for identified natural and human induced threats. Such plans need to be coordinated with other contingency plans from other agencies, such as “Quito Listo.”

**RESILIENCE DIVIDEND**

Mobility not only affects social issues, but is also related to the city’s efficiency and productivity. To this end, the model begins with an analysis and serves as a guide in creating a proposal for a well-designed system for building resilience and for the city’s sustainable development. The program also contributes to risk reduction, improving air quality, and the ongoing operation of the mobility system (Shif et al., 2010).

**CONTRIBUTION QUALITIES**

- Contribution to other goals

**CONTRIBUTION TO OTHER GOALS**

- A1
- A2
- A3
- A4
- B1
- B2
- B3
- B4
- C1
- C2
- C3
- C4
- D1
- D2
- E1
- E2
- E3

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C3.2

**STATUS:** Pre-existing

**TIMELINE:**

**ACTION OWNER:** Department of Territory, Habitat and Housing

**IMPLEMENTATION PARTNERS:** CAREC/CONAE, CEIE-AFPE, academic sector

**NETWORK OF CITIES:** Amman

**PERFORMANCE INDICATORS:**
- Developed and validated plan
- Existing regulation instrument
- Number of projects developed with incentives

**DESCRIPTION**

This action seeks to incentivize real estate projects to incorporate environmental efficiency principles into construction through regulations. The proposed regulations are based on criteria involving resource use and consumption efficiency, social inclusion, and economic and urban development. The proposal builds on existing tools that need to be improved, updated, and given greater reach so that they can become more effective.

**RESILIENCE DIVIDEND**

Encouraging real estate development with a lower environmental impact reinforces the characteristics of a compact and eco-efficient city. Constructing buildings with eco-efficient parameters leads to resilience and co-responsibility from the construction and real estate sectors (Tergil and Jalal, 2011).

**CONTRIBUTION QUALITIES**

- Contribution to other goals

**CONTRIBUTION TO OTHER GOALS**

- A1
- A2
- A3
- A4
- B1
- B2
- B3
- B4
- C1
- C2
- C3
- D1
- D2
- E1
- E2
- E3
C4.1 Walkable Quito Contest

**DESCRIPTION**
This action proposes to launch a contest with proposals to improve pedestrian and bicycle routes with better conditions in terms of space and safety in public areas. Such strategies are necessary in a city where public areas have adapted to unplanned growth in a city with a challenging topography. This contest seeks solutions to complement municipal efforts to create more efficient means of transportation, design sidewalks, and improve public areas and mobility plans.

**RESILIENCE DIVIDEND**
A walkable city is increasingly valued for a variety of reasons; pedestrian mobility not only reduces congestion and has low environmental impact, but also has social and recreational value. Recent studies suggest that walking promotes mental and physical health. Urban environment quality is key to encouraging people to choose walking over driving (Southworth, 2005).

**RESILIENCE QUALITIES**

**CONTRIBUTION TO OTHER GOALS**

- A3
- B2
- D3
- C1
- C2
- C4
- D1
- D2

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C3.2 Transportation Integration Plan

**DESCRIPTION**
The transportation integration plan deals with the complexities of combining the public and private setups, existing in the Metropolitan District of Quito based on the needs of their users, of economy, and territorial factors. The plan will integrate multiple forms of transport and will involve a comprehensive and fully integrated system of routes, schedules, rates, and collection.

**RESILIENCE DIVIDEND**
An integrated transportation system will improve the quality of the service and adjust transportation supply to transportation demand. This new system will reduce operating costs and travel times and will bring out luxury and poorer groups closer, fostering inclusion by providing affordable and effective transportation options. By decreasing traffic congestion, it will also contribute to improving air quality (Abrate et al., 2009).

**RESILIENCE QUALITIES**

**CONTRIBUTION TO OTHER GOALS**

- A3
- B2
- D3
- C1
- C2
- C4
- D1
- D2

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C3.3 Upgrading transportation modes to achieve a low-emission system

**DESCRIPTION**
When updating existing BRT units (Trolebus, Ecovía, etc.) that have been operating for several years, it is important to consider environmental standards, with an emphasis on emissions reduction. As part of the city's integrated transportation system, new units must necessarily contribute to improving the system's quality and its passengers' comfort.

**RESILIENCE DIVIDEND**
This action uses the available city infrastructure and proposes its efficient improvement with a smaller ecological footprint. The decrease in environmental demands is not only an effective mechanism for climate change effects mitigation but also a valuable input to the city's air quality and its citizens' health.

**RESILIENCE QUALITIES**

**CONTRIBUTION TO OTHER GOALS**

- B2
- B3
- C2
- C4

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**Bulevar Calle Manabí**
C4.1.1

Pilot project to transform the Quito Historic City Center into a pedestrian area

**DESCRIPTION**
In the Quito Historic City Center about 72 percent of residents and visitors move around by public transportation and on foot. This characteristic is both a strength and a burden that must be managed when seeking resilience, socioeconomic urban development, and improvement of habitability. The IMP is working to design and implement a plan to transform part of the Quito Historic City Center into a pedestrian area. An eight-stage pilot program has been planned; the first stage involves García Moreno Street between Olmedo and Bolivar Streets, Chávez Street between Benalcazar and Imbabura Streets, and Venezuela Street between Chávez and Espozso Streets.

**RESILIENCE DIVIDEND**
Different analyses indicate that people living in walkable neighborhoods have higher levels of social capital compared to those living in the car-oriented suburbs. These types of proposals not only create a greater probability of getting to know neighbors, participating in politics, trusting others, and being socially committed (Leyden, 2003), but also helps boost the local economy.

**RESILIENCE QUALITIES**

**CONTRIBUTION TO OTHER GOALS**

A2  B2  C2  D2  E2  E3

C4.2

Program to encourage the use of public and private bicycles

**DESCRIPTION**
The use of bicycles will be promoted through public-private partnerships in which users of this means of transport receive various benefits from sponsoring companies (e.g., access to promotional products) or their employers. The Municipality provides areas for advertisement, infrastructure, and bicycle parking lots; develops and coordinates the program; and provides conditions to encourage bicycle use. The maintenance of bicycle lanes, signage, road education, and strengthening the public bicycle program that already operates in the city are all important tasks to encourage the use of private bicycles.

**RESILIENCE DIVIDEND**
Promoting a change of the transportation culture in the city requires a major effort that demands support from private stakeholders, who could offer incentives for bicycle use. This change would receive the support of urban cyclist groups and organizations that seek to encourage bicycle use by the general public. This action reduces vehicle congestion, improves air quality, activates the use of public areas, and, therefore, has a significant impact on the health of city residents (Litman, 2004).

**RESILIENCE QUALITIES**

**CONTRIBUTION TO OTHER GOALS**

A2  B2  C2  D2
PILLAR D

RESOURCEFUL AND SOLID ECONOMY

D1 - Create an economic environment conducive for strengthening labor supply and demand

D2 - Foster a diversified, sustainable, and innovative economy

D3 - Promote the food economy as a foundation for development

This pillar has been developed with the collaboration of the Department of Economic Development and Competitiveness, ConQuito, platform partner Ernst & Young, and the input from New Orleans, Los Angeles, Paris, and New York, cities of the 100RC Network.
In socioeconomic terms, demographic distribution is one of Quito’s most important characteristics: half of the population is under 29 years old. When analyzing this we found that one out of four inhabitants is between age 30 and 49 (27 percent), and a similar number (28 percent) is between age 15 and 29, making these two the most prevalent age cohorts, alongside that of children and adolescents under the age of 14 (27 percent) (PMDOT 2015-2025 (i), MDMQ). This situation is particularly important in the construction of long-term resilience, since the population’s age structure is expected to change in the coming decades (a reduction in the number of children and an increase in older adults). This change will mean a smaller working population contributing to production, with increased pressure on the social security system for the elderly.

Although the Metropolitan District of Quito is prosperous, it is at the same time sensitive to external economic factors such as the price of oil. The DMQ produces 23 percent of the national gross domestic product (GDP), the highest of any city in Ecuador (MDMQ, 2015). However, it is a city where wealth is concentrated. In the Metropolitan District of Quito, there are 101,937 economic establishments (according to the 2010 Economic Census), most of which are microenterprises (89 percent). These establishments account for 2.3 percent of total sales and 36 percent of employment. Though only 1 percent of businesses are large companies, they represent 88.2 percent of sales and employ 32 percent of the workforce (MDMQ, 2015). Efforts to achieve greater inclusion of the population are affected by the gap between the available human capital and the needs of the productive sector. Knowledge about these aspects makes it possible to develop mechanisms to prepare the potential workforce.

Even though Quito is the city with the highest concentration of technology in the country, its investment in business innovation and research is incredibly low compared to other Latin American cities. Of the total number of companies, only 1.1 percent invest in research and development, and this investment is concentrated in the large companies (PMDOT 2015-2025 (ii), MDMQ). From this perspective, programs that promote sustainability principles should encourage investment in innovation to increase economic diversity in the productive sector. These programs could also take advantage of the entrepreneurial vocation of Quito, evidenced by the 31,812 establishments created in 2009 and 2010, 55 percent of which report sales of less than USD 9,999 per year (according to Economic Census 2010, quoted in MDMQ 2015). The goal is to foster and allow ongoing commercial diversification with an inclusion and environmental sustainability focus.

Looking through the lens of inclusion, a clear example of economic diversification is found in efforts that have been made by the Municipality to develop the Urban Farming Program. However, the city produces only 5 percent of its food requirement, and its food system is highly vulnerable to weather and seismic and volcanic events (RUAF, 2017). Thus, support for programs like the Urban Vegetable Gardens and the development of the food economy not only makes it possible to give boost vulnerable socio-economic sectors, but also works toward achieving food security.
**D1** Generate an economic environment that is conducive to strengthening labor supply and demand

**D1.1** Prioritization of productive sectors in Quito based on creation of quality jobs study

**DESCRIPTION**
The action begins by identifying the potential of the city's diverse productive sectors using an inclusive development approach. This action creates a multifactor evaluation methodology that contributes to creating quality employment, sustainability, and attractiveness for investors. The action creates a tool that can be used on a continuous basis to keep improving the method. Identifying productive sectors helps to strategically strengthen the labor supply.

**RELIANCE DIVIDEND**
Economic resilience must necessarily be built on sustainable economic growth (Caldera Sanchez, 2017). Allowing sectors to become stronger is a useful mechanism to consolidate economic development processes. This process makes it possible to integrate different sectors and stakeholders in the city's agenda to raise its competitiveness. Participants in the process might include other sectors such as academia, which would result in the inclusion of a diversity of actors that operate within the city's informal economy.

**NETWORK OF CITIES:** Boston, Semarang

**IMPLEMENTATION PARTNERS:** ConQuito, private sector, guilds, E&Y, universities

**PERFORMANCE INDICATORS:**
- Number of programs and projects
- Completed study

**STATUS:** Pre-existing

**TIMELINE:**
- Aspirational

**CONTRIBUTION TO OTHER GOALS**
- Economic resilience must necessarily be built on sustainable economic growth (Caldera Sanchez, 2017). Allowing sectors to become stronger is a useful mechanism to consolidate economic development processes. The action begins by identifying the potential of the city's diverse productive sectors using an inclusive development approach. This action creates a multifactor evaluation methodology that contributes to creating quality employment, sustainability, and attractiveness for investors. The action creates a tool that can be used on a continuous basis to keep improving the method. Identifying productive sectors helps to strategically strengthen the labor supply.

**RESILIENCE QUALITIES**
- New strategies can be proposed to build skills, migrate laborers in specific sectors, and quantitative study to characterize the people who make up the economically active population (UNFPA, 2016). Additionally, this action leads to a process that could be used as input for public policies.

**CONTRIBUTION TO OTHER GOALS**
- Economic resilience must necessarily be built on sustainable economic growth (Caldera Sanchez, 2017). Allowing sectors to become stronger is a useful mechanism to consolidate economic development processes. This process makes it possible to integrate different sectors and stakeholders in the city's agenda to raise its competitiveness. Participants in the process might include other sectors such as academia, which would result in the inclusion of a diversity of actors that operate within the city's informal economy.

**RESILIENCE DIVIDEND**
Identifying the demographic dividend makes it possible to take informed and effective action to reduce the city's unemployment, and reduce its socioeconomic vulnerability. The action allows the involved entities to strategically build up the former, turning it into the production factor needed to enhance the local economy (UN Habitat, 2015) and reduce socioeconomic vulnerability. This effort makes it possible to take informed and effective action to reduce the city's unemployment, and reduce its socioeconomic vulnerability. This effort makes it possible to take informed and effective action to facilitate the involvement of other stakeholders, like the academia.

**D1.2** Human capital study

**DESCRIPTION**
Young societies that receive immigrants, such as Quito, have the population conditions that lead to an active demographic bonus (the city's large workforce and youth) and a labor market that encourages firms to improve competitiveness. The action proposes a qualitative and quantitative study to characterize the people who make up the economically active population and the conditions under which employers can take them in. The recommendations will be given by identifying strengths and weaknesses of these groups of people, which can then be used as input for public policies.

**ACTION OWNER:** Department of Competitiveness and Productive Development

**NETWORK OF CITIES:** Boston, Semarang

**IMPLEMENTATION PARTNERS:** ConQuito, academic sector, private sector

**PERFORMANCE INDICATORS:**
- Developed study
- Number of programs and projects of capacity reinforcement

**STATUS:** Aspirational

**TIMELINE:**
- Aspirational

**RESILIENCE QUALITIES**
- New strategies can be proposed to build skills, migrate laborers in specific sectors, and quantitative study to characterize the people who make up the economically active population (UNFPA, 2016). Additionally, this action leads to a process that could be used as input for public policies.

**CONTRIBUTION TO OTHER GOALS**
- Economic resilience must necessarily be built on sustainable economic growth (Caldera Sanchez, 2017). Allowing sectors to become stronger is a useful mechanism to consolidate economic development processes. This process makes it possible to integrate different sectors and stakeholders in the city's agenda to raise its competitiveness. Participants in the process might include other sectors such as academia, which would result in the inclusion of a diversity of actors that operate within the city's informal economy.

**RESILIENCE DIVIDEND**
Identifying the demographic dividend makes it possible to take informed and effective action to reduce the city's unemployment, and reduce its socioeconomic vulnerability. The action allows the involved entities to strategically build up the former, turning it into the production factor needed to enhance the local economy (UN Habitat, 2015) and reduce socioeconomic vulnerability. This effort makes it possible to take informed and effective action to facilitate the involvement of other stakeholders, like the academia.

**D1.3** Skill gap analysis

**DESCRIPTION**
This action, which performs a study on gaps in abilities in the city's socio-economic context, provides the information needed to undertake dialogue between the private sector and the Municipality. Once the city market the production sectors of quality job opportunities) and the possible workforce (human capital) have been characterized, new strategies can be proposed to build skills, migrate laborers in specific sectors, and quantitative study to characterize the people who make up the economically active population (UNFPA, 2016). Additionally, this action leads to a process that could be used as input for public policies.

**ACTION OWNER:** Department of Competitiveness and Productive Development

**NETWORK OF CITIES:** Amman, Bristol, Da Nang, Rotterdam, Semarang, Thessaloniki

**IMPLEMENTATION PARTNERS:** ConQuito, academic sector, private sector

**PERFORMANCE INDICATORS:**
- Completed study
- Number of programs and projects of job placement

**STATUS:** Aspirational

**TIMELINE:**
- Aspirational
**D2.1**

**STATUS:** Pre-implementation

**TIMELINE:**

**ACTION OWNER:** Department of Competitiveness and Productive Development

**IMPLEMENTATION PARTNERS:** ConQuito, Academia, Chamber of Industries and Productivity

**NETWORK OF CITIES:** Bristol, Mexico City, Rio de Janeiro, Santa Fe

**PERFORMANCE INDICATORS:**
- Number of new lines of businesses with the ability to create jobs and revenue under these principles
- Number of circular economy entrepreneurship

**DESCRIPTION**

The circular economy is an alternative that includes innovative processes in existing production and consumption models, part of a plan to generate goods and services that have added value and low environmental impact. The city needs to reduce the ecological footprint associated with waste management. This action seeks to take advantage of the opportunity to create new production markets by promoting waste reuse, recycling, and, above all, waste reduction, from a perspective of environmentally responsible production. To implement these practices, new technologies, services, and business models will be incorporated. Fostering change in consumer behavior patterns is also necessary.

**RESILIENCE DIVIDEND**

The program builds on the concept of industrial ecology, which emphasizes the benefits of waste and residual reduction, reuse, and recycling in production value chains. These benefits create a symbiosis between several industries that benefits society and provides new employment opportunities with a high level of social inclusion (Jacobsen, 2006).

**CONTRIBUTION TO OTHER GOALS**

- Description of the implemented program
- Number of circular economy entrepreneurship

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**D2.2**

**STATUS:** Pre-implementation

**TIMELINE:**

**ACTION OWNER:** Department of Competitiveness and Productive Development

**IMPLEMENTATION PARTNERS:** ConQuito, Academia, Chamber of Industries and Productivity

**NETWORK OF CITIES:** Glasgow, Rio de Janeiro

**PERFORMANCE INDICATORS:**
- Principles incorporated in the city's innovation agenda
- Number of new lines of businesses with the ability to create jobs and revenue under these principles

**DESCRIPTION**

The action promotes innovative development and economic diversification by incorporating sustainability principles. Specifically, the action focuses on the city's competitiveness agenda, as developed by the corresponding Department, which guides public policies on productive development. Technical contributions and support in participatory processes will be provided to important stakeholders to create economic entrepreneurship.

**RESILIENCE DIVIDEND**

The diversification of business lines builds resilience strategies to face economic fluctuations and eventual crises (UN-Habitat, 2015). Diversification stimulates competitiveness among different sectors and works to foster the value chain proposed in the competitiveness agenda. This project is based on integration, which seeks out synergies between sectors and strategic actions associated with entrepreneurship and the well-being of vulnerable groups.

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**Inspiration from the 100RC network:**

**Promotion of circular economy in Rio de Janeiro**

Today, consumption and production patterns follow a linear model of extraction, use, and elimination. On the one hand, we have greater demand for raw materials, leading to associated environmental impacts. On the other hand, more and more waste is being generated, and with that issues related to its transportation and disposal arise. To counter this issue, Rio de Janeiro, as part of its resilience strategy, has proposed “promoting an inclusive, diversified, low-carbon circular economy,” with two main initiatives: (1) create an agency to promote a circular economy in the city and (2) give value to solid and organic waste. These actions seek to empower citizens through job creation and support the city's efforts to mitigate and adapt to the effects of climate change.

There are three main objectives behind creating a municipal agency for this project: (1) to reduce waste sent to landfills, (2) to create jobs by giving value to waste, and (3) to foster efficient use of resources to create a circular economic model. In a circular economy, products are developed taking into consideration their useful life, reuse, recycling, and transformation of the materials so that “business ecosystems” can be developed. In this ecosystem, the waste generated by one industry is used as raw materials by another.

By assigning value to solid waste, civil society becomes more involved in the circular economy, with the agency's support. Mini-recycling and composting centers are created as gathering points, giving value to and exchanging solid and organic waste. These centers will not only provide materials, but they will also make possible organic waste composting, which can be used by residents and distributed to local urban gardens.

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**CONTRIBUTION TO OTHER GOALS**

A1 A2 A3 B2 B3 D1 D2 D3 E1 E2
D2.4 Development of industrial parks

**DESCRIPTION**
Industrial parks, which occur in both urban and rural areas, may be recent or date back several decades. Special planning, management, and treatment are key to guaranteeing coexistence with the community and neighborhoods that have settled around them. This action seeks to regulate areas where residential, commercial, and industrial land uses coexist through zoning and city planning regulations.

**RESILIENCE DIVIDEND**
The industrial parks require medium- and long-term planning to bring together a large variety of industries while guiding them towards a healthy coexistence with other land uses, including residential areas. This action promotes local economic development and reduces commutes by creating jobs near residential areas.

**RESILIENCE QUALITIES**

**CONTRIBUTION TO OTHER GOALS**
- Implementation of the ordinance

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D3.1 Plan to strengthen the Quito food system

**DESCRIPTION**
The Quito food system is the set of stakeholders, processes, and resources that contributes to providing food to the city. Some of the characteristics of the food system increase its vulnerability; among these are its dependency on the imported food. The food system can evolve and become a social and economic asset for the city. To the extent that the food system becomes an asset, it not only helps to strengthen Quito’s socio-economic fabric, but also contributes to the city’s development efforts by supporting a healthy population and making it less vulnerable to possible acute shocks.

**RESILIENCE DIVIDEND**
Food policy will be of great importance to economic development of the city for decades (Timmer and Pearson, 1985). Food challenges must be adequately addressed to be solved. This type of analysis is a complex task that entails having a long-term vision on how the food system can evolve and become a social and economic asset for the city. To the extent that the food system becomes an asset, it not only helps to strengthen Quito’s socio-economic fabric, but also contributes to the city’s development efforts by supporting a healthy population and making it less vulnerable to possible acute shocks (RUAF, 2017).

**RESILIENCE QUALITIES**

**CONTRIBUTION TO OTHER GOALS**
- Improved health and nutrition
- Enhanced local economic development
- Reduced vulnerability to food shocks
D3.2

**Strengthen the urban agriculture program in Quito**

**DESCRIPTION**
Developing agricultural practices in the Metropolitan District of Quito has environmental, economic, and social dimensions. This program develops from a characteristic that is unique to the ancient Ecuadorian Andean population and its connection to agriculture. The action proposes to strengthen the food supply grown in the city, implementing mechanisms to improve both the quantity and the quality of production in urban gardens as well as the demand for such products. This action involves providing mechanisms for large possible markets, such as the services sector, while maintaining product availability at local markets.

**RESILIENCE DIVIDEND**
As an income-generating activity and job creation mechanism, this action helps to improve living conditions, especially in terms of inclusion and social protection of the vulnerable population (RIUW, 2019). This project also contributes to resilience and food security by strengthening existing production systems (Armar-Klemesu, 2000) in the Andean society, which is row more urban.

**PERFORMANCE INDICATORS:**
- Developed and implemented mechanisms
- Tons of food produced
- Number of people participating in urban agriculture
- Extension of gardens

**CONTRIBUTION TO OTHER GOALS**

**RESILIENCE QUALITIES**

Local benchmark: AGRUPAR

The Participatory Urban Agriculture Project (AGRUPAR), which was developed by the Metropolitan District of Quito in 2002, trades self-production of food by making use of empty public and private lots as a strategy to reduce food insecurity. This initiative facilitates improvement in the access, availability and quality of the food consumed, and makes food an important source of income and savings for its participants. It is currently applied as a Metropolitan District of Quito sustainability indicator, and its practice contributes to reducing food system vulnerability.

AGRPAR promotes organic production based on agricultural ecology, small species breeding, direct sale of production surpluses, economic and social inclusion of vulnerable sectors, and promotion of responsible consumption, with emphasis on local, fresh, diversified, healthy, and nutritious food.
PILLAR E

REFLECTIVE AND SAFE TERRITORY

E1 - Avoid the creation of new risks

E2 - Mitigate existing risks

E3 - Prepare the Metropolitan District of Quito to address threats

This pillar has been developed with the collaboration of the General Department of Security and Governance; the Department of Territory, Habitat and Housing; the General Planning Department; the Architects Association of Ecuador; the Construction Chamber of Ecuador; and the World Bank’s GFDRR, a 100RC platform partner.
Quito, tucked within the slopes of Mount Pichincha on top of several geological faults, is continually threatened by at least five types of acute shocks: landslides, intense rainfall, volcanic eruptions, seismic movements, and forest fires (by natural or man-made causes) (Atlas of Threats, 2015). Quito’s location, its high level of exposure to these threats and physical and socioeconomic vulnerabilities, create concentrated risk zones throughout the territory. A series of legal instruments, contained within a broad legal framework for risk management in Ecuador—at the national level, or the Metropolitan Ordinance that creates the Metropolitan System of Comprehensive Risk Management for the Metropolitan District of Quito—at the local level—establish preventative actions and regulations for the various levels of government in the event of a disaster, depending on its magnitude. However, these regulations must be accompanied by clear prevention and risk reduction mechanisms. With this aim, the Municipality of the Metropolitan District of Quito needs to incorporate the scope of risk in its planning and territorial management. Likewise, it is important for the city to motivate and prepare its citizens to become involved in efforts to prevent and reduce vulnerabilities.

No study accurately shows or quantifies the number of informal structures. However, according to statements by various municipal technicians, approximately 60 percent of construction in the Metropolitan District is informal (MDMQ, 2015). The sheer size of the territory and the limited ability to provide control make it difficult to stop this trend, as does the lack of enforcement of specific building regulations for the DMQ. The seismic threat and the particular types of soils found in the city makes this issue one of the city’s greatest weaknesses. The lack of a compliance culture worsens this problem. This situation results from a set of factors related to poverty, migration, and lack of accessible information and affordable technical advising services for low-income families. The Municipality’s efforts to recognize large informal settlements (MDMQ, 2015) should be complemented by a detailed analysis of the physical status of the buildings and the land itself to modify, reinforce, or relocate settlements in protected and high-risk areas or places without proper infrastructure (MDMQ, 2015).

Likewise, properly preparing for threats makes it possible for the population to recover faster after being affected by a disaster. To this end, it is important to ensure effective neighborhood organization and enhance the natural desire of Quito residents to help each other out. Efforts to avoid new risks and reduce existing ones make it possible to transfer risk through insurance on existing buildings; at an affordable cost. This approach will make financial resources available to achieve effective and inclusive recovery when needed.
Avoid the creation of new risks

**E1.1**

Strengthen the Metropolitan Information System (SIM) with a City Risk Index to aid in decision making

**DESCRIPTION**

In a city where risk varies and is not evenly distributed, information must be available to evaluate the most vulnerable and most exposed areas so that actions can be prioritized. This action creates an algorithm to calculate the distribution of risk throughout the territory, using the following formula: threat x exposure x vulnerability / responsiveness. This program also strengthens the SIM and makes it a risk management resource for public administration. This open-access platform is also available to the general public, civil society, and the academia.

**RESILIENCE DIVIDEND**

Urban development planning must prioritize and effectively manage actions in the land especially when the risk is distributed heterogeneously due to physical and socio-economic factors (Pygel et al., 2006). This action strengthens the coordination between different parts of the municipality, allowing for efficient use of financial, time, and human resources; and ensures effective management, especially when it is necessary to distribute risks based on the type of event: (1) intensive risk (low recurrence but very high magnitude and intensity), (2) extensive risk (i.e., high recurrence but low magnitude and intensity), and (3) extensive risk (i.e., high recurrence but high magnitude and intensity, e.g., landslides or floods). The two types of risk should be planned to be mitigated, and managed accordingly, prioritizing attention on the vulnerable sectors of society.

**CONTRIBUTION TO OTHER GOALS**

- Number of points of access to the platform

**E1.2**

Inter-institutional coordination program for risk preparation, mitigation, and prevention

**DESCRIPTION**

By requiring a multifaceted approach, planning to build resilience while taking into account risk requires coordination with the various stakeholders that make up the Municipality. The proposal aims to strengthen coordination for such efforts and the capacities of the various agencies and institutions during the planning, execution, and evaluation phases of risk policies. The Manual of the Emergency Operations Committee and Metropolitan Ordinance 265 set out a program focused on the following topics:

- Risk training for municipal technicians from different departments
- Strengthening the Metropolitan Risk Management Office as an agency for municipal participation in the planning, execution, and evaluation of risk policies.

**RESILIENCE DIVIDEND**

Management that contributes to resilience is able to plan, respond, and act in a coordinated manner with efficient use of resources. Risk management requires a multidimensional view that provides for a technical solution for each specific department, whatever it pertains to territorial or environmental planning, social inclusion, or other topics. Efficiency and effectiveness of actions by various agencies of the local or national governments ensure better management of any event and create trust among citizens (Ranghieri and Ishiwatari, 2014).

**CONTRIBUTION TO OTHER GOALS**

- Number of officials trained
- Development and implementation of multisectoral risk reduction policies

**E1.3**

Program to develop economically and socially feasible construction practices

**DESCRIPTION**

The benefits of reviewing blueprints and inspecting construction projects should be made available to all the people of Quito. These processes improve construction practices and reduce physical vulnerability. This program is carried out by distributing information to builders, especially those working in low-income areas, through the following actions:

- Establish a team of construction advisors
- Develop and implement training and certification workshops for builders

**RESILIENCE DIVIDEND**

According to a study, development of abilities is defined as being the process of developing skills, instincts, processes, and resources that organizations and communities need to adapt, manage, and reduce disaster-derived risks (World Bank, 2016). Failure to comply with construction standards in the city’s housing increases people’s vulnerability to acute shocks such as earthquakes, landslides, or volcanic eruptions and exacerbates existing chronic stresses. This action generates a culture of regulatory compliance in the city, encourages a close relationship between residents and the municipality, and encourages citizens participation as an agent of change.
Guide for new construction and reinforcing existing construction in low-income areas

**DESCRIPTION**

Often, construction standards are difficult to understand and impossible to achieve in vulnerable socio-economic sectors. Therefore, this guide provides construction processes, materials, and a degree of adaptation to local needs and conditions to close this economic and technical gap. The processes to recognize construction in the city will be strengthened with this aid. The action involves creating instructional material for construction workers, especially those who are illiterate, with particular attention to incremental building.

**RESILIENCE DIVIDEND**

Economic and social inclusion and improving the physical quality of buildings all benefit from technical and social access to affordable construction projects. This not only reduces the physical vulnerability and level of exposure of buildings, but also improves the quality of habitability for people.

**CONTRIBUTION TO OTHER GOALS**

- Improved social and economic inclusion
- Access to technical and professional information
- Improved building codes and regulations
- Reduced physical vulnerability
- Improved quality of living

**NETWORK OF CITIES:** Medellín

**PERFORMANCE INDICATORS:**

- Number of recognized and improved houses
- Study included in the territorial management plans

Seismic micro-zoning study

**DESCRIPTION**

A seismic micro zoning study for the city will define areas of the DMQ with different and dynamic land behavior in earthquakes. The concept is to implement a long term program (5 to 7 years) that involves scientific and technical cooperation from academia to conduct geophysical, geotechnical, and geological research campaigns in the DMQ, with annual deliverables on the following topics:

- Geotechnical characterization of the subsoil
- Geophysical and geotechnical sampling
- Geotechnical characterization of the subsoil based on static mechanical properties and common-dynamics
- Characterization of vertical profiles of seismic shear wave velocities (Vs30) using geophysical methods
- Determination of a Quito basin structural model
- Definition of transfer functions and surface response spectrum
- Estimate of the seismic hazard in the DMQ

**RESILIENCE QUALITIES**

- Economic and social inclusion
- Access to professional information
- Improved building codes and regulations
- Reduced physical vulnerability
- Improved quality of building practices

**NETWORK OF CITIES:** Santiago

**PERFORMANCE INDICATORS:**

- Seismic micro-zoning study implemented
- Study included in the territorial management plans

Strengthening regulations on universal accessibility

**DESCRIPTION**

The first step to improving accessibility and inclusion around construction projects is to strengthen building codes. Their integration and compliance is then ensured throughout the regulatory process. The action proposes revising and reinforcing the regulations on universal accessibility and spatial inclusion with no design barriers.

**RESILIENCE DIVIDEND**

Factors that negatively affect social inclusion, such as buildings without universal access should be reversed (Emerson et al., 2009). Regulations for buildings are important to developing an inclusive society. To this effect, this action seeks to facilitate accessibility for people with physical, sensory, or cognitive disabilities. This action also ensures greater possibilities to deal with acute shocks from natural hazards.

**CONTRIBUTION TO OTHER GOALS**

- Improved social and economic inclusion
- Access to technical and professional information
- Improved building codes and regulations
- Reduced physical vulnerability
- Improved quality of living

**NETWORK OF CITIES:** Santiago

**PERFORMANCE INDICATORS:**

- Number of buildings with universal accessibility
- Study included in the territorial management plans

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**E2 Mitigate existing risks**

**E2.1 Program to strengthen mechanisms for evaluating existing buildings**

**DESCRIPTION**
Most buildings constructed before the existence of construction regulations or those built without regulatory compliance should be evaluated for structural and other safety considerations. The current inventory of buildings contributes significantly to the risk in the city. These processes must be effective and efficient. Strengthening of technical capacities to evaluate existing buildings is achieved through the following:
- Creation of a manual with criteria to evaluate existing structures.
- Training in evaluating existing buildings using the Rapid Visual Screening method.

**RESILIENCE DIVIDEND**
An efficient evaluation method is a tool needed to identify and make an inventory of buildings that are potentially vulnerable to earthquakes (Lomnitz et al., 2013). This evaluation of existing buildings in the city makes it possible to direct sets of actions to reduce physical vulnerability, strengthen structures, and assess the applicability of relocating certain families. This program also opens the door to alternative markets in the construction sector in structural reinforcement.

**CONTRIBUTION TO OTHER GOALS**
- Structures that require construction regulations or those built without regulatory compliance should be evaluated for structural and other safety considerations. The current inventory of buildings contributes significantly to the risk in the city. These processes must be effective and efficient. Strengthening of technical capacities to evaluate existing buildings is achieved through the following:

**RESILIENCE QUALITIES**
- **C1**: Resilience and protection: buildings become safer and more adaptable to future shocks.
- **C2**: Safety and security: improved safety for residents and visitors.
- **C3**: Sustainability: reduced impact on the environment.
- **C4**: Economic Resilience: increased economic activity through the construction sector.
- **D1**: Economy and Industry: growth in the real estate industry.
- **D2**: Employment: increased employment opportunities.
- **D3**: Innovation: new technologies and practices in construction.
- **E1**: Community: stronger community collaboration.
- **E2**: Environment: decreased impact on the environment.

**STATUS:** Aspirational

**TIMELINE:**

**ACTION OWNER:** Metropolitan Capital of Quito

**IMPLEMENTATION PARTNERS:** CAE-P, CAMICON, universities

**PERFORMANCE INDICATORS:**
- Number of buildings evaluated
- Number of buildings trained

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**E2.2 Structural Reinforcement Program**

**DESCRIPTION**
After identifying vulnerable buildings, the structures need to be reinforced through a program that promotes this practice. The proposed program must be sustainable and collaborative to reach the largest number of families. To this end, a community work approach will be used. These community builders will receive advising by professionals who, armed with manuals for different construction types and materials, will guide these processes in a coordinated way.

**RESILIENCE DIVIDEND**
This action helps reduce the existing risk and supports processes to identify buildings in the city. Strengthening existing structures before a disaster affects human safety and aids in the rapid repair of existing unsafe buildings. This practice, in turn, makes it possible for displaced people to return to their homes after an extreme impact (Build Change and Swisscontact, 2015). Participative structural reinforcement is a preventive action based on best practices. By involving different stakeholders in the real estate industry, more assistance is available, along with community collaboration.

**CONTRIBUTION TO OTHER GOALS**
- **C1**: Resilience and protection: buildings become safer and more adaptable to future shocks.
- **C2**: Safety and security: improved safety for residents and visitors.
- **C3**: Sustainability: reduced impact on the environment.
- **C4**: Economic Resilience: increased economic activity through the construction sector.

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**E2.1.1 Evaluation of city’s critical infrastructure**

**DESCRIPTION**
The survival of buildings alone does not guarantee a functioning city. Urban service systems, such as hospitals, schools, or water and electricity supply systems, are key to protecting the population. Achieving interdependence requires a unified approach (for example, analysis of the metro system’s impact on factors such as the water or communications systems) to ensure the adequacy and continuity of the city’s public service system. The action includes training technicians and practitioners on evaluation tools developed by UNISDR and UN-Habitat, such as the “Ten Essentials” and the “Disaster Resilience Decision Making Scorecard for Cities.” These and other tools will be considered in the preparation of the Quito Post-Disaster Recovery and Reconstruction Plan.

**CONTRIBUTION TO OTHER GOALS**
- **C1**: Resilience and protection: buildings become safer and more adaptable to future shocks.
- **C2**: Safety and security: improved safety for residents and visitors.
- **C3**: Sustainability: reduced impact on the environment.
- **C4**: Economic Resilience: increased economic activity through the construction sector.

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**E2.1.2 Structural Vulnerability**

**DESCRIPTION**
An efficient evaluation method is a tool needed to identify and make an inventory of buildings that are potentially vulnerable to earthquakes (Lomnitz et al., 2013). This evaluation of existing buildings in the city makes it possible to direct sets of actions to reduce physical vulnerability, strengthen structures, and assess the applicability of relocating certain families. This program also opens the door to alternative markets in the construction sector in structural reinforcement.
100RC PLATFORM PARTNER: BUILD CHANGE LATIN AMERICA

Build Change, one of the 100RC Network platform partners, is an organization whose mission focuses on saving lives in developing countries during earthquakes and typhoons by reinforcing homes or schools that are at risk of collapse. Build Change designs disaster-resistant homes and schools, trains builders, owners, engineers, and government employees on proper construction. The program is carried out in close contact with its beneficiaries, making them part of both the decision-making and construction processes. The result is a lasting change in construction practices by developing abilities for the local population.

Some strategies that Build Change uses in its projects are adopting local solutions and construction processes. The result is a lasting change in construction practices by developing abilities for the local population.

Build Change has worked in countries such as Guatemala, Peru, Ecuador, and Colombia. In Colombia, both the Bogotá and the Medellín Mayor’s Offices have recognized the importance of involvement as key to improving home construction. As a result, they have allocated funds to subsidize structural improvements in vulnerable neighborhoods. Build Change provides technical support to these municipalities to reinforce unsafe buildings and hopes to eventually expand the program in places where it currently has a presence as well as other countries.

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E3.1.1 Program to create disaster response neighborhood volunteer networks

**DESCRIPTION**
Through the neighborhood risk management committees, promoted by the SGSyG, this action seeks to develop neighborhood networks of young volunteers that respond immediately to possible acute shocks or chronic stresses, particularly those related to natural hazards. The volunteer neighbors are prepared to maintain safety, especially for the most vulnerable, through established technical procedures, until the situation is controlled by the responsible authorities.

**RESILIENCE DIVIDEND**
Post-disaster experiences and assessments show that some formal and informal volunteer organizations have worked in disaster response and mitigation assistance. The results highlight the value of creating community groups on disaster-related issues and decision making in recognition of the social capital, resources, and experience that these groups bring (Wachtendorf and Kendra, 2004).

**CONTRIBUTION TO OTHER GOALS**
A1 E1 E2

E3.1.2 Disaster Preparedness Awareness Campaign

**DESCRIPTION**
The lack of awareness about possible disasters is a chronic stress, since it lessens community preparedness. A difficulty that prevents awareness is the distance between government of officials, universities, and organizations on the one hand, and citizens in general, on the other hand. The campaign is designed to create a common language, reinforce connections, and then contribute with simple solutions. Part of this action, for instance, is the setting up of low-cost early warning systems.

**RESILIENCE DIVIDEND**
Insurance is an effective way to protect assets and livelihoods at risk. An insurance program ultimately reduces reliance on humanitarian aid, and it also helps people to rebuild their lives, especially in the most vulnerable sectors. Having access to ex ante disaster risk reduction measures and building on realistic and viable recovery plans builds confidence and encourages greater investment in city development (RMS, 2017). This action also encourages community awareness about risk, building code compliance, and the generation of an insurance culture.

**CONTRIBUTION TO OTHER GOALS**
A1 E1 E2

E3.2 Universal Insurance program

**DESCRIPTION**
The Metropolitan District of Quito must be prepared to face threats of all kinds and must have the capacity to recover quickly. This action proposes insuring buildings as an urgent need to aid in the city’s economic recovery after a large disaster. This initiative, to be applied across the entire city, would substantially reduce insurance premium costs and should be affordable for the most vulnerable population.

**RESILIENCE DIVIDEND**
Insurance is an active way to protect assets and livelihoods at risk. An insurance program ultimately reduces reliance on humanitarian aid. It also helps people to rebuild their lives, especially in the most vulnerable sectors. Having access to ex ante disaster risk reduction measures and building on realistic and viable recovery plans builds confidence and encourages greater investment in city development (RMS, 2017). This action also encourages community awareness about risk, building code compliance, and the generation of an insurance culture.

**CONTRIBUTION TO OTHER GOALS**
C1 C2 C3 E1 E2
CROSS-CUTTING ACTIONS

Resilience, as a cross-cutting element to be applied in the city’s strategic planning, proposes efficient alternatives to the challenges of urban development. This approach requires a long-term vision which must include mechanisms that guarantee its incorporation and strengthening over time.

The actions are presented in a way that shows their contribution to the management of the strategy’s pillars and how they enable follow-up mechanism for implementation. At the same time, the actions are based on a holistic approach and qualities and must be reviewed on an ongoing basis to include principles of efficiency and sustainability.

**T1 - Ensure continuity and facilitate planning processes with a resilience lens**
The Metropolitan Resilience Council (MRC) is a key component of the Santiago City Resilience Strategy. It was created to facilitate coordination and productive dialogue among diverse stakeholders, including academia, public sector, private sector, and non-governmental organizations (NGOs). The council promotes a cross-cutting approach to resilience planning, ensuring that all sectors and levels of government work together towards a common goal.

**Resilience Dividend**: The council's role is to ensure continuity and facilitate planning processes with a resilience lens. It promotes the preparation and implementation of strategies that enhance resilience in the city. The MRC also serves as a platform for sharing best practices and lessons learned, which are crucial for improving resilience planning and execution.

**Inspiration from the 100RC Network**: The Metropolitan Resilience Council was inspired by the 100 Resilient Cities initiative, which aims to build resilient cities around the world. This network provides a framework and resources for cities to develop and implement resilience strategies. The MRC draws on this experience to enhance its own work in Santiago.

**Contextualization of the SDG, the NUA, and the principles of resilience through different city management tools**: The council's work aligns with international agendas and standards, such as the United Nations' Sustainable Development Goals (SDGs) and the New Urban Agenda (NUA). This alignment ensures that the city's resilience efforts are consistent with global objectives and best practices.

**Resilience qualities**: The MRC's activities are guided by several key qualities, including inclusivity, transparency, and effectiveness. These qualities are essential for building a resilient city that can adapt to and recover from a wide range of shocks and stresses.

**Status**: The Metropolitan Resilience Council is operational and has been in place since its establishment.

**Timeline**: The council holds regular meetings and workshops, with a focus on preparing and reviewing city resilience plans.

**Action Owner**: General Planning Department

**Implementation Partners**: MRC, UNDP, UN-Habitat, and other relevant international and local organizations.

**Network of Cities**: Santiago is part of the 100 Resilient Cities network, which provides a platform for sharing knowledge and best practices. Other cities in this network include Medellín, Rotterdam, Santa Fe, and Medellín, as well as Milan in Italy.

**Performance Indicators**: The council measures its performance through various indicators, such as the number of stakeholders engaged, the percentage of city plans incorporating resilience strategies, and feedback from roundtable participants.
Strengthen the conditions to establish strategic alliances with international cooperation partners

**DESCRIPTION**
The proposed action seeks to strengthen and create links with NGOs, multilateral agencies, and other cities through reimbursable and non-reimbursable cooperation plans or humanitarian aid in the event of disasters to receive and manage international cooperation more efficiently. The action consists of strengthening and coordinating the work between the international organizations and their local peers by defining needs and identifying international cooperation programs that contribute to the city’s management and its resilience agenda.

**RESILIENCE DIVIDEND**
The alignment of the Municipality of the Metropolitan District of Quito with international aid agencies provides the city with mechanisms and opportunities for technical advising, exchanges, and access to support programs to ensure effective cooperation. This alignment is also an opportunity for urban management to comply with international standards.

**RESILIENCE QUALITIES**

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**T1.4**

**Training program for resilience practitioners**

**DESCRIPTION**
The purpose of this action is to promote the practice of building urban resilience through training initiatives such as workshops, meetings, and other activities to give continuity and structure to these processes. This action is aimed at university students, municipal oficals and private companies and seeks to communicate the concepts, tools, and mechanisms available.

**RESILIENCE DIVIDEND**
Training resilience practitioners ensures that this practice is sustained over time and becomes a local, national, and regional contribution. In addition, citizens are provided with tools to incorporate solutions through private companies, public administration, and the academic world, among other entities.

**RESILIENCE QUALITIES**
Beyond the management indicators proposed to monitor each action, the effective implementation of the DMQ Resilience Strategy requires a permanent process of monitoring and follow-up of the strategy’s achievements and reach. To accomplish this, a system of indicators able to monitor impact articulated with the pillars and goals of the strategy, the Metropolitan Plan for Development and Land Management (PMDOT), the United Nations Sustainable Development Goals (SDG), and the New Urban Agenda (NAU) is established.

The design of the indicators is based on a multidimensional approach that identified cross-disciplinary support points to ensure a comprehensive strategy. It should be noted that implementation of the strategy does not focus on a single theme, but incorporates a systems approach through synergies between actions. Within the strategy, the correlation between the goals through the pillars is not only addressed within each pillar, but between the goals of all pillars—an exercise that enables contributions to other pillars simultaneously. As a second step, a contribution and correlation analysis was carried out with the objectives and objectives and SDG goals and targets. This will serve as a basis for a proposal to align the PMDOT with Agenda 2030 and the SDG.

This assessment also serves as a basis for the design of an array of impact indicators that can contribute in a multidimensional way, at the level of objectives and policies, to the PMDOT and to the SDG. The indicators outlined seek to be abstract, general, and replicable in the medium and long term. They consist of variables that are concrete and empirically measurable, and they record the recurrence of phenomena and their persistence over time or their variations.

All these elements allow a selective mechanism of indicators to function, which operates through filters of relevance and consistency. Relevance refers to logical construction based on the content of the strategy; consistency, however, refers to the existence of sources of information or to the feasibility of constructing and applying instruments that allow it to be produced. In the first case, the indicators and their variables will function based on the administrative information from the management processes (information gathered through administrative data from local and national government bodies). In the second case, it is a matter of designing and applying instruments deliberately constructed to produce such information (quantitative and qualitative techniques). Appendix 2 presents the matrix of indicators for Resilient Quito, which is structured according to the five pillars of work and their respective goals and indicators. The identification of these indicators has taken into account the different planning and management instruments (such as the ICQ-MDQ quality of life index, PMDOT policies and objectives, the United Nations SDGs, and the NUA indicators and targets) that correspond to these goals. Each indicator is accompanied by its description and assessment.

The result of this assessment has made it possible to identify the existing relationships between PMDOT policies and objectives and SDG goals and targets. These will serve as a basis for a proposal to align the PMDOT with Agenda 2030 and the SDG.

Resilient Quito is the result of the priceless contributions of many people with profound knowledge of the city. The intuition and inspiration generously provided by key actors during countless discussions, brainstorming sessions, structured workshops, and research fueled this work. This must continue.

After its publication, an implementation plan will be constructed with the different municipal agencies of the city and partners working together to identify priority actions and design and develop programs and projects that create a time frame transcending election cycles, identify resources, and establish a road map in order to achieve effective results. Together with these stakeholders, we will forge the connections between Resilient Quito and the city, especially with and for the most vulnerable. In this sense, the Resilience Advisory Council and its members will act not only as partners in the implementation, but also in the follow-up process to Resilient Quito.

At the institutional level, the process carried out with the different municipal agencies clearly established the importance of multisector contributions and the need to generate internal synergies. For this reason, special emphasis will be placed on delving deeper into the model of collaborative work and inviting stakeholders from the private sector, the academic world, other municipalities, and NGOs to join in the effort. We start by recognizing that there is accumulated knowledge and experience as well as successful practices that can contribute to the city’s development.

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The design of the indicators is based on a multidimensional approach that identified cross-disciplinary support points to ensure a comprehensive strategy. It should be noted that implementation of the strategy does not focus on a single theme, but incorporates a systems approach through synergies between actions. Within the strategy, the correlation between the goals through the pillars is not only addressed within each pillar, but between the goals of all pillars—an exercise that enables contributions to other pillars simultaneously. As a second step, a contribution and correlation analysis was carried out with the objectives and objectives and SDG goals and targets. This will serve as a basis for a proposal to align the PMDOT with Agenda 2030 and the SDG.

This assessment also serves as a basis for the design of an array of impact indicators that can contribute in a multidimensional way, at the level of objectives and policies, to the PMDOT and to the SDG. The indicators outlined seek to be abstract, general, and replicable in the medium and long term. They consist of variables that are concrete and empirically measurable, and they record the recurrence of phenomena and their persistence over time or their variations.

All these elements allow a selective mechanism of indicators to function, which operates through filters of relevance and consistency. Relevance refers to logical construction based on the content of the strategy; consistency, however, refers to the existence of sources of information or to the feasibility of constructing and applying instruments that allow it to be produced. In the first case, the indicators and their variables will function based on the administrative information from the management processes (information gathered through administrative data from local and national government bodies). In the second case, it is a matter of designing and applying instruments deliberately constructed to produce such information (quantitative and qualitative techniques). Appendix 2 presents the matrix of indicators for Resilient Quito, which is structured according to the five pillars of work and their respective goals and indicators. The identification of these indicators has taken into account the different planning and management instruments (such as the ICQ-MDQ quality of life index, PMDOT policies and objectives, the United Nations SDGs, and the NUA indicators and targets) that correspond to these goals. Each indicator is accompanied by its description and assessment.

The result of this assessment has made it possible to identify the existing relationships between PMDOT policies and objectives and SDG goals and targets. These will serve as a basis for a proposal to align the PMDOT with Agenda 2030 and the SDG.

Resilient Quito is the result of the priceless contributions of many people with profound knowledge of the city. The intuition and inspiration generously provided by key actors during countless discussions, brainstorming sessions, structured workshops, and research fueled this work. This must continue.

After its publication, an implementation plan will be constructed with the different municipal agencies of the city and partners working together to identify priority actions and design and develop programs and projects that create a time frame transcending election cycles, identify resources, and establish a road map in order to achieve effective results. Together with these stakeholders, we will forge the connections between Resilient Quito and the city, especially with and for the most vulnerable. In this sense, the Resilience Advisory Council and its members will act not only as partners in the implementation, but also in the follow-up process to Resilient Quito.

At the institutional level, the process carried out with the different municipal agencies clearly established the importance of multisector contributions and the need to generate internal synergies. For this reason, special emphasis will be placed on delving deeper into the model of collaborative work and inviting stakeholders from the private sector, the academic world, other municipalities, and NGOs to join in the effort. We start by recognizing that there is accumulated knowledge and experience as well as successful practices that can contribute to the city’s development.

Beyond the management indicators proposed to monitor each action, the effective implementation of the DMQ Resilience Strategy requires a permanent process of monitoring and follow-up of the strategy’s achievements and reach. To accomplish this, a system of indicators able to monitor impact articulated with the pillars and goals of the strategy, the Metropolitan Plan for Development and Land Management (PMDOT), the United Nations Sustainable Development Goals (SDG), and the New Urban Agenda (NAU) is established.

The design of the indicators is based on a multidimensional approach that identified cross-disciplinary support points to ensure a comprehensive strategy. It should be noted that implementation of the strategy does not focus on a single theme, but incorporates a systems approach through synergies between actions. Within the strategy, the correlation between the goals through the pillars is not only addressed within each pillar, but between the goals of all pillars—an exercise that enables contributions to other pillars simultaneously. As a second step, a contribution and correlation analysis was carried out with the objectives and objectives and SDG goals and targets. This will serve as a basis for a proposal to align the PMDOT with Agenda 2030 and the SDG.

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At the international level, through the 100RC initiative, we have found that there is a wide “library” of valuable experiences, and that the great potential of collaboration with cities has much to contribute in terms of acute shocks and common chronic stresses. 100RC and other networks can help us build an international agenda that guides and catalyzes efforts through relevant experiences. At the same time, continued collaboration with the initiative’s platform partners, which have contributed with work, initiatives and technical guidance, and with other new partners with different capacities and knowledge, will allow us to use all these resources strategically to implement the resilience agenda.

Finally, the road to building resilience is a continuous process of constant learning in order to face multiple and ever-changing urban challenges. The city’s capacity to survive and thrive requires a monitoring system to ensure periodic evaluations that show the advances in implementing the Resilience Strategy. This monitoring system will also make it possible to verify the impact of the different initiatives that contribute to building the city’s resilience.
10. ACKNOWLEDGMENTS

The Resilience Strategy of the Metropolitan District of Quito would not be possible without the input of people from various organizations who hope to contribute to the development of a city that improves and safeguards the quality of life of its inhabitants. We hope to build, cultivate and expand lasting relationships and collectively promote Quito’s resilience and sustainable development agenda.

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RMS – Daniel Stander

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Medellín – Santiago Uribe Rocha
San Juan – Alejandro Castrodad
Mexico City – Arnoldo Matus
Los Angeles – Marissa Aho
New Orleans – Jeff Hebert, David Lessinger, Jared Genova, Colleen Mchugh
Porto Alegre – Cezar Busatto (ex CRO)
New York – Daniel Zarrilli, Lolita Jackson
Paris – Sebastien Maire
11. GLOSSARY

Anthropogenic threat: Threat that originates from human actions (uncontrolled burning of grassland, accidents, settlements in unsafe zones).

Biodiversity: Term used to refer to the variety of life on earth, including all organisms, species and populations; the genetic variation between them; and their complex communities and ecosystems (UNEP).

Biological diversity: Biodiversity is not equitably distributed, but varies widely across the world as well as within regions. Among other factors, the diversity of all living things (biota) depends on temperature, precipitation, altitude, soils, geography and the presence of other species.

Citizen participation: Individual and collective actions designed to identify and address issues of public interest. It is a collective presence of other species.

Climate change: A change in climate, directly or indirectly attributable to human activity, that alters the composition of the global atmosphere and adds to the natural climate variability observed over comparable periods of time (UNFCCC).

Climate change adaptation: Adjustment in natural or human systems in response to actual or expected stimuli or climatic effects, mitigating harm and exploiting beneficial opportunities (UNFCCC).

Climate change mitigation: In the context of climate change, this refers to human interventions to reduce sources of greenhouse gases or increase sinks of greenhouse gases. The reduction includes using fossil fuels more efficiently or switching to solar or wind energy; “sinks” are forests or oceans in such a condition that they are able to remove large amounts of carbon dioxide from the atmosphere (UNFCCC).

Collective transport: Public transport or common transport of passengers.

Recent work: Sums up the aspirations of people in their working lives. It implies opportunities for productive work that provides a fair income, workplace safety, and social protection for families; better prospects for personal development and social integration; freedom to express concerns, organize, and participate in decisions that affect their lives; and equal opportunities and equal treatment for all women and men (ILO).

Demographic Bonus: The potential for economic growth that can be derived from changes in the age structure of a population, especially when the proportion of the working-age population (ages 15 to 64) is higher than that of the population below 14 years and over 65 years (UNFPP).

Disaster: A serious disruption in the functioning of a community or society that causes a large number of deaths as well as material, economic, and environmental losses, and impacts that exceed the capacity of the affected community or society to deal with the situation through use of its own resources.

Early warning system: The set of capacities needed to generate and disseminate timely and meaningful alert information to enable individuals, communities, and organizations threatened by a disruptive event to prepare and act appropriately and with sufficient time in advance to reduce the likelihood of loss or damage (UNISDR).

Economy of agglomeration: In an urban economy, agglomeration economies refer to the benefits obtained from the agglomeration of economic activities. This concentration in a given area allows the growth and expansion of economic activities in other areas due to the location and cost minimization decisions that companies take to maintain high productivity and gain competitive advantages (Stephan, 2013).

Ecosystem: A community of living organisms in conjunction with non-living components of their environment (e.g., air, water, or mineral soil) that interact as a system. These biotic and abiotic components are considered to be linked together through nutrient cycles and energy flows (Odum, 1971).

Ecosystem diversity: Addresses ecosystem variations within a geographic location and their overall impact on human existence and the environment.

Ecosystem services: The benefits people and communities derive from ecosystems. Among the benefits that ecosystems can offer are so-called “regulatory services,” such as flood regulation, drought and soil degradation, as well as “provision services,” such as food and water, “support services,” such as soil formation and nutrient cycling; and “cultural services,” such as recreational, spiritual, religious, and other non-material benefits (UNISDR).

Environmental degradation: Reducing the capacity of the environment to respond to social and ecological needs and objectives (UNISDR).

Exposure: The population, properties, systems or other elements present in areas where there are threats, which are therefore likely to experience potential losses (UNISDR).

Geological fault: In geology, a discontinuity in a volume of rock through which a significant displacement occurs as a result of the movement of rock mass. The release of energy associated with rapid movement in active faults is the cause of most seismic movements (Allaby, 2015).

Greenhouse gases: The atmospheric gases responsible for causing global warming and climate change. The main GHGs are carbon dioxide (CO2), methane (CH4) and nitrous oxide (N2O). Less frequent but very potent greenhouse gases are hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF6) (UNFCCC).

Governance: Term designating the effectiveness, quality, and good orientation of state intervention, which provides a good part of its legitimacy on the basis of achieving lasting economic, social, and institutional development and promoting a healthy balance between the state, civil society, and economic markets (RAE).

Human development: Expanding people’s opportunities, paying heed to the richness of human lives and not just the wealth of economies (UNDP).

Human diversity: The various physical and social aspects of the human family, i.e., its genetic and cultural variety (Durham, 1991).

Natural threat: A natural process or phenomenon that can cause death, injury, or other health impacts, as well as property damage, loss of livelihood and services, social and economic disruption, or environmental damage.

Participatory democracy: The effort to create opportunities for all members of a population to contribute meaningfully to decision making, and the effort to broaden the range of people who have access to such opportunities (Shirky, 2008).

Physical vulnerability: The risk assessment of an element exposed to a possible acute impact requires a consideration of the physical vulnerability of the element, which expresses its propensity to suffer damages (Douglas, 2007).

Resilience: The ability of a system, community, or society exposed to a threat to resist, absorb, adapt, and recover from its effects in a timely and effective manner, including preservation and restoration of its basic structures and functions (UNISDR).
Resilience qualities: Seven qualities that allow cities to withstand, respond, and adapt more easily to acute shocks and chronic stresses (100RC).

Response capacity: The ability of people, organizations, and systems to address and manage adverse conditions, emergencies, or disasters, using available resources and skills (UNFCCC).

Risk: The combination of probability of occurrence of an event and its negative consequences (UNISDR).

Social capital: Networks that, together with norms, values, and shared understanding, facilitate cooperation within or between groups. In this definition, networks are understood as real-world links between groups or individuals (e.g., networks of friends, family networks, networks of former colleagues). Social capital provides the means of facilitating cooperation, exchange, and innovation (OECD).

Social cohesion: A group’s tendency to be unified while working towards a goal or striving to meet the emotional needs of its members (Carron and Brawley, 2000).

Social vulnerability: A pre-existing condition that affects the ability of a society to prepare and recover from a disruptive event.

Sustainability: Derived from the words “sustained” and “ability,” refers to the capacity of biological systems to remain diverse and productive over time. In more general terms, it refers to the permanence of systems and processes. The guiding principle of sustainability is sustainable development, which includes the four interconnected domains: ecology, economics, politics, and culture (James et al., 2015).

Sustainable development: Meets the needs of the present without compromising the ability of future generations to meet their own needs (Brundtland Commission). It cannot be achieved without ensuring that all women, men, boys, and girls enjoy human dignity and the right to expand their capacities, ensure their reproductive health and rights, find decent work, and contribute to economic growth (UNFPA).

Threat: A phenomenon, substance, human activity, or dangerous condition that can cause death, injury, or other health impacts, as well as damage to property, loss of livelihood and services, social and economic disruption, or environmental damage (UNISDR).

Urban compactness: an urbanism and urban design concept for a compact city, of short distances, that promotes a relatively high residential density with mixed uses within a city. It is based on an efficient public transport system and an urban design that encourages walking and cycling, low energy consumption, and pollution reduction. The concept favors a large resident population (Carron and Brawley, 2000).

Vulnerability: The characteristics and circumstances of a community or system that make them susceptible to the harmful effects of a threat (UNISDR).

12. BIBLIOGRAPHY

100RC, 100 Resilient Cities, accessed on: http://www.100resilientcities.org/
Environmental Aspects”, J Ind Ecol, 10 (1–2), 239-256.
James, Paul; Magee, Liam; Scerri, Andy; Steger, Manfred B. (2015). Urban Sustainability in Theory and Practice. London: Routledge
MDMQ, General Department of Security and Governmentalality (2016). Atlas of Natural Hazards and the Exposure of Infrastructure to these Threats in the Metropolitan District of Quito, third edition
UNFCCC, United Nations Framework Convention on Climate Change, accessed on: http://unfccc.int/essential_background/glossary/items/3666.html#top
RESILIENT QUITO
## 15. APPENDICES

### 15.1 APPENDIX A - ACTIONS TABLE

<table>
<thead>
<tr>
<th>ACTION</th>
<th>NAME</th>
<th>TYPE</th>
<th>STATUS</th>
<th>TIMELINE</th>
<th>RESILIENCE DIVIDEND</th>
<th>ACTION OWNER</th>
<th>IMPL. PARTNERSCONTRIB</th>
<th>100RCNIV</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PILLAR A — INCLUSIVE AND EMPOWERED CITIZENS</strong></td>
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<tr>
<td>A1.1</td>
<td>Capacity strengthening program to enable effective citizen participation</td>
<td>Priority</td>
<td>Pre-existing</td>
<td>Short-term</td>
<td>Empowered citizenship and social cohesion</td>
<td>Department of Territorial Coordination and Citizen Participation</td>
<td>Private Training Neighborhood Assemblies Academia</td>
<td>AI BL ED C1 E3 E2 E3 Boston, Bubba, Mexico City Pittsburgh</td>
</tr>
<tr>
<td>A1.1.1</td>
<td>Comprehensive stakeholder mapping</td>
<td>Support</td>
<td>Planned</td>
<td>Short-term</td>
<td>More effective and inclusive citizen participation</td>
<td>Department of Territorial Coordination and Citizen Participation</td>
<td>Zonal administrations Community</td>
<td>AI BL C1 E3 Santa Fe</td>
</tr>
<tr>
<td>A2.1</td>
<td>Citizen participation training programs for municipal employees</td>
<td>Priority</td>
<td>Aspirational</td>
<td>Short-term</td>
<td>Promotes and enforces processes of citizen participation within the municipal administration</td>
<td>Department of Territorial Coordination and Citizen Participation</td>
<td>SGP General Administration ICAM MDMQ</td>
<td>AI AS EI C1 E3 Boston, Oakland</td>
</tr>
<tr>
<td>A2.3</td>
<td>Citizen participation manuals</td>
<td>Support</td>
<td>Aspirational</td>
<td>Short-term</td>
<td>Promotes proper compliance with the processes</td>
<td>Department of Territorial Coordination and Citizen Participation</td>
<td>Community MDMQ</td>
<td>ASA3 Boston, Oakland</td>
</tr>
<tr>
<td><strong>PILLAR B — INFORMED AND STRATEGIC MUNICIPAL LEADERSHIP</strong></td>
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<tr>
<td>A1.2</td>
<td>Digital citizen participation platform</td>
<td>Priority</td>
<td>Pre-existing</td>
<td>Short-term</td>
<td>Aroused the interest of people who do not usually get involved in matters of public interest</td>
<td>Department of Territorial Coordination and Citizen Participation</td>
<td>SGP Community Madrid City Council</td>
<td>AI AS Thessaloniki</td>
</tr>
<tr>
<td>A2.1</td>
<td>Neighborhood participation program for Community development</td>
<td>Priority</td>
<td>Aspirational</td>
<td>Short-term</td>
<td>Promotes an autonomous Community organization with capacity to make decisions and manage its development</td>
<td>Department of Territorial Coordination and Citizen Participation</td>
<td>SODIS MPUL Community</td>
<td>AI BL C2 E3 D3 E3 Bristol, Pittsburgh, Rotterdam</td>
</tr>
</tbody>
</table>
### A2.1 Promote efficient investment processes and increase citizens’ participation
- **Priority**: Underscored
- **Medium-term**: Promotes efficient investment processes and promotes community participation in planning and decision-making.
- **Department of Territorial Coordination and Citizen Participation**
  - **Zonal Administrations**: Quito, Guayaquil, Ecuador, and others.
- **Projects**:
  - **B1.2**
    - **B1.2.1**
      - **Duration**: 2-5 years
      - **Location**: Quito, Guayaquil, Ecuador, and others.

### A2.4 Communication campaigns on citizen participation tools
- **Support**: Pre-existing
- **Short-term**: Encourages public participation in different sectors of society.
- **Department of Territorial Coordination and Citizen Participation**
  - **Community**: Quito, Guayaquil, Ecuador, and others.
- **Projects**:
  - **B2.1**
    - **B2.1.1**
      - **Duration**: 2-5 years
      - **Location**: Quito, Guayaquil, Ecuador, and others.

### A3.1 Create quality public spaces for citizens
- **Flagship**: Underscored
- **Medium-term**: Promotes responsible and active participation in public spaces.
- **Department of Security and Transparency**
  - **EJEOCHARIS**: Quito, Guayaquil, Ecuador, and others.
- **Projects**:
  - **B3.1**
    - **B3.1.1**
      - **Duration**: 2-5 years
      - **Location**: Quito, Guayaquil, Ecuador, and others.

### B1.1 Manage natural and semi-natural areas
- **Flagship**: Underscored
- **Long-term**: Strengthens social cohesion and improves the health and quality of the city.
- **Department of Environment**
  - **SC**: Quito, Guayaquil, Ecuador, and others.
- **Projects**:
  - **B1.2**
    - **B1.2.1**
      - **Duration**: 2-5 years
      - **Location**: Quito, Guayaquil, Ecuador, and others.

### B1.2 Promote environmental awareness
- **Priority**: Aspirational
- **Short-term**: Encourages the exchange of knowledge, social cohesion, and participation.
- **Department of Environment**
  - **Projects**:
    - **B2.1**
      - **B2.1.1**
        - **Duration**: 2-5 years
        - **Location**: Quito, Guayaquil, Ecuador, and others.

### B1.3 Take advantage of the benefits of nature in urban infrastructure planning
- **Priority**: Planned
- **Short-term**: Ensures the continuity of the inclusion of nature in urban areas.
- **Projects**:
  - **B3.1**
    - **B3.1.1**
      - **Duration**: 2-5 years
      - **Location**: Quito, Guayaquil, Ecuador, and others.

### B3.1.1 Environmental buildings
- **Priority**: Long-term
- **Short-term**: Provides quality public spaces, promotes citizen empowerment, and contributes to a greater social cohesion.
- **Projects**:
  - **B1.3**
    - **B1.3.1**
      - **Duration**: 2-5 years
      - **Location**: Quito, Guayaquil, Ecuador, and others.

### B3.1.2 Technical capacity building program for planning with nature-based solutions
- **Priority**: Planned
- **Medium-term**: Ensures the effectiveness of environmental programs and projects.
- **Projects**:
  - **B1.3**
    - **B1.3.1**
      - **Duration**: 2-5 years
      - **Location**: Quito, Guayaquil, Ecuador, and others.

### B3.1.3 Green infrastructure in neighborhoods with vulnerable physical space
- **Priority**: Long-term
- **Medium-term**: Improves the image and quality of the urban area.
- **Projects**:
  - **B1.3**
    - **B1.3.1**
      - **Duration**: 2-5 years
      - **Location**: Quito, Guayaquil, Ecuador, and others.

### B3.1.4 Program for public recreational areas with environmental contributions
- **Priority**: Support
- **Short-term**: Provides quality public spaces, promotes citizen empowerment, and contributes to a greater social cohesion.
- **Projects**:
  - **B1.3**
    - **B1.3.1**
      - **Duration**: 2-5 years
      - **Location**: Quito, Guayaquil, Ecuador, and others.
<table>
<thead>
<tr>
<th>PILLAR C</th>
<th>INTEGRATED AND COMPACT CITY</th>
</tr>
</thead>
</table>
| C1. 1 Control urban sprawl | Priority: Aspirational  
Medium-term |  
- Maintains the quality of life in the city by improving the image of the urban environment, reduces the economic and environmental degradation.  
- Prevents the generation of pollution and environmental degradation.  
- Seeks to control urban sprawl.  
- Strengthens territorial control and citizen participation in urban development.  
- Department of Territorial Coordination and Citizen Participation  
- STHVL-Zonal Administrations  
- Communities  
- SGP-EPMHV, Quito Metro, IDB, AECOM  
- SGP, EPMHV, EPMMOP, EPMMOP, IDB, STHV, SA  
- UN-Habitat, Metropolitan Housing Institute  
- IOM, EPMTP, IDB, STHV, MMDQ  
- Mexico City, Quito Metro, EPMTP, EPMMOP, IDB, STHV, SA  
- Support Pre-existing  
- Mexico City |
### PILLAR B — RESOURCEFUL AND SOLID ECONOMY

**D1. Create an economic environment conducive to strengthening labor supply and demand**

<table>
<thead>
<tr>
<th>Priority</th>
<th>Short-term</th>
<th>Medium-term</th>
</tr>
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<tbody>
<tr>
<td>Pre-existing</td>
<td>Reduces medical care consumption in productive sectors</td>
<td>Consolidates economic development processes that operate within the Information Economy of the city</td>
</tr>
</tbody>
</table>

**D1.1. Human capital study**

- Reduces medical care consumption in productive sectors
- Integrates diverse sectors and actors in the competitiveness agenda of the city

**D1.2. Human capital study**

- Allows to take strategic decisions on how human capital in the formal and informal labor sector can result in a 2+ growth of GDP per capita
- Reduces social-economic vulnerability and therefore risk in the territory

**D1.3. Skill gap analysis**

- Boosts local economy growth, strengthening human capital
- Reduces socio-economic vulnerability
- Allows to take informed and effective actions that facilitate the accomplishment of other actions, such as the academy

### D2. Foster a diversified, sustainable, and innovative economy

**D2.1. Program to strengthen circular economy principles, logistics, and consumption processes**

- Within production value chains, produces the generation of waste, reduces and recycles waste productively
- Opens new job opportunities with a high value of social inclusion

**D2.2. Incorporate sustainability into the city’s competitiveness agenda**

- Builds resilience strategies to face economic, social, and environmental crises
- Stimulates competitiveness in different sectors
- Strengthens the chain linking scheme proposed in the competitiveness agenda

### D3. Promote the food economy as an axis for development

**D3.1. Plans to strengthen the Quito food system**

- Helps strengthen the socio-economic fabric of Quito
- Contributes to resilience and food security
- Helps to improve living conditions, especially for vulnerable populations
- Generates productive linkages, new exports and greater inclusion

**D3.2. Strengthen the urban agriculture program in Quito**

- Helps strengthen the socio-economic fabric of Quito
- Contributes to resilience and food security
- Helps to improve living conditions, especially for vulnerable populations
- Generates productive linkages, new exports and greater inclusion

**D3.3. Sustainable Agricultural Production Program**

- Helps strengthen the socio-economic fabric of Quito
- Contributes to resilience and food security
- Helps to improve living conditions, especially for vulnerable populations
- Generates productive linkages, new exports and greater inclusion

### EJE-E — REFLECTIVE AND SAFE TERRITORY

**E1. Avoid the creation of new risks**

<table>
<thead>
<tr>
<th>Priority</th>
<th>Short-term</th>
<th>Long-term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-existing</td>
<td>Gilts productive linkages, new exports and greater employment in Quito and surrounding municipalities</td>
<td>Reduces city transit</td>
</tr>
</tbody>
</table>

**E1.1. Strengthen the metropolitan information system (SIM) with a CCU to assist in decision making**

- Prioritization and effective management of actions in the territory
- Strengthens the coordination of the different municipal bodies
- Efficient use of financial resources-time and human

**CCU**

<table>
<thead>
<tr>
<th>Priority</th>
<th>Medium-term</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1.E.1.</td>
<td>Gilts productive linkages, new exports and greater employment in Quito and surrounding municipalities</td>
</tr>
</tbody>
</table>
### APPENDICES

<table>
<thead>
<tr>
<th>E1.2</th>
<th>Inter-institutional accessibility strategy to address climate risks, migration, and resilience</th>
<th>Support</th>
<th>Aspirational</th>
<th>Medium-term</th>
<th>General Department of Security and Governance</th>
<th>SCTyPC, SGU, SA, DG SE, SIC, SSDyC, SR, SE, STHY, IMP, ANC, AMT</th>
<th>A1 C1 C2 E2 E3</th>
<th>Mexico City, Santiago Chile, Quito, and Quito, New York, San Francisco</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1.3</td>
<td>Program to develop: entrepreneurial and socially favorable construction actions</td>
<td>Priority</td>
<td>Aspirational</td>
<td>Long-term</td>
<td>Development and strengthening of skills, processes, and resources to adapt, manage and prepare for possible acute shocks coming from natural threats.</td>
<td>Department of Territory, Habitat and Housing</td>
<td>C1 C2 D1 D2 E2 E1</td>
<td>Sanmarang, Medellín</td>
</tr>
<tr>
<td>E1.3.1</td>
<td>Guide for new construction and reinforcing existing infrastructure in low-incomes areas</td>
<td>Support</td>
<td>Planned</td>
<td>Medium-term</td>
<td>Ensures economic and social inclusion and improvement of the physical quality of buildings and the habitability of people.</td>
<td>Department of Territory, Habitat and Housing</td>
<td>C1 C2 D1 D2 E2 E1</td>
<td>Medellín</td>
</tr>
<tr>
<td>E1.3.2</td>
<td>Mobile technical support office</td>
<td>Support</td>
<td>Aspirational</td>
<td>Medium-term</td>
<td>Shortens the distances between professionals, academics and the community in general.</td>
<td>Provincial College of Architects of Pichincha</td>
<td>C1 C2 D1 D2 E2 E1</td>
<td>Medellín</td>
</tr>
<tr>
<td>E1.4</td>
<td>Strengthening recognition of universal accessibility</td>
<td>Priority</td>
<td>Aspirational</td>
<td>Long-term</td>
<td>Facilitates the accessibility of people with physical, sensory, or cognitive disabilities.</td>
<td>Department of Territory, Habitat and Housing</td>
<td>C1 C2 D1 D2 E2 E1</td>
<td>Santiago Chile</td>
</tr>
<tr>
<td>E1.5</td>
<td>Seismic microzonation study</td>
<td>Priority</td>
<td>Pre-existing</td>
<td>Medium-term</td>
<td>Information for planning and regulation of land use to prevent physical and human impacts.</td>
<td>General Department of Security and Governance</td>
<td>C1 C2 C3 D1 D2 E2 E1</td>
<td>Santiago Chile</td>
</tr>
</tbody>
</table>

| E2.1 | Program to strengthen mechanisms for evaluating existing buildings | Priority | Planned | Short-term | Assessment of the city’s existing buildings to identify direct efforts to reduce physical vulnerability. | Metropolitan Control Agency | C1 C2 C3 D1 D2 E2 E1 | Santiago Chile, New York, San Francisco |
| E2.1.1 | Evaluation of city’s critical infrastructure | Support | Aspirational | Medium-term | Allows prompt recovery after possible acute shocks. | General Department of Security and Governance | C1 C2 C3 D1 D2 E2 E1 | Santa Fe |
| E2.2 | Structural reinforcement program | Priority | Aspirational | Long-term | Helps reduce existing risks, as well as support processes for recognizing buildings in the city. | Department of Territory, Habitat and Housing | C1 C2 D1 D2 E2 E1 | Medellín |
| E2.3 | Relocation program for families in areas of immitigable risk | Priority | Pre-existing | Medium-term | Improves the quality of life of families and the community. | General Department of Security and Governance | C1 C2 D1 D2 E2 E1 | Santa Fe |
| E2.4 | Relocation program for families in areas of immitigable risk | Support | Aspirational | Long-term | Helps reduce existing risks, as well as support processes for recognizing buildings in the city. | Department of Territory, Habitat and Housing | C1 C2 D1 D2 E2 E1 | Medellín |
| E3.1 | Program to promote neighborhood preparedness | Priority | Aspirational | Medium-term | Formal and informal volunteer organizations contribute to disaster response and mitigation assistance. | General Department of Security and Governance | C1 C2 D1 D2 E2 E1 | Armer, Medellín, Santiago Chile, San Francisco, Santiago Chile, San Francisco |
| E3.1.1 | Program to create: new neighborhood volunteer networks | Support | Aspirational | Medium-term | Fosters an empowered community of social capital. | General Department of Security and Governance | C1 C2 D1 D2 E2 E1 | Armer, Medellín, Santiago Chile, San Francisco, Santiago Chile, San Francisco |
| E3.1.1.1 | Disaster Preparedness Awareness Campaign | Support | Pre-existing | Short-term | By observation of citizens, using accessible artifacts and technology, enables to anticipate acute shocks. | General Department of Security and Governance | C1 C2 D1 D2 E2 E1 | Mexico City, Medellín, Santiago Chile, San Francisco, San Francisco, Santiago Chile, San Francisco |
| E3.2.1 | E3. Prepare the Metropolitan District of Quito to address threats | | | | | | | |
### 15.2 APENDIX B - IMPACT INDICATORS

The Institute of the City of Quito developed the following impact indicators to serve as a basis for the Resilience Strategy for the Metropolitan District of Quito monitoring, management and implementation.

<table>
<thead>
<tr>
<th>Priority</th>
<th>Medium-term</th>
<th>Cross-Cutting Actions</th>
<th>T1. Ensure continuity and facilitate planning processes with a resilience lens</th>
</tr>
</thead>
<tbody>
<tr>
<td>E3.2</td>
<td>Underway</td>
<td><strong>T1.1 Metropolitan Resilience Council</strong> Flagship Aspirational Medium-term</td>
<td>Enables the participation of various actors, including different levels of government, international organizations, the private sector and academia - to monitor implementation and continuity of the City’s Resilience Strategy. Provides technical and organizational guidance and support. General Planning Department Different levels of government and public authorities, private sector, international organizations, academia. Santa Fe, Medellín, Rotterdam.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>T1.2 Contextualization of the SDG, the NUA, and the principles of resilience through different city management tools</strong> Priority Planned Medium-term</td>
<td>Ensures that the planning and work of the Municipality lead the city toward sustainable, inclusive, secure and resilient urban development. General Planning Department UNDP, MDMQ, Athens, Berkeley, Bristol, Mexico, New York City, New York.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>T1.2.1 Revision: Alignment to the SDG and insertion of resilience as a strategic planning principle in the PMDOT Support Pre-existing Short-term</strong></td>
<td>Ensures that all actions undertaken contribute to the goals set by the international agendas. General Planning Department UNDP, MDMQ, New York.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>T1.3 Strengthen the conditions to establish strategic alliances with international cooperation Support Planned Short-term</strong></td>
<td>Provides the city with mechanisms and opportunities for technical advice, exchanges and access to support programs. Facilitates effective cooperation with international standards. Metropolitan Direction of International Affairs MDMQ, International Agencies and Bodies. Santiago-Chile.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>T1.4 Training program for resilience technicians Priority Aspirational Medium-term</strong></td>
<td>Ensures that resilience building is sustained over time and is a local, national or regional input. Provides intensive adaptive capacity and access to support programs. General Planning Department MDMQ, Academia. Santa Fe, Surat, Rio de Janeiro, Dakar, Melbourne, Da Nang.</td>
</tr>
</tbody>
</table>

**Universal insurance program**

Insurance is an effective way to protect assets and livelihoods, reduce dependency on humanitarian aid, help people rebuild their lives, especially in the most vulnerable sectors, and encourage community awareness of risks, compliance with building codes and the generation of an insurance culture.

**Priority Underway Medium-term**


Universe insurance program

Priority Underway Medium-term

A3. Create quality public places for citizens

- Urban space spatial values
- Ethnicity and disability
- Disaggregated by sex, age, ethnicity and disability
- Participatory green and public space protection activities
- Proportion of victims of violence, harassment or crimes in green and public areas
- Percentage of people and neighborhood organizations that indicate having carried out green and public space protection activities
- Level of appreciation of urban space by citizens
- Disaggregated by sex, age, ethnicity and disability

APPENDICES A3

2015 - 2025

<table>
<thead>
<tr>
<th>INDICATORS</th>
<th>DEFINITION</th>
<th>SDG GOALS</th>
<th>PMDOT 2015-2023 POLICY</th>
<th>PMDOT 2015 - 2020 OBJECTIVES</th>
<th>SUSTAINABLE DEVELOPMENT 2030 GOALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neighborhood action. Disaggregated by sex, age, ethnicity and disability.</td>
<td>Percentage of households that marked they have taken part in neighborhood actions, as compared to the total number of households meeting social and environmental needs proposed by them</td>
<td>1.4</td>
<td>5.1</td>
<td>16.7</td>
<td></td>
</tr>
<tr>
<td>Neighborhood belonging. Disaggregated by sex, age, ethnicity and disability.</td>
<td>Percentage of households that feel part of the neighborhood in which they live, as compared to the total number of households</td>
<td>1.4</td>
<td>5.1</td>
<td>16.7</td>
<td></td>
</tr>
<tr>
<td>People who feel invaded in the design of the city and have full knowledge of human and city rights. Disaggregated by sex, age, ethnicity and disability.</td>
<td>Percentage of people who feel invaded in the design of the city, especially in situations of social exclusion and vulnerability compared to the total population</td>
<td>1.4</td>
<td>5.1</td>
<td>16.7</td>
<td></td>
</tr>
<tr>
<td>Use of TICS for Citizen Participation</td>
<td>Percentage of people using TICS to access services and procedures, municipal information and decision making, compared to the total population</td>
<td>1.4</td>
<td>5.1</td>
<td>16.7</td>
<td></td>
</tr>
<tr>
<td>Number of times citizens have used participation mechanisms</td>
<td>Number of QMID who use TICS, including number of times citizens have used participation mechanisms</td>
<td>1.4</td>
<td>5.1</td>
<td>16.7</td>
<td></td>
</tr>
<tr>
<td>Reporting channels in construction and services.</td>
<td>Existence of reporting channels by work and service</td>
<td>1.4</td>
<td>5.1</td>
<td>16.7</td>
<td></td>
</tr>
<tr>
<td>Number and type of participation mechanisms present in institutional designs of local government.</td>
<td>Percentage of ordinances, local policies and documents (plans, agendas, others) that were created with citizen input</td>
<td>1.4</td>
<td>5.1</td>
<td>16.7</td>
<td></td>
</tr>
<tr>
<td>Measuring the performance of the Open Government System.</td>
<td>Number of visits to the Open Government page</td>
<td>1.4</td>
<td>5.1</td>
<td>16.7</td>
<td></td>
</tr>
<tr>
<td>Fair Treatment. Disaggregated by sex, age, ethnicity and disability.</td>
<td>Percentage of household members who think people in their environment have been friendly</td>
<td>1.4</td>
<td>5.1</td>
<td>16.7</td>
<td></td>
</tr>
<tr>
<td>Good Neighborhood Relations in the Neighborhood.</td>
<td>Percentage of households that consider their neighborhood relationships in the public space, squares and boulevards</td>
<td>1.4</td>
<td>5.1</td>
<td>16.7</td>
<td></td>
</tr>
<tr>
<td>Satisfaction with the implementation of public works and municipal management in the public space. Disaggregated by sex, age, ethnicity and disability.</td>
<td>Perception of the population on the implementation and management of public space</td>
<td>1.4</td>
<td>5.1</td>
<td>16.7</td>
<td></td>
</tr>
<tr>
<td>Proportion of victims of violence, harassment or crimes in green areas and public spaces.</td>
<td>Percentage of victims of violence, harassment or crimes in green areas and public spaces</td>
<td>1.4</td>
<td>5.1</td>
<td>16.7</td>
<td></td>
</tr>
<tr>
<td>Participation in green and public space protection activities.</td>
<td>Percentage of people and neighborhood organizations that indicate having carried out green and public space protection activities</td>
<td>1.4</td>
<td>5.1</td>
<td>16.7</td>
<td></td>
</tr>
<tr>
<td>Level of appreciation of urban space by citizens.</td>
<td>Citizen Perception of urban space quality and its resilience to urban disasters</td>
<td>1.4</td>
<td>5.1</td>
<td>16.7</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RESILIENT QUITO</th>
<th>16.1</th>
<th>11.9</th>
<th>11.7</th>
<th>11.5</th>
<th>11.3</th>
<th>11.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMDOT 2015-2023 POLICY</td>
<td>PMDOT 2015 - 2020 OBJECTIVES</td>
<td>SUSTAINABLE DEVELOPMENT 2030 GOALS</td>
<td>SDG GOALS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PMDOT 2015-2023 POLICY</td>
<td>PMDOT 2015 - 2020 OBJECTIVES</td>
<td>SUSTAINABLE DEVELOPMENT 2030 GOALS</td>
<td>SDG GOALS</td>
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<tr>
<td>PMDOT 2015-2023 POLICY</td>
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<td>SUSTAINABLE DEVELOPMENT 2030 GOALS</td>
<td>SDG GOALS</td>
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<td>PMDOT 2015-2023 POLICY</td>
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<td>SUSTAINABLE DEVELOPMENT 2030 GOALS</td>
<td>SDG GOALS</td>
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<tr>
<td>PMDOT 2015-2023 POLICY</td>
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<td>SUSTAINABLE DEVELOPMENT 2030 GOALS</td>
<td>SDG GOALS</td>
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<tr>
<td>PMDOT 2015-2023 POLICY</td>
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<td>SUSTAINABLE DEVELOPMENT 2030 GOALS</td>
<td>SDG GOALS</td>
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<tr>
<td>PMDOT 2015-2023 POLICY</td>
<td>PMDOT 2015 - 2020 OBJECTIVES</td>
<td>SUSTAINABLE DEVELOPMENT 2030 GOALS</td>
<td>SDG GOALS</td>
<td></td>
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</tr>
</tbody>
</table>
Increase of health, educational, leisure, commercial and productive activities to the metro area of direct influence (500 - 1000 m) and of indirect influence (1000 - 1000 m).

Number of health institutions, educational, leisure, trade and productive activities in the areas of direct and indirect influence of Metro stop.

Coverage of public transport systems

Percentage of territory covered by lines of the integrated public transport system. Disaggregated by sex, age, ethnicity and disability.

Reduction of CO2 emissions per capita

Percentage of gradual reduction of vehicular emissions. Disaggregated by sex, age, ethnicity and disability.

Satisfaction of users with the integrated public transport system. Disaggregated by sex, age, ethnicity and disability.

Consolidation of urbanized areas

Increase in the percentage of land occupation in urbanized areas.

Time of commute to educational institutions

Number of health institutions, educational, leisure, trade and productive activities in the areas of direct and indirect influence of metro stops.

Percentage of territory with public transport coverage

Household members average commuting time in minutes from their home in the DMM to a hospital or clinic.

Percentage of territory with public transport coverage

Surface area of territory within the established walking range to the public transport system.

Commuting time to the workplace

Household members average commuting time in minutes to the workplace.

Adaptation of Quito’s logistic infrastructure capacity to movement of cargo

Number of modifications to Quito’s urban infrastructure for confluence with existing and future movement of cargo.

Use of public transportation

Percentage of household members who commute for different reasons through the following means of transportation: bus, taxi, private car, motorcycle, public bus.

Use of non-polluting means of transportation (bikes and pedestrians). Disaggregated by sex, age, ethnicity and disability.

Increase in inclusive and low environmental impact productive networks

Number of calculated productive linkage as a function of SRI CLAH that are inclusive and have low environmental impact.

Poverty gap by consumption

Difference between household consumption expenditure per capita and the cost of the basic food basket.

Enough working hours. Disaggregated by sex, age, ethnicity and disability.

Qualified PEA staff

Disaggregated by sex, age, ethnicity and disability.

Social security affiliates employed. Disaggregated by sex, age, ethnicity and disability.

Social security affiliate persons in the household.

Number of companies that handle high technology low environmental impact products that support the local chain.

Number of companies that perform good environmental practices.

Number of companies that have been awarded national and international certificates of good environmental practice.

Percentage of family income from food grow and production.

Percentage of production and sales via any channel that owns family incomes.

Percentage of the GVA of Quito corresponding to companies of production and processing of foods that guarantee food security.

Housing material deficit

Conditions of habitability of the house in regards to material safety. Measured through the quantitative and qualitative housing deficit.

Number of informal neighborhoods

Variations in the registration of informal neighborhoods.

Compliance with construction regulations

Percentage of buildings that comply with construction regulations, compared to total number of buildings.

Number of regularized neighborhoods and inhabitants

Disaggregated by sex, age, ethnicity and disability.

Percentage of population living in slums, improvised settlements or inadequate housing in areas of non-mitigable risk.

Institutions with natural and anthropic risk prevention plans

Number of institutions that have established risk prevention plans in their regulations.

Ecological footprint

Indicators of ecological footprint.

Local capacity of having safe sites

Relation between reception of population capacity in safe places and the total population.

Number of people who have received a disaster instruction or who are part of a disaster action program.

Shelter capacity

Relation between the capacity of reception of population in shelters and the total population.

Preparation of resilience practitioners. Disaggregated by sex, age, ethnicity and disability.

Number of students with theoretical and practical knowledge to promote the resilience agenda.

Configuration and implementation of the monitoring system

Level of implementation of the monitoring system of the Resilience Strategy.
15.2 APPENDIX B1 - PDMOT

PDMOT POLICY 2015-2025

PDMOT OBJETIVES 2015-2025

1 Social Development: Quito a Solidary city where no one is left behind

PS1. Ensure an intercultural social policy that promotes cohesion, equality and human rights
PS1. A comprehensive social policy has been institutionalized, it has an emphasis on vulnerable population groups (childhood, disability, students, seniors), priority attention groups and those who present other breach situations.

PS2. Strengthen the social fabric by promoting citizen participation in the construction of public policies and development through close and transparent governance.
PS2.1 Citizen participation processes have been shared between various instances and processes in order to positively impact all phases of public policy (planning, implementation and monitoring) and services.
PS2.2 The DMO has a participatory planning model that involves citizens in decision-making processes.
PS2.3 The MDMQ has developed tools and mechanisms of closeness, agility and transparency in the provision of its processes, management and services.
PS2.4 The DMQ has a participatory planning model that involves citizens in planning, in order to create new central and peripheral urban areas.
PS2.5 The MHDQ promotes citizen's participation and the integration of different actors and sectors of the city under the principle of ethnic, gender, intergenerational and territorial equity.
PS3. Promote improvements in the living conditions for the inhabitants of Quito.
PS3.1 The population of Quito has adopted healthy lifestyles and reduced their exposure to critical risk factors.
PS3.5 The population of Quito has adopted healthy lifestyles and reduced their exposure to critical risk factors.

2 Productive Economic Development and Competitiveness: Quito, City of Opportunities

PO1. Drive linkages between value chains and clusters in order to transform the production matrix and incentivize productive systems, based on co-management with citizens and economic activities.
PO1.1 The generation of waste is reduced by the systematic application of prevention measures, based on co-management with citizens and economic activities.
PO2. City government will support the economic development of the city by fostering the progress of production chains aimed at achieving the production matrix.
PO2.1 Specific action plans for each cluster have been structured, and the local government has established the necessary mechanisms to strengthen its competitiveness components.
PO2.2 City's productive development is carried out with an inclusive vision towards vulnerable groups (children, people with disabilities, students, seniors), small-scale enterprises and people from Popular and Solidarity Economy, with a vision of shared value.
PO3. Work will be performed in order to promote an equitable strategy to promote competitiveness and local development in the rural and urban areas of the city.
PO3.1 Territorial equity is a priority of local government. The municipality works in the endogenous productive development of its rural, marginal and urban areas in an inclusive, comprehensive and sustainable manner.

3 Quito, Smart city: Environment

PA1. Guarantee integral waste management under the Zero Waste concept in circular economy, with a focus on participation, citizen responsibility, environmental and social responsibility.
PA1.1 The generation of waste is reduced by the systematic application of prevention measures, based on co-management with citizens and economic activities.
PA2. Promote the environmental sustainability of the territory guaranteeing Ecosystem services of the natural heritage, promoting its knowledge, its sustainable management and its contribution to the urban and rural fabric.
PA2.1 The conservation of the Metropolitan System of Natural Protected Areas has been achieved, promoting the environmental sustainability of the territory, its knowledge, its sustainable management and its contribution to the urban-rural fabric.

Policies to address climate change

P4.4 Environmental pollution has been reduced, through regulation and a prevention approach to productive sectors, activities and projects within the DMO.

Policies to address social development

P4.1 Civic participation processes have been shared between various instances and processes in order to positively impact all phases of public policy (planning, implementation and monitoring), and services.

Policies to address economic development

P4.2 Promote the principles of a sustainable city, supported by joint commitments that can influence the production platforms, behaviors and consumption habits of all sectors of the DMO.

APPENDICES | 140

RESILIENT QUITO | 141
**POLICY 2 - REGIONAL SCALE**

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>PTER2. Seek integration with decentralized autonomous governments in order to give continuity to productive processes, especially agricultural and agroindustrial, and to give coherence to the way of using and occupying the land with the surrounding territories. A demarcation of precise boundaries between the consolidated urban territory, the territory with ecological protection, and the territory that does not belong to either of these two conditions is in order, in favor of a coherent articulation between urban territory and productive systems, and ecological systems that are linked in the territory.</td>
<td></td>
</tr>
<tr>
<td>PTER2.b Protect and consolidate the urbanized territory.</td>
<td></td>
</tr>
</tbody>
</table>

**POLICY 3 - METROPOLITAN SCALE**

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>PEM3 A densification of the urbanized territory, and the constitution of a structure of productive centralities that favor a dynamic, compact and multimodal urbanism.</td>
<td></td>
</tr>
<tr>
<td>PEM3 A.3 A Systemic improvement of the housing deficit and built environments.</td>
<td></td>
</tr>
<tr>
<td>PEM3 A.3 B Organize and improve the quality of infrastructure in consolidated centralities.</td>
<td></td>
</tr>
<tr>
<td>PEM3 A.3 C Increase density and intensity of land uses to high levels of efficiency in order to accommodate new population.</td>
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<tr>
<td>PEM3 A.3 D Implement sustainable urban systems, productive systems and ecological systems that do not belong to either of these two conditions is in order to accommodate new population.</td>
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<td>PEM3 A.3 E Organize and improve the quality of infrastructure in consolidated centralities.</td>
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**POLICY 4 - ZONAL SCALE**

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<tr>
<td>PTE2. Constitution of a multinodal structure of urban public service subcentralities that favor the densification of the existing urban fabric and guarantee access to services throughout the urbanized territory.</td>
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<td>PTE2.b Protect and consolidate the urbanized territory.</td>
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**POLICY 5 - LOCAL SCALE**

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<tr>
<td>PTEL5. Improvement of the quality of life of Quito citizens through the enhancement of the environmental quality of the urban landscape, of the deficit in housing and the implementation of measures that regenerate building construction and public space.</td>
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<tr>
<td>PTEL5. B Improve public space quality in the DMQ.</td>
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<tr>
<td>PTEL5. C Systemic improvement of the housing deficit and built environments (neighborhoods) as a contribution to the reduction of the housing deficit and improvement of the quality of life.</td>
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### APPENDICES

**15.2 APPENDIX B2 - SDG**

**SDG**

**TARGETS**

1. End poverty in all its forms everywhere

2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture

3. Ensure healthy lives and promote well being for all at all ages

4. Ensure inclusive and quality education for all and promote lifelong learning

5. Achieve gender equality and empower all women and girls

6. Ensure access to water and sanitation for all

7. Ensure access to affordable, reliable, sustainable and modern energy for all

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1. By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other property rights, inheritance, natural resources, appropriate technology and financial services, including microfinance.

2. By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round.

3. By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.

4. By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.

5. By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.

6. By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university, and promote lifelong learning opportunities for all, especially for vulnerable groups.

7. By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially reducing the proportion of people using unimproved water and sanitation facilities.

8. By 2030, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.

9. By 2030, double the global rate of improvement in energy efficiency.
6: Promote inclusive and sustainable economic growth, employment and decent work for all

8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value-added and labour-intensive sectors

8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services

8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 20-year framework of programmes on sustainable consumption and production, with developed countries taking the lead

8.6 By 2020, substantially reduce the proportion of youth not engaged in employment, education or training

8.12 By 2020, develop and operationalize a global strategy for youth employment and implement the Global Jobs Pact of the International Labour Organization

8: Promote inclusive and sustainable industrialization and foster innovation

9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

9.2 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities

9.3 Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets

9.4 By 2030, facilitate the international trade and integration of small- and medium-sized enterprises, especially in the least developed countries, in accordance with their economic capacities and international laws and agreements

9.5 By 2030, enhance international cooperation to support the transfer of technology to develop and implement, in line with the 20-year framework of programmes on sustainable consumption and production, with developed countries taking the lead

9.6 By 2030, achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value-added and labour-intensive sectors

10: Reduce inequality within and among countries

10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status

10.10 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

10.12 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature

11: Make cities inclusive, safe, resilient and sustainable

11.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

11.4. By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums

11.5 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries

11.6 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums

11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons with persons with disabilities

11.8 By 2030, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels

12: Ensure sustainable consumption and production patterns

12.2 By 2030, achieve the sustainable management and efficient use of natural resources

12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses

12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment

12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse

12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle

12.7 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature

12.8 By 2030, substantially reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

12.9 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment

17: Revitalize the global partnership for sustainable development

17.1 Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the sustainable development goals, including through North-South, South-South and triangular cooperation

17.2 Foster global partnerships, encourage the private sector and civil society to contribute to the implementation of the sustainable development goals and support statistical capacity-building in developing countries

17.3 Encourage and promote effective public, private and civil society partnerships, building on the experience and resources of existing partnerships

17.9 Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the sustainable development goals, including through North-South, South-South and triangular cooperation

APPENDICES

Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all

adaptation to climate change, resilience to disasters, and develop and implement, in line with the

implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and
to climate change, resilience to disasters, and develop and implement, in line with the

implementation of the sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally

enhance the conservation of mountain ecosystems, including their biodiversity, in order to

enhance their capacity to provide benefits that are essential for sustainable development

sustainable and biodiverse ecosystems

international initiatives to develop measurements of progress on sustainable development,

societies

peacful and inclusive societies

Significantly reduce all forms of violence and related death rates everywhere

significantly increase financial resources from all sources to conserve and

sustainability and biodiverse ecosystems

promote the implementation of sustainable management of all types of forests, halt
deforestation, restore degraded forests and substantially increase afforestation and reforestation globally

regenerate forests, combat desertification, halt and reverse land degradation, halt biodiversity loss

social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status

take action in accordance with their respective capabilities

investments to develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels.

reduces their release to air, water and soil in order to minimize their adverse impacts on human

sustainable consumption and production, with developed countries taking the lead

sustainable development and lifestyles in harmony with nature

sustainable development and lifestyles in harmony with nature

5.1. By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements

3.9 Improve education, awareness-raising and human and institutional capacity on climate

1.2 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums

building on the experience and resources of existing partnerships

22.7 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries

12.10 Encourage and promote effective public, private and civil society partnerships, building on the experience and resources of existing partnerships

RESILIENT QUITO
15.3 APENDIX C: CONTRIBUTION OF ACTIONS TO DIFFERENT GOALS

The multidimensionality of Resilience Strategy actions is evidenced in their contribution to different goals, both to the pillar to which they belong, and to other pillars' goals. The diagram shows which pillars and how many goals benefit from various actions, highlighting goals whose actions have a greater contribution in the process of building a resilient city.