ADDIS ABABA

RESILIENCE STRATEGY

ADDIS ABABA CITY ADMINISTRATION
MAYOR'S OFFICE

RESILIENT
GLOBAL
RESILIENT
CITIES
NETWORK

RESILIENT ADDIS ABABA

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LETTER FROM THE MAYOR

Takele Uma Benti

Addis Ababa is Ethiopia's capital, growth engine, and home to 25% of the country's urban population. With these privileges, our city has a responsibility to serve as a model for others across Ethiopia and the East African region. The Addis Ababa Resilience Strategy represents a vital step forward in that mission.

This is a strategy created by and for the people of Addis Ababa. Throughout this process, the tireless staff of the Addis Ababa Resilience Project Office (AARPO) successfully engaged with stakeholders from across the city, including some of the most vulnerable residents such as homeless persons and people with disabilities.

In combination, the Resilience Strategy's three pillars, 13 goals, and 48 actions support Addis Ababa's ambition of flourishing into a safe, livable, and prosperous city by 2030. We will employ our resources and draw upon our core values of diversity and solidarity to forge a resilient and sustainable path forward for all who call Addis Ababa home. Experience shows that we as a city are able to accomplish so much when we come together, whether it may be exceeding the world record for trees planted in a single day, or for the number of attendees at a mass sport event. With the power of our unity, we can make Addis Ababa stronger, more prepared, and more resilient for decades to come.

As we begin to bring this Resilience Strategy to life, let me call on all residents and members of the global diaspora community to make their contribution. Volunteering your time for activities such as street cleaning and tree planting will go a long way toward achieving our goal of revitalizing our local ecosystems and creating a healthy environment for all. I invite you to explore a host of simple actions indicated throughout the Strategy, and encourage you to partner with AARPO to start making your individual contributions to our city's resilience.

This strategy complements the Addis Ababa City Administration's multifaceted approach in addressing critical urban challenges – including the Greening Addis, Beautifying Sheger, and Renew Addis Ababa initiatives to provide upgraded spaces for our youth and elderly population, combating poverty through the Serve Addis initiative, and many more catalytic projects. The Resilience Strategy adds an exciting layer to this work, presenting innovative solutions to some of our city's biggest challenges. One such example looks at making use of the emerging tech sector to fortify and advance municipal service delivery. Another example aims to leverage the city's rich and dynamic informal social groups to strengthen community-based resilience against a variety of shocks and stresses.

The COVID-19 global pandemic is a stark reminder of the need to accelerate our resilience-building efforts. The City is intensively engaged in combating and controlling the spread of the virus in collaboration with health professionals, youth groups, artists, media, religious leaders, universities, businesses, development partners, and other relevant stakeholders. As well as maintaining critical services and conducting its regular development initiatives, the City is designing livelihood interventions for highly vulnerable and at-risk groups, particularly homeless and low-income people, in order to reduce the impact of the pandemic.

The Resilience Strategy includes a number of initiatives that can be deployed to further strengthen our response to the pandemic and ensure that the path forward is not a return to "business as usual", but one that leads to greater resilience to the current and unforeseen crises. In this regard, the role played by the City in general and AARPO in particular is vital and meaningful.

I fully support the implementation of this timely Resilience Strategy, which has so much to offer our city. With this as our roadmap, together we can secure the best possible future for a strong, resilient Addis Ababa.

LETTER FROM THE CHIEF RESILIENCE OFFICER

Dr. Moges Tadesse

On behalf of the Addis Ababa Resilience Project Office (AARPO), I would like to extend my profound thanks to The Rockefeller Foundation, 100 Resilient Cities, and the Global Resilient Cities Network for their continued support in making this Resilience Strategy a reality. I would especially like to thank Dana Omran and Caroline Raes for their dedication, commitment, and invaluable contributions throughout the strategy development process. I also want to extend a special thanks to our Mayor, His Excellency the Honorable Engineer Takele Uma Benti for his unwavering commitment to making resilience a priority of his administration.

The Addis Ababa Resilience Strategy encompasses three pillars, 13 goals, and 48 innovative initiatives that respond to the city's biggest challenges. It is a holistic and comprehensive approach that articulates actions to make the city smarter and more resilient in terms of people, economy, mobility, environment, and governance.

This strategy is the result of over two years of tireless work by the Addis Ababa Resilience Project Office. I want to extend my warmest thanks and appreciation to the ougoing CRO and the team for their dedication, analytical rigor, and diligence. I also sincerely thank all the stakeholders and partners in and around the city who have actively participated in the strategy development process. This strategy is a truly inclusive roadmap that emerges from deep engagement with our communities and partners. AARPO believes that inclusive and collective action are vital to building a resilient Addis Ababa. As we begin to implement, we will continue this spirit of inclusiveness through building partnerships, catalyzing actions, and mobilizing resources.

The Resilience Strategy is not meant to sit on a shelf, and we hope to count on the help of all city agencies, residents, businesses, and other stakeholders, to implement these initiatives and together build a more resilient Addis Ababa. Implementation will require significant coordination and collaboration, and we hope to continue engaging with the government agencies, development partners, academic institutions, the private sector, and civil society to ensure collective ownership of the resilience agenda. Our success will also rely on working across geographic boundaries, and on finding solutions across different disciplines and sectors.

We hope this strategy will inspire you to join us in building a safer, more livable, and prosperous Addis Ababa.

LETTER FROM THE OUTGOING
CHIEF RESILIENCE OFFICER

Fitsumbrhan Tsegaye

LETTER FROM THE GLOBAL RESILIENT
CITIES NETWORK

Dana Omran
Managing Director, Africa

It is with great pride that I present to you the Addis Ababa Resilience Strategy, a result of over two years' hard work and collaboration. I would like to thank our city leadership for their unwavering commitment throughout this period. Because of their vision, the Addis Ababa Resilient Project Office (AARPO) was legally established by Proclamation No. 89/2017 in 2017 to lead the development of this Resilience Strategy and the extensive stakeholder engagement at its core. Since January 2019, AARPO has been housed under the City's Plan and Development Commission, ensuring that urban resilience is more securely institutionalized in the city's planning processes.

The administrative capital of Ethiopia and the unofficial diplomatic capital of the continent, Addis Ababa faces some of the fastest rates of population growth and urbanization worldwide. This is already having immense effects on how our city operates, provides basic services, and forges partnerships with residents, communities, and businesses. A changing climate, a more open and competitive economy, and an expanding population will each bring their own set of challenges and opportunities in the years to come.

The Addis Ababa Resilience Strategy investigates the acute shocks and chronic stresses that threaten our city, taking the time to understand their root causes, and providing 48 innovative and action-oriented initiatives for a prosperous path forward. These actions incorporate not only the expert knowledge of local and international resilience practitioners, but also the lived experiences of the people of Addis Ababa, especially our urban poor and those most vulnerable to twenty-first-century challenges. The Strategy is moreover a timely document, to be consulted in line with ongoing citywide and national reforms.

I remain indebted to the AARPO staff and their hard work: the Addis Ababa Resilience Strategy would not have been possible without the commitment and drive of this broad and diverse group of energetic experts. Finally, all of us at AARPO express our gratitude to the team at 100 Resilient Cities, whose technical support and friendship have greatly strengthened our resilience work.

Congratulations to Mayor Takele Uma Banti and the City of Addis Ababa on the release of the Addis Ababa Resilience Strategy. This roadmap for resilience is a major milestone for the City and for our partnership, offering a bold vision for a safe, livable, and prosperous Addis Ababa, now and in the future.

A regional leader, Addis Ababa serves not only as the diplomatic capital of Africa, but also as a model for ethnic, cultural, religious, and economic diversity. As the city continues to experience rapid growth, it remains essential to draw on these core strengths in order to address new goals such as affordable housing, safe and accessible streets, safeguarding the environment, and ensuring inclusive growth for all who live and work in Addis Ababa.

This Resilience Strategy takes the critical step of recognizing Addis Ababa's assets and leadership to date, while acknowledging its challenges and identifying ways to fill those gaps. This work is the product of broad engagement with a multitude of local residents, community leaders, and other stakeholders from across different sectors, and represents a blueprint for establishing a more resilient future.

In the following pages, the Addis Ababa Resilience Strategy offers new, tangible ideas for placing people and the environment at the center of governance and growth. Three pillars and 48 actions put forth a vision for a city that is Smart and thriving, healthy and livable, and home to communities that are connected, inclusive, and safe. Important initiatives to support the city's tech economy, modernize the waste management program, and build sustainable food systems, will set the city on a path for success. New citywide competitions related to integrated housing and public spaces will surface best-in-class ideas from stakeholders across Addis Ababa and plant the seeds for resilience at the community level.

This work would not have been possible without the dedication of the Addis Ababa Resilience Project Office (AARPO). Through their efforts, and with the support of the City Administration, Addis Ababa is poised to confront some of its most intractable resilience challenges and set an example for the rest of Ethiopia and the African continent.

While the release of the Addis Ababa Resilience Strategy marks a critical milestone in the city's resilience journey, we recognize that the work is far from over. Great commitment is required to implement these actions, and we look to the AARPO team to serve as a coordinator, convenor, and resource mobilizer. We look forward to partnering with the City to help turn the vision of a safe, livable, and prosperous Addis Ababa into a reality.

Acronyms

AACA Addis Ababa City Administration

AACB Addis Ababa Construction Bureau

AACCSA Addis Ababa Chamber of Commerce and Sectoral Association

AACRA Addis Ababa City Road Authority

AACTB Addis Ababa City Culture, Arts and Tourism Bureau

AAEB Addis Ababa Education Bureau

AAEPGDC Addis Ababa Environmental Protection and Green Development Commission

AAFDRMC Addis Ababa Fire and Disaster Risk Management Commission AAHB Addis Ababa Health Bureau

AAHDAB Addis Ababa Housing Development and Administration Bureau

AAIC Addis Ababa Investment Commission

AAJOCEDB Addis Ababa Job Opportunity Creation and Enterprise Development Bureau

AAPDCo Addis Ababa City Plan and Development Commission

AALSAB Addis Ababa Labour and Social Affairs Bureau

AARBGADAA Addis Ababa River Basins and Green Areas Development and Administration Agency

AAPC Addis Ababa Police Commission

AAPSHRDB Addis Ababa Public Service and Human ResourceDevelopment Bureau

AARTMA Addis Ababa Road Traffic Management Agency

AARPO Addis Ababa Resilience Project Office

AASTA Addis Ababa Science and Technology Agency

AASTU Addis Ababa Science and Technology University

AASWMA Addis Ababa Solid Waste Administration Agency

AATA Addis Ababa Transport Authority

AATB Addis Ababa Transport Bureau

AATIDB Addis Ababa Trade and Industry Development Bureau

AATMA Addis Ababa Traffic Management Agency

AAU Addis Ababa University

AAWCAB Addis Ababa Women and Children Affairs Bureau

AAWSA Addis Ababa Water and Sewerage Authority

ACBSE Anbesa City Bus Service Enterprise

AFD Agence Française de Développement

BCP Business Continuity Plan

BRT Bus Rapid Transit

CCC Community Care Coalition

CPA Critical Physical Asset

CRF City Resilience Framework

CRO Chief Resilience Officer

CSA Central Statistical Agency

CSO Civil Society Organization

CWRA City Water Resilience Assessment

DRM Disaster Risk Management

ECSU Ethiopian Civil Service University

EEU Ethiopia Electric Utility

EFCCC Environment, Forest and Climate Change Commission

EHIA Ethiopian Health Insurance Agency

EiABC Ethiopian Institute of Architecture, Building Construction, and City Development

EOC Emergency Operation Center

ERC Ethiopian Railway Corporation

EWI Early Warning Information

FAO Food and Agriculture Organization

FENAPD Federation of Ethiopian National Associations with Persons with Disabilities

GDP Gross Domestic Product

GEF Global Environment Facility

GHG Greenhouse Gas

GI Green Infrastructure

GiZ German Agency for International Cooperation

GoE Government of Ethiopia

GRCN Global Resilient Cities Network

GTP Growth and Transformation Plan

HOV High Occupancy Vehicle

ICRC International Committee of the Red Cross

ICT Information and Communications Technology

IHDP Integrated Housing Development Program

INGO International Non-Governmental Organization

INSA Information Network Security Agency

IT Information Technology

ITDP Institute for Transportation and Development Policy

JICA Japan International Cooperation Agency

KMU Kotebe Metropolitan University

KPI Key Performance Indicator

LED Light-Emitting Diode

LRT Light Rail Transit

MINT Ministry of Innovation and Technology

MoE Ministry of Education

MoH Ministry of Health

MoLSA Ministry of Labour and Social Affairs

MoR Ministry of Revenue

MoSHE Ministry of Science and Higher Education

MoT Ministry of Transport

MoTI Ministry of Trade and Industry

MoUDC Ministry of Urban Development and Construction

MoWIE Ministry of Water, Irrigation, and Electricity

MSE Micro and Small Enterprise

NACTO National Association of City Transportation Officials

NDRMC National Disaster Risk Management Commission

NGO Non-Governmental Organization

NMT Non-Motorized Transportation

ONRS Oromia National Regional State

PM Particulate Matter

PPP Polluter Pays Principle

PRA Preliminary Resilience Assessment

PSO Private Sector Organization

PWD Persons with Disabilities

R&D Research and Development

RfP Request for Proposal

RVS Rapid Visual Screening

SDG Sustainable Development Goals

SNV Netherlands Development Organization

SOP Standard Operating Procedure

STEM Science, Technology, Engineering, and Mathematics

SUWSSP Second Urban Water Supply and Sanitation Project

TNC The Nature Conservancy

TVET Technical Vocational Education and Training

UHI Urban Heat Island

UNCRPD United Nations Convention on the Rights of Persons with Disabilities

UNDP United Nation Development Program

UNDRR United Nation Disaster Risk Reduction

UNEP United Nation Environment Program

UNIDO United Nations Industrial Development Organization

UPSNP Urban Productive Safety Net Program

USAID United States Agency for International Development

USEPA United States Environmental Protection Agencyy

WB World Bank

WHO World Health Organization

WRI World Resources Institute

WWTP Wastewater Treatment Plant

100RC 100 Resilient Cities

Executive Summary

Addis Ababa, the capital of Ethiopia, was founded in 1886 by Menelik II and Empress Taitu Betul. Our city is the seat of several international organizations such as the African Union and the United Nations Economic Commission for Africa. Addis Ababa is a religiously and ethnically diverse city, and home to an estimated 31,000 refugees of over 21 different nationalities.[1] As Addis Ababans, we exhibit a great sense of pride in our city's identity of cultural and religious diversity, as well as valuing its historical, political, and diplomatic prominence in the continent.

With an estimated population of 3.7 million inhabitants, Addis Ababa is the single largest urban center in the country and is currently growing at an annual rate of 3.8%[2], making it one of the fastest urbanizing cities in the world. Addis Ababa is the engine of Ethiopia's rapidly expanding economy. Although it represents only 3.6% of the country's total population, our city contributes 30% of national urban Gross Domestic Product (GDP) and 68% of total urban jobs. Despite the rapid and steady economic progress registered over the past two decades, Addis Ababa faces various shocks and stresses that could hinder it from achieving its development goals. Shocks include flooding, urban fire, and disease outbreak; stresses include rapid and uncontrolled urbanization, water scarcity, and high unemployment.

To tackle these challenges, in May 2016 Addis Ababa joined the 100 Resilient Cities network, an initiative pioneered by the Rockefeller Foundation. As part of this program, in 2017 the City appointed a Chief Resilience Office (CRO), and in 2018 established the Addis Ababa Resilience Project Office (AARPO) to oversee the development of a holistic Resilience Strategy. This Resilience Strategy serves as a tactical roadmap for building resilience in the city and is the result of two years of extensive research and stakeholder engagement. It builds on 47 face-to-face interviews, 11 workshops, eight focus group discussions and a citywide door-to-door survey which gathered input from over 5,000 respondents, including poor and vulnerable residents. These inputs have shaped the city's resilience priorities and the specific initiatives for short-, medium-, and long-term implementation articulated in this document.

1 Brown, A., Mackie, P., Dickenson, K., & Gebre-Egziabher, T. (2018). Urban refugee economies: Addis Ababa, Ethiopia. London: IIED.

2 World Bank. (2015a). Ethiopia urbanization review. Washington, DC: World Bank.

Our vision is to see Addis Ababa flourish into a safe, livable, and prosperous city by 2030.

We will stay true to our core values of diversity and solidarity, and continuously learn from the past to ensure that the environment, and most importantly people, are at the center of our governance and growth.

Addis Ababa's Resilience Strategy has

3 pillars   13 goals   48 actions
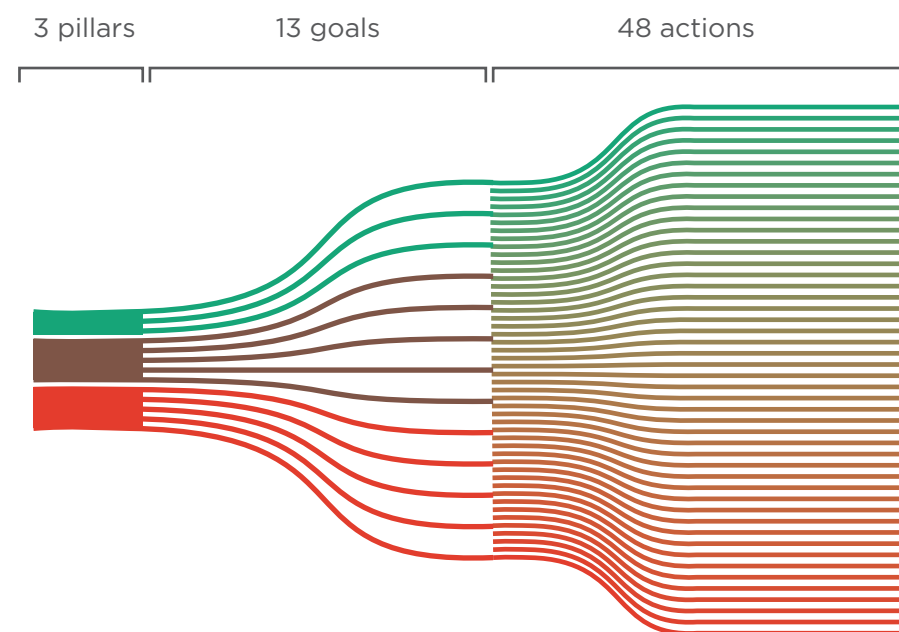
The three pillars are strategic directions that will guide our city in achieving its vision.

The **48 actions,** grouped under **13 goals**, will address the prioritized shocks and stresses identified during the strategy development process.

Pillar 1: A Smart and thriving city

While Addis Ababa's economy has been steadily growing for decades, the benefits of this growth remain unevenly distributed among its rapidly expanding population. High rates of unemployment exist alongside untapped opportunities to expand into high-productivity sectors and to effectively harness the informal economy. The first pillar of the Strategy is about forging the economy of the future and fostering an enabling environment for the businesses and people of Addis Ababa to thrive. Initiatives in this pillar build on different programs of the Addis Ababa City Administration to improve service delivery and to create more transparent and inclusive governance systems, and aim to support and make way for decent jobs in new and emerging industries.

Pillar 2: Connected, inclusive, and safe communities

Fueled by rapid urbanization and increasing rural-urban migration, Addis Ababa's communities are growing. This places tremendous pressure on the provision of critical services that constitute the backbone of the city, such as safe and affordable housing and transportation. As a result, our communities are disconnected and residents are unable to access jobs, markets, and basic services. While significant steps have been taken to meet the growing demand for inclusive housing and mobility, many interventions have fallen short of their full potential, due to their lack of integrated and human-centric approach.

Rapid urban transformation is also weakening Addis Ababa's socially mixed urban fabric and strong sense of neighborhood-based solidarity. Additionally, our communities are increasingly exposed to both known and unknown disaster risks connected to poorly managed urbanization and economic activities. While efforts to protect and empower residents, particularly vulnerable groups, against various shocks and stresses have been inadequate, our vibrant informal social groups (i.e. *Ïddīr*, *Ïqqub*, and *mahbär*) provide a unique opportunity to build resilience from the grassroots upward.

Our second pillar aims to transform Addis Ababa's communities into more inclusive, connected, and safe centers of resilience by embracing a participatory, human-centric approach to planning the city of today and tomorrow. Initiatives in this pillar offer innovative strategies for improving urban housing and mobility, and empowering and protecting vulnerable groups, while also nurturing a sense of community resilience and disaster preparedness among all residents of Addis Ababa.

Pillar 3: Healthy and livable places

Over the years, Addis Ababa has expanded and developed at the expense of its natural ecosystems. Environmental degradation, especially when combined with a changing climate, make us extremely vulnerable to a number of risks ranging from flooding to water scarcity, that threaten the livelihood, health, and well-being of our residents. This third pillar seeks to improve our city's ability to effectively protect its natural resources and ecosystems and thereby secure a more sustainable future. Initiatives in this pillar address water as a finite resource and an economic good, improve access to sanitation and modernize solid waste management, reclaim our mountain ranges, accelerate air quality improvement, and promote energy efficiency and the development of new green spaces.

Following the release of the Resilience Strategy, the next step will be the implementation of the identified resilience-building actions, further institutionalizing and embedding resilience into city systems, monitoring progress, as well as communicating and amplifying on our results and impacts. Additionally, we will leverage the Resilience Strategy to shape and support the City's COVID-19 response and recovery efforts. The role of the AARPO in the implementation phase will be that of a coordinator, integrator and resource mobilizer. We gratefully acknowledge the support and contribution of those who have actively participated in the two-year strategy development process. We look forward to our continued collaboration to translate this document into tangible impact for all of our city's residents.

Introduction

About the Global Resilient Cities Network (GRCN)

The Global Resilient Cities Network (GRCN) is the city-led organization that is driving urban resilience action to protect vulnerable communities from climate change and other physical, social, and economic challenges facing cities globally. Launched in September 2019, GRCN is the successor to 100 Resilient Cities (100RC), an initiative pioneered by The Rockefeller Foundation.

From 2014 to 2019, cities in the 100RC network were offered four types of support:

- **Funding for hiring a Chief Resilience Officer (CRO)** to lead the resilience-building efforts in the city

- **Technical support and analytical tools** to develop and implement a customized City Resilience Strategy

- **Access to 100RC's platform** of 130 pro-bono planning, research, and analysis services from over 90 partners valued at over $250 million

- **Membership in 100RC'S network** with opportunities for knowledge sharing and peer-to-peer collaboration with other cities across the globe.

CITIES IN THE 100RC NETWORK

CHIEF RESILIENCE OFFICER (CRO)
"The CRO is an innovative feature of 100RC's program, specifically designed to break down existing barriers at the local level, account for pre-existing resilience plans, and to create partnerships, alliances and financing mechanisms that will address the resilience vulnerabilities of all city residents, with a particular focus on low-income and vulnerable populations."

100RC helped to support the development of the Addis Ababa Resilience Strategy. With support from The Rockefeller Foundation and other funding strategic partners, the Global Resilient Cities Network aims to continue supporting cities and their Chief Resilience Officers in future-proofing their communities and critical infrastructure with a unique reach, strength, and legacy to understand and support the ever-evolving challenges of the rapidly growing urban society.

The Addis Ababa Resilience Project Office

In May 2016, Addis Ababa was selected to join the 100RC Network from among 325 applicant cities worldwide. Addis Ababa was chosen because of its strong commitment to develop and implement an inclusive and integrated City Resilience Strategy that will serve as a roadmap for building resilience in the city. To lead this work, the City appointed a Chief Resilience Officer (CRO) and established the Addis Ababa Resilience Project Office (AARPO).

Led by the CRO, the AARPO is responsible for coordinating the development and implementation of Addis Ababa's first Resilience Strategy. In addition, the AARPO plays an important role in establishing partnerships with government agencies at all levels, development partners, civil society, and the private sector, for the execution of the strategy. It is responsible for developing proposals for bankable projects and securing resources for the successful implementations of initiatives included in the Resilience Strategy. The AARPO is accountable to the Addis Ababa city Plan and Development Commission (AAPDCo).

AARPO TEAM IN NOVEMBER 2019

City resilience

What is city resilience?

Urban resilience is "the capacity of individuals, communities, institutions, businesses, and systems within a city to survive, adapt, and grow, no matter what kinds of chronic stresses and acute shocks they experience."

For cities to become resilient, they need to consider not just acute shocks – one-time catastrophic events such as earthquakes, droughts, floods – but also the day-to-day stresses, such as water shortages, high unemployment, and poverty, which weaken the fabric of a city over time. By addressing shocks and stresses together, a city is better able to overcome adverse events and deliver essential functions in both good and bad times to all its residents, particularly the poor and the vulnerable.

What are shocks and stresses?

Shocks are sudden sharp events that threaten a city, such as earthquakes, fires, and floods. **Stresses** weaken the fabric of a city on a day-to-day or cyclical basis, for example, high unemployment, lack of affordable housing, or inadequate waste management.

The City Resilience Framework

Developed by Arup with support from the Rockefeller Foundation, the City Resilience Framework (CRF) is a key tool used throughout the Resilience Strategy Development process. The CRF provides a lens to understand the complexity of cities and drivers that contribute to their resilience, and a common language that enables cities to share knowledge and experience. It is built on four essential dimensions of urban resilience:

CITY RESILIENCE FRAMEWORK
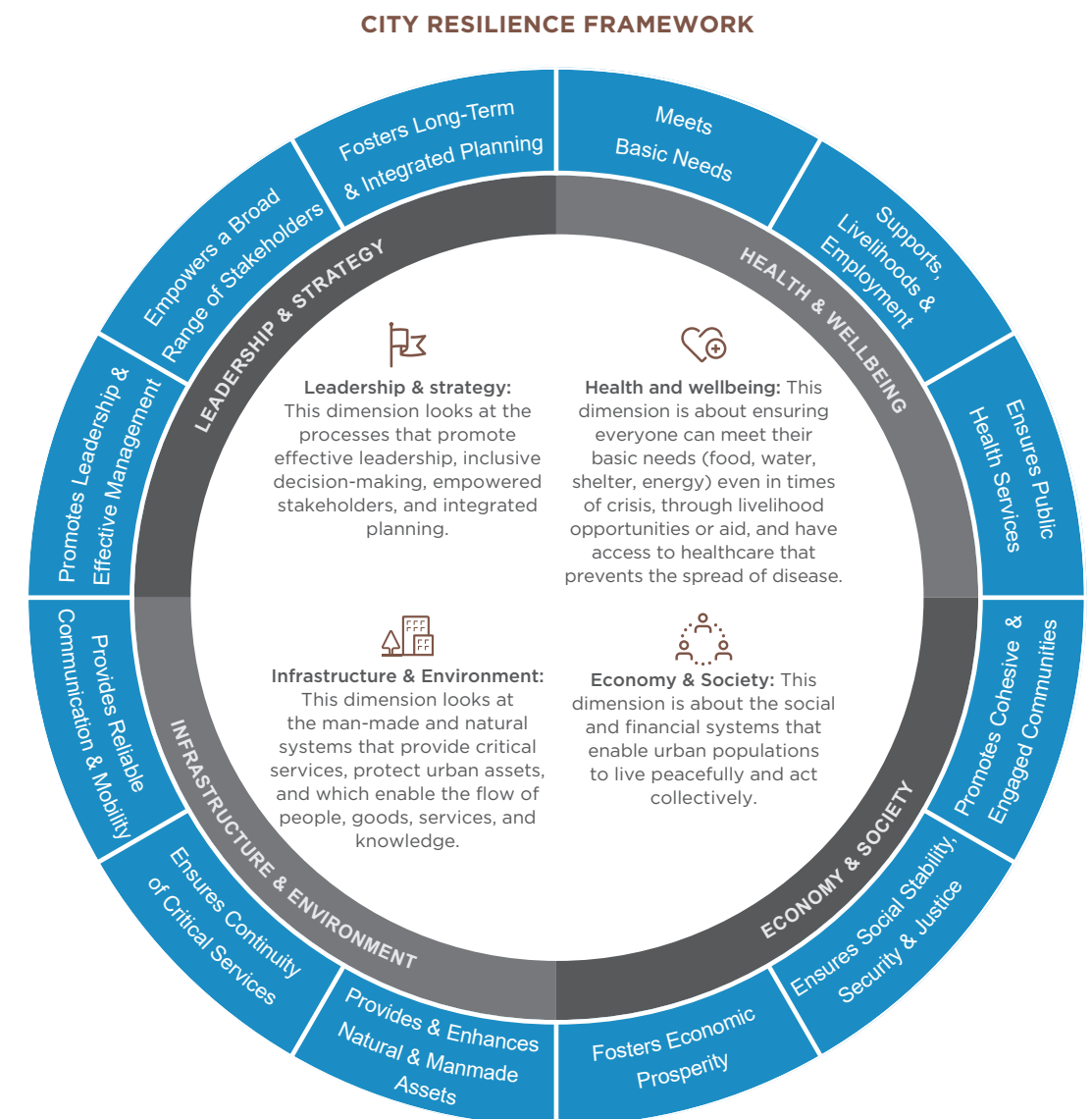
Each of the four dimensions is further divided into three drivers that reflect the actions that cities can take to improve their resilience. These 12 drivers form the core of the CRF, and together represent a city's resilience to a wide range of shocks and stresses. Fundamental to the CRF is the idea that resilience cannot be achieved through a single action: it requires multiple actions at multiple levels. Resilience is the result of cumulative action to strengthen the 12 drivers over time.

About this Resilience Strategy

The Resilience Strategy is a tactical roadmap for building resilience in the city. The Strategy articulates the city's resilience priorities and specific initiatives for short-, medium-, and long-term implementation. The main purpose of the Resilience Strategy is to trigger action, investment, and support within city government and beyond to build a more resilient Addis Ababa. There are two principal phases in the development of the Resilience Strategy:

PHASE I
Building on extensive stakeholder engagement and analysis, Phase I aims to establish a baseline of Addis Ababa's existing state of resilience and to identify cross-cutting Discovery Areas, or priority questions, to guide deeper exploration and examination in Phase II. Phase I concludes with the development of the Preliminary Resilience Assessment (PRA).
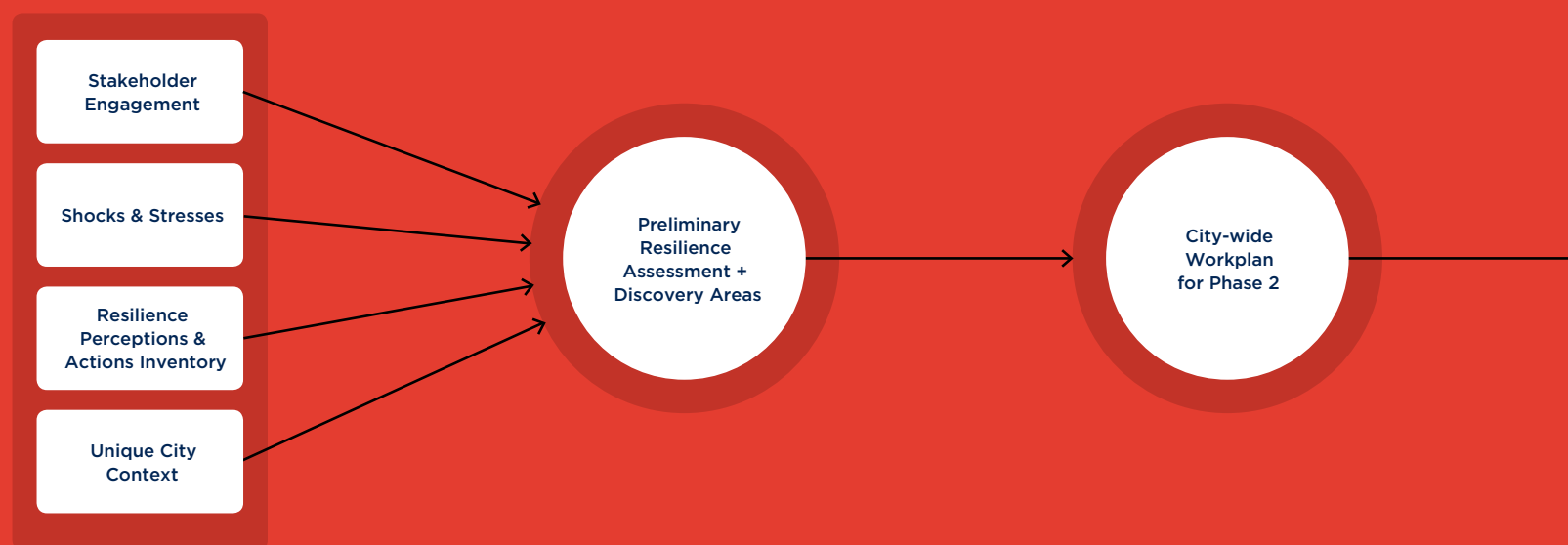

PHASE II
Phase II encompasses the strategy build-out. During this phase, research and deeper diagnostic is conducted into each of the Discovery Areas. These diagnostics and assessments are then turned into actionable initiatives and projects, which are included in the Resilience Strategy.
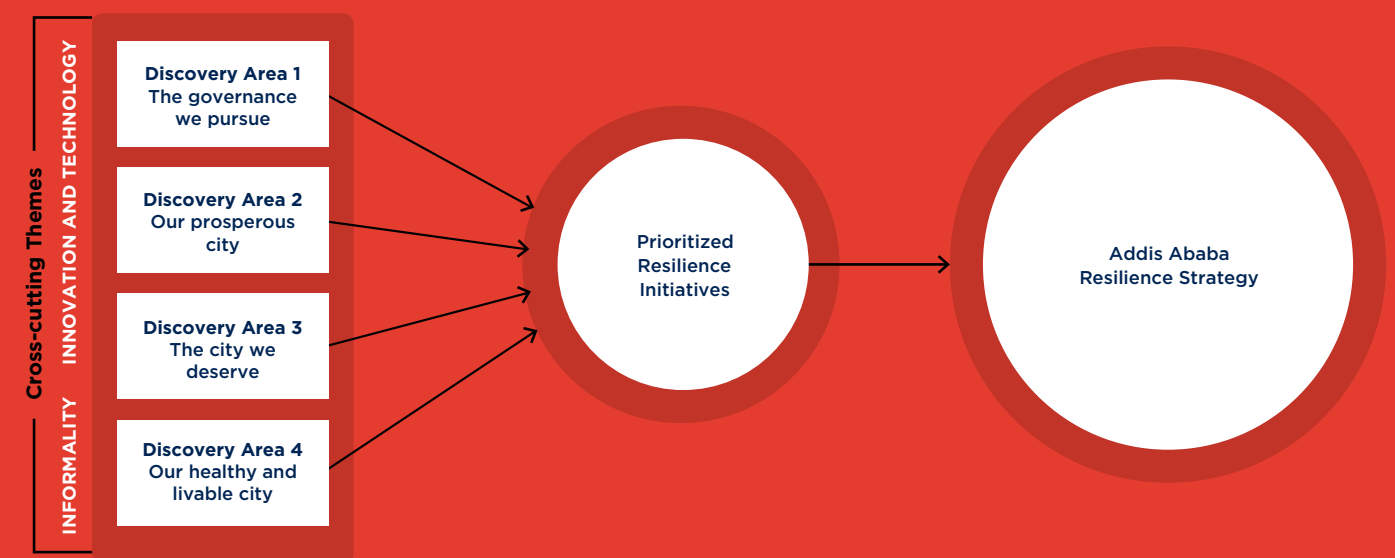
Following the release of the Resilience Strategy, the focus will pivot towards implementation of the identified resilience-building initiatives, institutionalizing and embedding resilience in city systems, monitoring progress and impact, and communicating and amplifying our results and impacts. Additionally, the AARPO will partner closely with city agencies to ensure that resilience is embedded in COVID-19 response and recovery plans. The AARPO's role in the implementation phase will be that of a coordinator, integrator, and resource mobilizer.

Strategy Development Process

Phase 1

- Stakeholder Engagement
- Shocks & Stresses
- Resilience Perceptions & Actions Inventory
- Unique City Context

→ Preliminary Resilience Assessment + Discovery Areas

→ City-wide Workplan for Phase 2

Phase 2

Cross-cutting Themes: INNOVATION AND TECHNOLOGY / INFORMALITY

- Discovery Area 1 The governance we pursue
- Discovery Area 2 Our prosperous city
- Discovery Area 3 The city we deserve
- Discovery Area 4 Our healthy and livable city

→ Prioritized Resilience Initiatives

→ Addis Ababa Resilience Strategy

Addis Ababa's resilience journey

2016

MAY
Addis Ababa joined the 100RC Network.

DECEMBER
Addis Ababa and 100RC held an Agenda Setting Workshop, marking the beginning of the partnership.

2017

NOVEMBER
AARPO was established by regulation for a period of five years.

2018

FEBRUARY
The Mayor appointed Fitsumbrhan Tsegaye as Addis Ababa's CRO.

JULY
Addis Ababa City Council appointed Engineer Takele Uma Benti as Deputy Mayor.

2018 (CONTINUED)

AUGUST
AARPO launched Phase 1 of the Strategy Development Process.

SEPTEMBER - OCTOBER
AARPO conducted extensive stakeholder engagement through several workshops, focus group discussions, interviews, an online survey, and a door-to-door survey.

NOVEMBER
100RC and AARPO teams held the Preliminary Resilience Assessment (PRA) Bootcamp.

DECEMBER
Addis Ababa hosted 100RC's first Africa Network Exchange focused on Urban Informality and City Resilience.

2019

JANUARY
Addis Ababa City Administration was restructured. AARPO was incorporated within the AAPDCo.

MARCH
The PRA was reviewed and approved by the city leadership.

APRIL
Addis Ababa is selected by Colu, a 100RC partner firm, to attend a workshop in Tel Aviv examining how a citywide digital currency can help cities become more resilient.

AARPO launches Phase II of the strategy development process.

MAY- JUNE
AARPO engaged with a wide range of stakeholders through thematic workshops and focus group discussions.

JULY
AARPO attended the 100RC Global Urban Resilience Summit in Rotterdam.

JULY - NOVEMBER
The Resilience Strategy was put in writing.

NOVEMBER
AARPO, GRCN and The Nature Conservancy (TNC) launched a partnership to assess the feasibility of establishing a Water Fund for Addis Ababa.

The City appointed Dr Moges Tadesse as the new CRO.

2020

JANUARY
AARPO consulted with action owners and potential partners to gather their feedback and approval.

FEBRUARY
The Resilience Strategy was reviewed and approved by the Mayor's Office.

MARCH–MAY
AARPO was mobilized in the City's COVID-19 response efforts.

MAY
AARPO analyzed the Resilience Strategy's goals and actions in the context of the COVID-19 global pandemic.

JUNE
The Addis Ababa Resilience Strategy was released.

Highlights of the stakeholder engagement process

560+
city officials and representatives from donors, private sector organizations (PSOs), and civil society organizations (CSOs) engaged

47
face-to-face interviews

11
workshops

8
focus groups discussions

5,392
residents engaged through the Phase I door-to-door survey

259
vulnerable residents (i.e. people with disabilities, slum dwellers, and homeless people)

Addis Ababa's engagement with the global network

ADDIS ABABA FORMER CRO IN CAPE TOWN FOR THE BUILDING A WATER RESILIENT CITY COLAB.

AARPO PARTICIPATES IN A WORKSHOP ORGANIZED BY COLU IN TEL AVIV TO EXAMINE HOW A CITYWIDE DIGITAL CURRENCY CAN HELP CITIES BECOME MORE RESILIENT.

AARPO HOSTED 100RC'S FIRST NETWORK EXCHANGE IN AFRICA WHICH BROUGHT TOGETHER HIGH-LEVEL OFFICIALS AND CHIEF RESILIENCE OFFICERS FROM ACCRA, CAPE TOWN, CHENNAI, LAGOS, MONTEVIDEO, PAYNESVILLE, AND SALVADOR TO EXPLORE THE CRUCIAL INTERSECTION BETWEEN INFORMALITY AND URBAN RESILIENCE.

IN JULY 2019, AARPO ATTENDS THE 100RC GLOBAL URBAN RESILIENCE SUMMIT IN ROTTERDAM.

Addis Ababa's context

DEMOGRAPHY

POPULATION
2018

3.7
million

CENTRAL STATISTICAL
AGENCY (CSA), 2013.

**ANNUAL POPULATION
GROWTH RATE**

↑ **3.8** %

WORLD BANK (WB), 2015A.

**PROJECTED
POPULATION**
BY 2037

5.1
million

CSA, 2013.

**POPULATION UNDER
AGE OF 30**

58 %

CSA, 2013.

SPATIAL CONTEXT

**TOTAL SURFACE
AREA**

520 km²

**POPULATION
GROWTH**
2007-2017

↑ **17** %

**URBAN FOOTPRINT
GROWTH**
2007-2017

↑ **51** %

**POPULATION
DENSITY DECLINE**
2007-2017

↓ **7** %

WB, 2015A.

1986

2000

2010
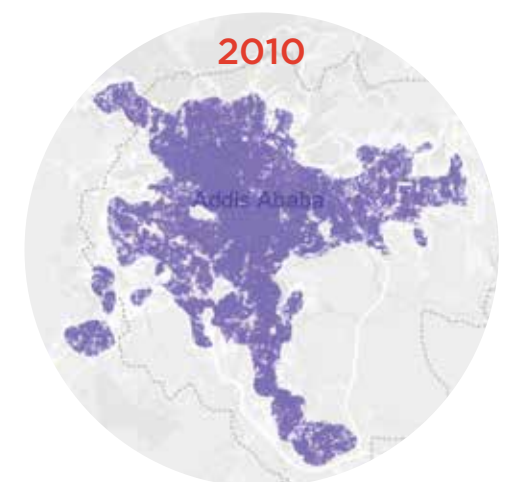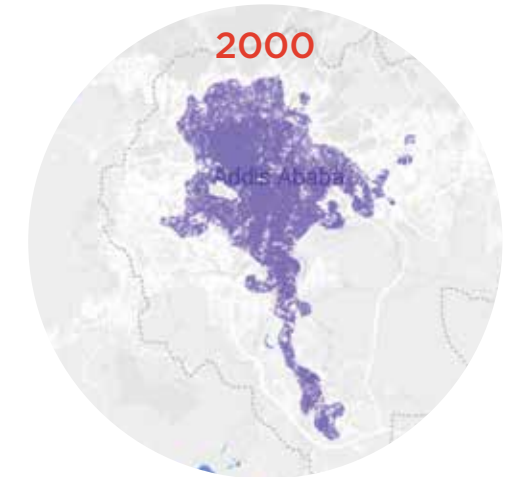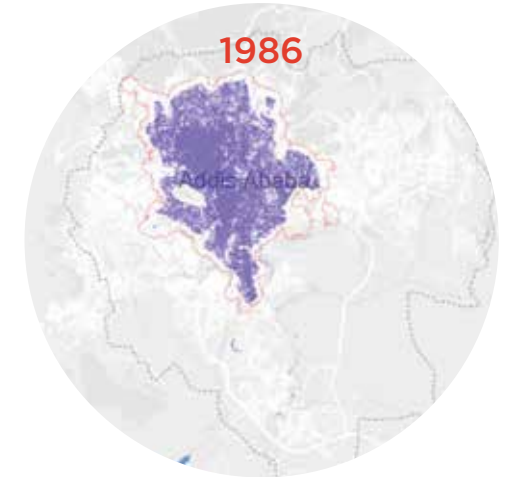
◆ **URBAN EXTENT**

ATLAS OF URBAN EXPANSION, 2016.

ADMINISTRATIVE

ADDIS ABABA IS...

THE FEDERAL CAPITAL

THE SEAT OF THE OROMIA NATIONAL REGIONAL STATE (ONRS) GOVERNMENT

A CHARTERED CITY [3]

ADMINISTRATIVELY DIVIDED INTO

10
kifle ketemas or subcities

FURTHER DIVIDED INTO

117
woredas or districts

ADMINISTRATIVE DIVISION OF ADDIS ABABA

WORLD BANK, 2015.

ECONOMY

ADDIS ABABA CONTRIBUTES TO

30%
OF URBAN GDP, 2015

WB, 2018.

68%
OF URBAN JOBS

WB, 2015A.

GDP SECTORAL SHARE

SERVICE 63%

INDUSTRY 36%

AGRICULTURE 1%

UN-HABITAT, 2017.

EDUCATION, LIVELIHOOD, AND EMPLOYMENT

LITERACY RATE [5]

80%

UNEMPLOYMENT RATE [6]

20%

ONE IN FIVE IS UNEMPLOYED

CSA, 2018.

ONE IN THREE IS UNDEREMPLOYED

24.1%
YOUTH UNEMPLOYMENT
25.3% NATIONALLY

CSA, 2018.

EMPLOYMENT BY MAJOR OCCUPATION, 2015

ELEMENTARY OCCUPATIONS — **20%**

CRAFTS AND RELATED — **15.4%**

TECHNICIANS — **8%**

PROFESSIONALS — **7.9%**

OTHER — **18%**

SERVICE AND SALES — **30.5%**

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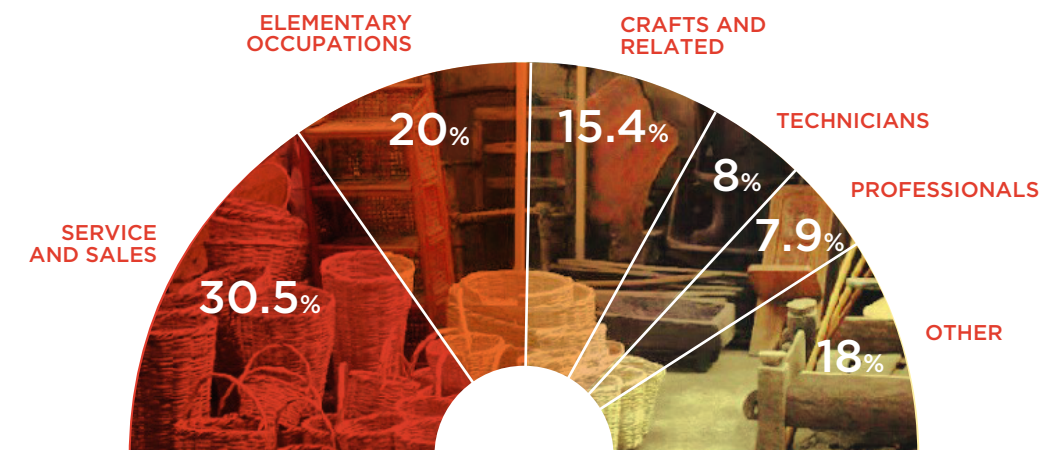
3 Charted city status grants Addis Ababa somewhat similar levels of autonomy as the nine national regional states.

5 UN-HABITAT (2017), The State of Addis Ababa Report.

6 Central Statistical Agency (2018), Urban Employment Unemployment Survey.

HOUSING

80%
SLUM HOUSING

Slum housing makes up nearly 80% of inner-city areas[7]

WB, 2015A.

x 1.2 million

Dwelling units needed to meet housing needs over next 10 years

Out of which,

420,000

housing units needed are for low income residents

ADDIS ABABA STRUCTURE PLAN, 2017.

WATER AND SANITATION

ACCESS TO SAFE DRINKING WATER

110 lt per capita per day — GOAL

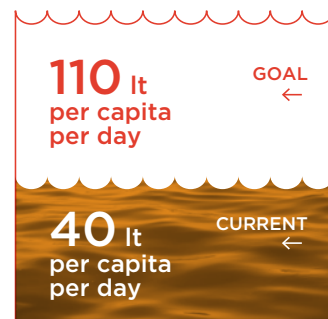**40 lt** per capita per day — CURRENT

WB, 2015C.

ACCESS TO IMPROVED SANITATION

7%

of city population is connected to a sewer system

SOLID WASTE COLLECTION

320,00 metric tons

solid waste per year

ARTELIA VILLE ET TRANSPORT, 2014.

65%

Only 65% of solid waste reaches landfills
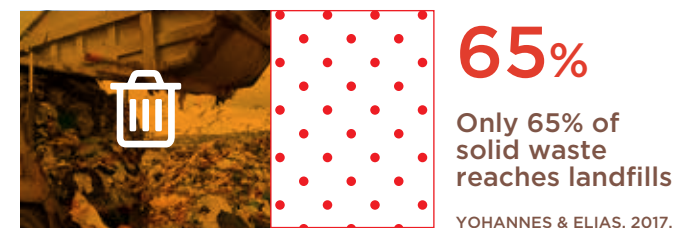
YOHANNES & ELIAS, 2017.

MOBILITY

4 million

daily trips

40

vehicles per 1,000 population

LSE CITIES , 2018.

MODAL SPLIT

WALKING 54%

PRIVATE CARS 15%

MINIBUS TAXI 14%
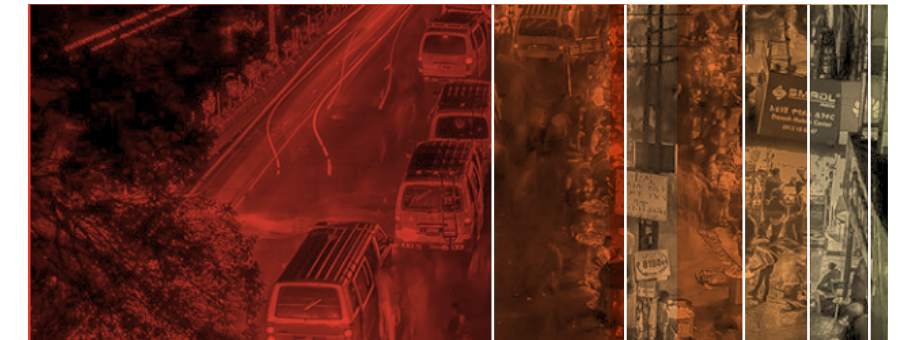
ADDIS ABABA CITY GOVERNMENT, 2018.

ANBESSA, SHEGER 8%

LRT 2%

INTERCITY BUS 7%

ENVIRONMENT

1.5 m²/capita

green area coverage

Well bellow WHO standard of 9m²

UN-HABITAT, 2017.

4.5 km²

of natural ecosystems lost per year

Between 1999 and 2015

UN-HABITAT, 2017.
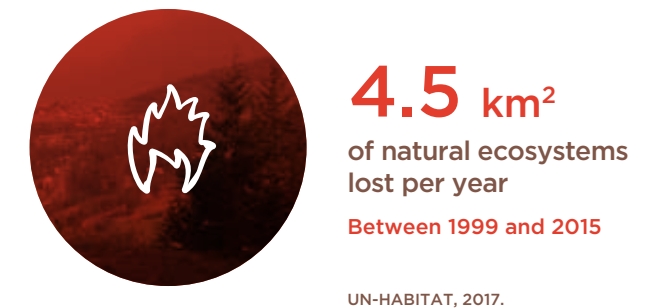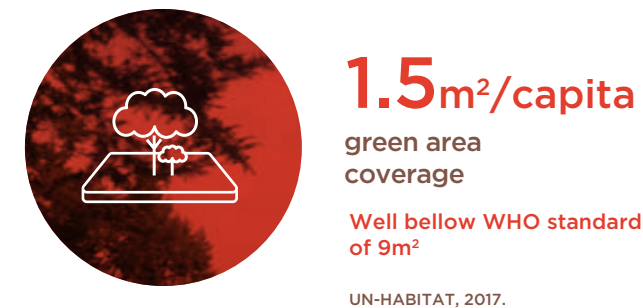
Addis Ababa's Resilience Challenges and Opportunities
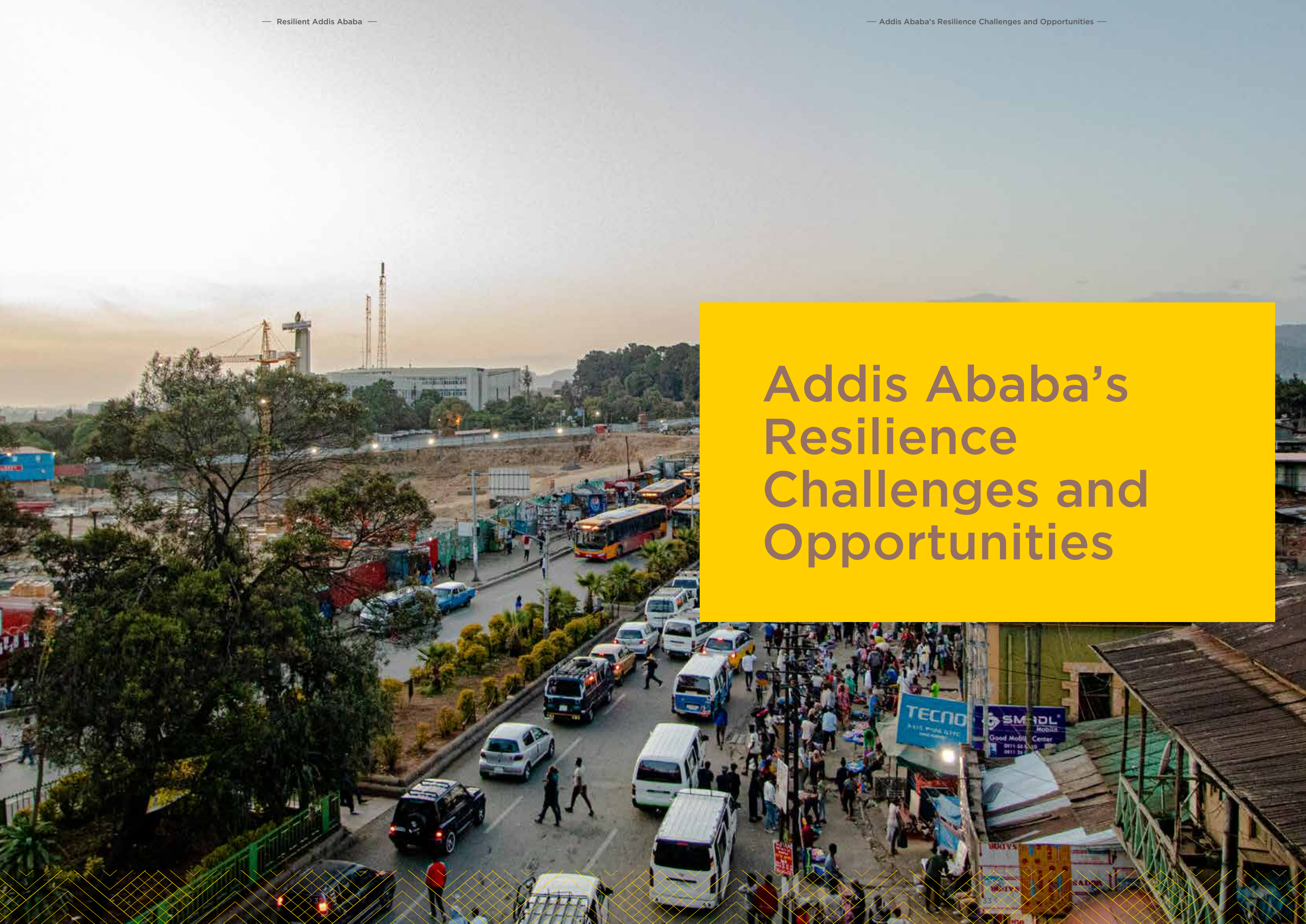
Unemployment and poverty

While Addis Ababa's economy has registered double-digit growth over the past two decades, it is not creating enough jobs for its rapidly expanding population, particularly for young people (i.e. people aged 15-29) and women. High unemployment and underemployment are significant stresses in Addis Ababa and are major contributors to high levels of poverty. If left unaddressed, unemployment has the potential to increase crime and violence and threaten the social and political stability of the city.

Most jobs in Addis Ababa are concentrated in low-productivity sectors – trade, transport, hotels, catering, and other services such as domestic work within households – while higher value-added business services represent only 10% of total employment.[4] Although low-productivity sectors have stimulated rapid job creation so far, most of these jobs are unlikely to result in higher wages in the long term. Moreover, the service sector is likely to be significantly impacted by the COVID-19 pandemic. While the government has extended support in the form of business loans and tax relief, more is needed to enable longer term economic recovery. There is also an urgent need for the city to better train and upskill the workforce while working with the private sector to generate decent jobs for all.

It is estimated that 23.5% of the population continues to live below the poverty line[18]. The most visible faces of poverty in Addis Ababa are "street children, the homeless and beggars, who need housing, health case, counseling, and often reunification with their families, in addition to financial support".[5]

Addis Ababa's residents also face the challenge of rising costs of living. Despite government efforts to contain inflation to single digits, headline inflation in Ethiopia has averaged at 16.23% between 2006 and 2018. Soaring prices, particularly of food

items, coupled with lower incomes, have put pressure on the food consumption and livelihoods of poor urban households. With food items accounting for around 57% of household expenditure, inflation is a major challenge even for residents who manage to rise above the poverty line.

Employment in the informal sector is declining, and already low, at 8.6% in 2018 according to official statistics. However, evidence suggests that the definition of the informal economy used by the Central Statistical Agency (CSA) leads to underestimating the true incidence of informality in the local economy.[6] Additionally, informal workers tend to have limited savings and lack social protection coverage, making them vulnerable to risks, from routine welfare shocks such as illness and old age, to systematic shocks like COVID-19. It is thus crucial for the City of Addis Ababa to gain a better understanding of the informal economy and its participants, to tap into opportunities provided by the sector, and to provide adequate livelihood support and social protection to some of its most vulnerable residents.

65% IN 2018, WOMEN ACCOUNTED FOR 65% OF THE UNEMPLOYED. CSA, 2018.

90% 90% OF JOBS IN ADDIS ABABA ARE CONCENTRATED IN LOW-PRODUCTIVITY SECTORS. WB, 2018.

23.5% 23.5% OF RESIDENTS LIVE UNDER THE POVERTY LINE. CSA, 2018.

4   World Bank. (2018). Enhancing Economic Development and Job Creation in Addis Ababa: the role of City Administration. Washington, D.C: World Bank.

5   World Bank. (2015b). Project Appraisal Document: Ethiopia - Urban Productive Safety Net Project (English). Washington, D.C: World Bank Group.
6   UN-HABITAT. (2017). The State of Addis Ababa Report: the Addis Ababa we want.

RESILIENCE OPPORTUNITY:

The Urban Productive Safety Net Program (UPSNP), 2015-2020

In response to rising urban poverty, the Government of Ethiopia (GoE), with the support of The World Bank, launched the Urban Productive Safety Net Program (UPSNP) in December 2015. This five-year program aims to improve the income of poor households through urban safety net mechanisms, and is currently being implemented across 11 cities, including Addis Ababa. The UPSNP has three major components:

1) Safety Net Support: This component supports the delivery of predictable, timely, and productive safety net transfers through conditional and unconditional safety net transfers. Conditional cash transfers are provided to economically vulnerable, able-bodied persons, contingent upon their participation in labor-intensive public works (e.g. environmental cleaning activities, watershed management activities, urban agriculture, social facilities or services projects, etc.). Unconditional cash transfers amounting to 215 birr a month (US$7 equivalent) are provided to residents who are unable to work, such as the elderly, people with disabilities, and the urban destitute (i.e. street children, homeless residents, and beggars).

2) Livelihood Services: This component supports beneficiaries of conditional cash transfers who desire more and higher-paid work, and aims to help them graduate from the program and out of poverty. Under this component, beneficiaries can receive counseling and life-skills development (e.g. financial literacy, soft skills development) as well as financial support and training for livelihood development.

3) Institutional Strengthening and Project Management: This component aims to ensure that participating cities have the capacity to successfully implement the program.

Source: (World Bank, 2015). *Project Appraisal Document: Ethiopia - Urban Productive Safety Net Project (English)*. Washington, D.C: World Bank Group.

Revolving fund for supporting micro and small enterprises

In March 2019, the City of Addis Ababa established a Youth Revolving Fund, as one of its strategies aimed at tackling youth unemployment. With a capital of two billion birr, the Fund is intended to provide loans for youth aged 18-34 who wish to engage in income-generating activities, thereby enabling them to create livelihood opportunities for themselves while also contributing to the city's economic development. This initiative complements the 10-billion-birr Youth Revolving Fund established at the national level in 2017.

Lack of safe and affordable housing

The lack of affordable and adequate housing supply has been a long-standing challenge for Addis Ababa. In 2011, the city's housing backlog reached 300,000 homes,[7] and approximately 1.2 million units are needed over the next ten years to accommodate projected housing demand,[8] of which 420,000 housing units would be for low-income residents. It is estimated that Addis Ababa has a population of between 10,000 and 20,000 homeless people.[9]

To tackle the housing deficit, in 2005 the Addis Ababa City Administration, aligned with the federal government, launched the Integrated Housing Development Program (IHDP), an ambitious condominium construction program aimed at providing affordable housing to low- and middle-income households. While the IHDP has helped contain the city's housing shortage, created significant urban jobs, and strengthened the local construction sector,[10] it has managed to deliver only 179,429 housing units, providing housing for only 24% of the 734,712 residents registered under its different schemes. Furthermore, evidence suggests that the IHDP remains largely unaffordable to targeted low-income populations.

Unable to access affordable serviced land in the city through formal channels, an increasing number of households are buying land informally from farmers in outlying areas. Thus, informal (untenured and self-initiated) housing, also known as *Chereka Bet*, is a significant source of housing for many. Unfortunately, because informal housing is built on any available and unused land, most residents live in environmentally sensitive and unsafe areas. The lack of tenure recognition also limits residents' ability to access basic services.

In addition to the shortage of affordable housing, Addis Ababa also faces challenges associated with poor housing quality and overcrowding. Close to 80% of houses in inner-city area, known as *Kebele housing*, are characterized as slums due to overcrowding and the lack of adequate infrastructure such as drinking water, sanitation, and cooking facilities.[11] Government-owned *Kebele housing* remains the primary housing option for the city's urban poor. However, due to this housing's poor quality, its lack of safety, and the valuable land that it stands on, the City has been demolishing it and resettling residents who have legal claims to the homes either in condominium housing or on the outskirts of the city, where access to services and livelihood opportunities are often limited.

Leveraging lessons learned from the IHDP program and cognizant of the need for a more diversified approach to housing delivery, the City, in close collaboration with the federal government, is currently exploring new options and modalities for providing affordable housing, including greater involvement of the private sector and strengthening housing associations.

ESTIMATED HOMELESS POPULATION IN ADDIS ABABA

10,000 to
20,000
homeless people

RESILIENCE OPPORTUNITY:
The Integrated Housing Development Program, 2005 – ongoing

Since 2005, the Addis Ababa City Administration, aligned with the federal government, has been implementing the Integrated Housing Development Program (IHDP), an initiative which aims to provide affordable vertical housing options ("condominiums"). Currently in its second phase, the IHDP delivers government-subsidized housing to qualifying city residents through three schemes: 10/90, 20/80, and 40/60 which target lower-income groups (with monthly incomes of ETB 1,200 and under), lower middle- to middle-income groups, and upper middle-income groups respectively. Under these three schemes, beneficiaries are expected to save 10, 20 or 40% of the total price in five years, while the remaining 90, 80 or 60% of the housing cost is covered by a long-term bank loan.

7   UN-HABITAT (2010), *The Ethiopia Case of Condominium Housing: The Integrated Housing Development Programme*. United Nations Human Settlements Programme: Nairobi.
8   Addis Ababa City Administration. (2017). *Addis Ababa Structure Plan, 2017-2027*.
9   Ibid.
10 UN-HABITAT. (2010).
11 UN-Habitat. (2017).

Inadequate public transport systems

Addis Ababa's public transport system has not been able to keep pace with the rising demand fueled by a booming population and economy.

With over 10,500 vehicles undertaking 840,000 journeys per day, the paratransit system comprised of privately-owned minibuses and midibuses currently provides the bulk of the city's public transport services.[12] In addition to creating considerable employment opportunities, paratransit has contributed to increasing the city's public transport capacity and adding redundancy to the system at a time when public investment in mass transport was low. The paratransit system is, however, not without its own limitations. Passenger safety and service quality remain poor. Furthermore, aggressive competition for passengers often leads to risky driver behavior, further exacerbating the city's congestion and road accident problem. Lack of financial resources to adequately maintain and replace vehicles also raises environmental concerns.

Recognizing these shortcomings, the government has invested significantly in low-carbon mass transit in recent years. In 2015 the City inaugured an electrified Light Rail Transit (LRT). In 2016 the City launched the *Sheger* express bus service, which covers 23 routes across Addis Ababa.[13] The conventional bus fleet has also been significantly expanded, and the City provides free transport to civil servants before and after working hours. Furthermore, construction of Addis Ababa's first Bus Rapid Transit (BRT) is currently underway, and 15 additional corridors have been identified by the 2017 Addis Ababa Structure Plan.

Despite these efforts, the pace of urbanization continues to outstrip the city's capacity to adequately deliver efficient mass transit systems. While the LRT has undoubtedly helped to absorb demand along its two corridors, the system is already overcrowded, service frequency remains low (10 minutes during peak hours and 15 minutes during off-peak hours), and its geographic reach is limited. Furthermore, commuters are having to wait longer at bus stops and are experiencing longer and less reliable travel journeys due to the combined effect of road traffic congestion and the lack of appropriate bus prioritization measures. As a result, access to jobs and services across the city remains heavily impaired.

THE PARATRANSIT SYSTEM PROVIDES THE BULK OF THE CITY'S PUBLIC TRANSPORT SERVICES.

10,500+
vehicles

840,000
journeys per day

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12 Nallet, C. (2018). *The Challenge of Urban Mobility: A Case Study of Addis Ababa Light Rail.* Notes de l'Ifpri.
13 Data as of 2016.

RESILIENCE OPPORTUNITY:
BRT-B2 Corridor

To address the growing demand for public transport, Addis Ababa will introduce its first Bus Rapid Transit (BRT) project. Known as the BRT-B2 corridor, the 17.4 km route will provide north-south access between Wingate roundabout and Jemo I condominium. Running through five sub-cities (Nifas Silk Lafto, Kirkos, Lideta, Addis Ketema, and Gullele) and some of the most densely populated areas in Addis Ababa, the corridor is expected to carry 5,400 passengers per hour in each direction and reach over 400,000 residents once operational. Construction is anticipated to start in 2020 and planning for a second BRT B6 line is also underway.

RESILIENCE OPPORTUNITY:
Strategic Comprehensive Transport Development Plan

The City is currently preparing a Strategic Comprehensive Transport Development Plan (2020-2030) for Addis Ababa. Based on an analysis of the existing and future transport situation of the city, the Plan will set a shared vision for the transport sector, and will identify future interventions and infrastructure projects to achieve that vision, up to 2030. It is intended to cover both freight and passenger transport, as well as all aspects of the city's transport system, including traffic management, mass transport, parking, NMT, etc. Expected to be complete by mid-2020, this plan will help further refine the Addis Ababa City Structure Plan and provide a clear strategy for its implementation.

RESILIENCE OPPORTUNITY:
Non-Motorized Transport (NMT) strategy

Addis Ababa's first NMT strategy was released on November 2018. The strategy's vision is "to provide safe, efficient, and accessible pedestrian and cycling networks to improve access to opportunities and mobility for all residents, foster equitable allocation of street space, and create a dignified walking and cycling environment." The NMT strategy sets ambitious ten-year targets such as maintaining the modal share of NMT at or above 54%, reducing fatalities of pedestrians and cyclists by 80% from numbers in 2018, and women constituting 50% of cyclists.

Lack of human-centric and inclusive planning

Addis Ababa currently lacks a robust human-centric approach to planning and designing housing and urban infrastructure. For instance, while walking accounts for 54% of all trips made in the city,[14] only 14% of Addis Ababa's 114 km of main roads currently have safe and adequate pedestrian walkways.[15] Inadequate consideration for the vast majority of residents who are pedestrians exposes them to high risks of road traffic accidents. Since 2006, Addis Ababa has registered on average 400 fatalities per year, out of which 88% involve pedestrians.[16] Furthermore, lack of integrated and human-centric approach to transport planning risks locking the city into an unsustainable path towards car-dependency, which has implications for access to services, economic productivity (as traffic congestion increases), greenhouse gas (GHG) emissions, air pollution, and health.

Previous planning efforts have not adequately consulted and engaged with the public, often leading to ineffective interventions and poor social acceptability of costly development projects. A case in point is the temporary closure of the Sendafa landfill, which was built with inadequate community participation in the planning and design process, and subsequently met with opposition from farmers in the surrounding area who were concerned about pollution of their farmlands. Another example is the city's series of urban renewal programs, which have led to displacement of households to peripheral areas, thereby eroding strong social ties, particularly in old inner-city neighborhoods. These circumstances have ultimately reduced the resilience of the urban poor, who make up almost a quarter of the total population. As a result, Addis Ababa, which is uniquely characterized as a spatially and socially mixed city, is gradually transforming into a more divided city. This trend has the potential to undermine social cohesion and threatens the city's ability to cope with future shocks and stresses. Coupled with rising unemployment and youth disenfranchisement, this could lead to an increase in crime and violence.

While as a country we have ratified the UNCRPD and devised laws and policies to ensure the rights of persons with disabilities (PWD), there is still a gap in effectively implementing and enforcing inclusive planning in all areas of life. A variety of past urban development projects including the Light Rail Transit (LRT) system, government-built condominium houses, commercial buildings, and critical health and education facilities suggest that there is a general lack of understanding of the needs and challenges faced by PWD, as well as a weak commitment to ensuring universal accessibility across the city.

86%
of 114 km of main roads lack safe and adequate pedestrian facilities *

88%
of traffic fatalities involve pedestrians

23,154
households affected between 2009 and 2015, linked to the Addis Ababa's urban renewal program **

14 Addis Ababa City Administration. (2018). *Addis Ababa Non-Motorised Transport Strategy (2019-2029)*.
15 Addis Ababa City Administration. (2017). *Addis Ababa Annual Road Safety Report, 2017-2018*.
16 Ibid.

* Addis Ababa Road Safety Strategy 2017-2030, 2017.
** UN-Habitat, 2017.

RESILIENCE OPPORTUNITY:
The Safe Intersection Program

Currently led by the Addis Ababa Road Traffic Management Agency, the Safe Intersection program is a multi-year initiative launched in 2017 with the objective of improving pedestrian safety in Addis Ababa through street design. Initiated by the former TPMP, Addis Ababa City Planning Project, and National Association of City Transportation Officials (NACTO) in 2014, the program aims to transform ten intersections per year, over the next three years, to make them safer, particularly for pedestrians, and more efficient. The program is currently being implemented with support from NACTO and builds on a successful pop-up transformation of LeGare intersection, which was piloted in December 2016 and funded under the Bloomberg Initiative for Global Road Safety. Through the implementation of the Safe Intersection Program, the City hopes to reach its objective of halving the number of deaths and injuries from road traffic crashes by 2023, as stated in the Addis Ababa City Road Safety Strategy and Implementation Plan.

RESILIENCE OPPORTUNITY:
Menged Le Sew, Addis Ababa's monthly car- free event

Menged Le Sew, which translates to "Streets for People", is an initiative that aims to promote a more people-centric approach to urban planning and mobility, through the organization of monthly car-free days. Since its launch in late 2018, ten car-free events have taken place in Addis Ababa, temporarily reclaiming around 15 kilometers of the city's streets from cars and opening them to residents of all ages to take part in various activities such as walking, cycling, skateboarding, and exercising. Led by the Addis Ababa Traffic Management Agency (AATMA), the initiative is a collaborative effort involving multiple stakeholders, including city agencies (e.g. Health Bureau, Youth and Sports Bureau), federal ministries (e.g. Ministry of Health, Ministry of Transport), as well as research institutes and civil society organizations. In addition to encouraging more people-centric mobility, the initiative strives to reduce air pollution, promote active lifestyles, cultivate environmental awareness, and foster greater social cohesionl. Since the inaugural car-free day, the initiative has gradually expanded across the city, with monthly events now taking place in seven out of the ten sub-cities in Addis Ababa. Building on this resounding success, *Menged Le Sew* is now being scaled up at the national level with support from the Ministry of Transport. Since November 2019, three additional cities – Bahir Dar, Mekelle, and Jimma – have organized car-free days and more secondary cities across the country are expected to join Ethiopia's growing open streets movement.

Water scarcity

Despite significant gains achieved over recent decades, access to safely managed and reliable water services continues to be a major challenge facing the city. The pressure of rapid population growth, coupled with higher living standards, has resulted in increased water demand and per capita consumption. Water demand from industrial, commercial, and construction sectors is also on the rise, fueled by a rapidly expanding economy and unprecedented construction boom.

While demand for water has grown in all major sectors, the availability and supply of water is decreasing as a result of intensive groundwater development, natural resource degradation and climate change. Because of these shortages, there are pockets of the city that receive water in shifts, some only getting water twice a week, which negatively impacts public health and economic productivity. The disruption appears to be more severe in the sub-cities of Gullele, Kolfe Keranio, Addis Ketema, and Arada, which have higher concentrations of low-income residents.[17] Residents in informal and low-income areas are disproportionately impacted by reduced water availability as they have limited means to supplement public water supply with other sources of water. Unable to practice proper hygiene, residents in informal and low-income areas face greater risk of waterborne and infectious diseases, as revealed by successive cholera outbreaks and the recent COVID-19 pandemic. Thus, there is a need to prioritize investment in water supply and sanitation infrastructure to residents living in these underserved areas, particularly the urban poor.

Systemic inefficiencies and inadequate infrastructure further exacerbate the city's water shortage. Recurrent power cuts negatively affect water distribution, especially in elevated areas of Addis Ababa. The city's dilapidated infrastructure is vulnerable to contamination, especially during rainy seasons, which places Addis Ababa at a high risk for the outbreak of waterborne diseases. Addis Ababa Water and Sewerage Authority (AAWSA), recognizing that water is a constitutional right of all citizens, charges a very low tariff. Coupled with existing inefficiencies in fee collection, this reduces AAWSA's revenue stream, which in turn makes it difficult and unaffordable to maintain and replace aging infrastructure, and to provide adequate services.

To address the city's water shortage, AAWSA has recently launched mega projects with the objective of doubling its daily water generation capacity. AAWSA has also introduced city-wide water rationing. While these restrictions are necessary to manage limited water resources, poor communication and unpredictable rationing are eroding public trust in the water utility and government. In recognition of the limitations in water provision, AAWSA is encouraging institutions (both governmental and private) that have high water consumption rates to source their own water through wells. While this might help address supply challenges in the short term, uncontrolled drilling of boreholes could lead to excessive extraction of groundwater aquifers, threatening the city's long-term water security.

The City has not yet capitalized on the opportunity to innovate and improve services and to develop new approaches to strategic water governance. Currently underutilized opportunities include capturing rainwater, storing stormwater, and reusing effluent for a variety of non-drinking purposes. Additionally, the public lacks awareness about water as a finite resource and economic good. Furthermore, the principle of basin management to protect water resources and related ecosystems is not adequately implemented. Coordination between different administrative entities is difficult and complex, further exacerbating water challenges.

ADDIS ABABA WATER AND SEWERAGE AUTHORITY'S (AAWSA) *

City's current demand **930,000** m³ per day

City's current capacity **523,000** m³ per day

37%
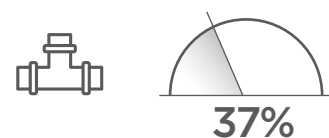
Percentage of the water produced and distributed lost in the system due to aging and poorly maintained infrastructure. **

RESILIENCE OPPORTUNITY:
Gerbi dam project

AAWSA has launched the construction of a dam on the Gerbi river, 30 kilometers away from the capital. With a total capacity of 73,000 m³ per day, the Gerbi dam is expected to increase the city's water supply and ease distribution of water in areas located north of Addis Ababa, where it is currently a challenge to pump water.

RESILIENCE OPPORTUNITY:
Decentralized wastewater treatment program

To increase the city's wastewater treatment capacity, AAWSA expanded the existing Kality Wastewater Treatment Plant (WWTP) with support from the World Bank. Completed in 2018, the expansion project has increased the WWTP's capacity from only 7,000 m³ per day to 100,000 m³ per day. The expansion included the construction of 18 km of new trunk main from the center of the city to the treatment plant. While the plant is currently operating at only 40% of its capacity, at full capacity it is expected to serve one million residents in seven sub-cities. Efforts are currently underway to further expand the sewerage network and increase the number of connected households across the city.

RESILIENCE OPPORTUNITY:
Second Urban Water Supply and Sanitation Project (SUWSSP)

Financed by a loan from the World Bank, the SUWSSP aims to increase access to enhanced water supply and sanitation services in an operationally efficient manner in Addis Ababa and selected secondary cities. The program will provide improvement to the water and sanitation services in Addis Ababa, as well as support for operational efficiency improvements and institutional strengthening of the city's water utility.

RESILIENCE OPPORTUNITY:
Emergency water delivery during COVID-19

As part of its emergency response to COVID-19, AAWSA has rolled out 35 water tanker trucks in areas with water scarcity problems to ensure that households are able to practice proper hygiene and protect themselves from the virus. Water supplied to industries, which typically accounts for 20% of the city's total demand, has been reduced by 75% and temporarily redirected to households to avoid water scarcity. Portable hand washing stations have also been deployed at various locations, such as transport stations, to promote proper hygiene and combat the outbreak.

17 World Bank. (2015c). *Addis Ababa – Enhancing Urban Resilience: city strength resilient cities program (English)*. Washington, D.C: World Bank.

* Addis Ababa City Administration, 2019.
** World Bank, 2015.

Environmental pollution and degradation

As a rapidly urbanizing city, Addis Ababa faces serious challenges to mitigating environmental pollution and degradation. First, inadequate waste management systems have had negative consequences on the city's rivers and have cost the lives of residents. Addis Ababa is home to 65% of the country's industry, and more than 90% of these industries discharge their waste directly into nearby rivers without proper treatment, due to poor enforcement of environmental regulations.[18] Consequently, the city's rivers have become heavily polluted. The widespread occupation of riverbanks by informal settlements, coupled with the lack of adequate sanitation, has led to riverbank erosion and transformed the city's rivers into open sewers. This poses a significant danger to ecosystems, is a threat to future water supply, and has serious health implications, as urban agriculture is commonly practiced along these riverbanks. An estimated 40% of vegetables supplied in the city are irrigated with wastewater drawn from polluted rivers, resulting in high levels of contamination in the city's fresh food supply.[19]

For close to half a century, Addis Ababa has used Koshe, an unprotected and unregulated open dump site, as a landfill. In addition to the significant environmental pollution caused by the landfill, in March of 2018, a landslide in Koshe claimed the lives of over 100 people, most of whom subsisted on picking waste on the landfill.[20]

Second, the city's mountain landscape is experiencing rapid degradation, under the combined effects of deforestation, soil erosion, and the proliferation of informal settlements. At the local level, green and open areas are gradually being transformed into artificial surfaces, mainly for residential and commercial developments, thereby reducing public spaces for socializing and recreation.

Addis Ababa's vulnerability to flooding risk is being aggravated by the combination of poor drainage systems, a proliferation of poorly constructed informal housing in flood-prone areas, improper solid waste disposal, and loss of green spaces and associated expansion of impermeable surfaces. Loss of green spaces is estimated to contribute to 40% of flooding and landslides in Addis Ababa.[21] Decline in green spaces also negatively affects pollution mitigation, carbon sequestration, run-off regulation, and water security, further exacerbating the city's vulnerability to existing shocks and stresses. Evidence also suggests that land-cover changes and shrinking green spaces have contributed to notable nocturnal Urban Heat Island (UHI) effect, particularly in central parts of the city.[22]

Third, Addis Ababa's air quality has greatly deteriorated in the past years as a result of increased industrial and construction activity, rising car ownership, and the continuing practice of uncontrolled burning of waste. Emissions from the city's expanding and aging car fleet is identified as the prime contributor to outdoor air pollution. While car ownership remains low by global standards, most of the motorization in the city uses outdated and polluting technology.[23] Various studies indicate that concentrations of air pollutants (CO, PM 2.5, PM10, NOx) near and on roadsides now largely exceed WHO guidelines.[24] This in turn is contributing to a rise in respiratory diseases in the city. This trend is expected to worsen as the number of daily trips and vehicles on the road increases, fueled by population growth and economic development.

A weak regulatory environment and the limited enforcement capacity of environmental agencies exacerbate these challengers. There are few incentives for industries, businesses and institutions to reduce environmental pollution and manage resources more sustainably. Meanwhile, agencies lack the facilities, technologies, data, resources, and local expertise to monitor environmental pollution and degradation.

40%
of flooding and landslides is attributed to loss of green spaces in Addis Ababa
(DPPC, 2015).

90%
of industries discharge their waste directly into nearby rivers
(YOHANNES & ELIAS, 2017).

17 years
The average age of vehicles on the city's roads (UN-HABITAT, 2017).

50%
of the vehicles generate nearly 90% of hydrocarbon and carbon monoxide emissions

18 Yohannes, H., & Elias, E. (2017). Contamination of Rivers and Water Reservoirs in and Around Addis Ababa City and Actions to Combat It. Environment Pollution and Climate Change 1:116., 1(2).
19 Fisseha, I. (2004). Metals in leafy vegetables grown in Addis Ababa and toxicological implications, *Ethiopian Journal of Health Development* 16 (3), 295-302.
20 Aljazeera, https://www.aljazeera.com/news/2017/03/addis-ababa-death-toll-hits-113-rubbish-landslide-170315165759540.html, 2018.
21 Disaster Preparedness and Prevention Center. (2015). Addis Ababa City Risk Profiling Program Report. Disaster Preparedness and Prevention Center.
22 Arsiso, B. K., Tsidu, G. M., Stoffberg, G. H., & Tadesse, T. (2018). Influence of urbanization-driven land use / cover change on climate: The case of Addis Ababa, Ethiopia. *Physics and Chemistry of the Earth*, 105, 212-223.

23 Centre for Science and Environment. (2016). Urban Air Quality Management in Ethiopia: a Guidance Framework.
24 Tarekegn, M. M., & Gulilat, T. Y. (2018). Trends of Ambient Air Pollution and the Corresponding Respiratory Diseases in Addis Ababa. *Clinical Pharmacology and Toxicology Journal*, 2.

RESILIENCE OPPORTUNITY:
Air quality management system development

The Addis Ababa Environmental Protection and Green Development Commission (AAEPGDC) and the United States Environmental Protection Agency (US EPA) have partnered to launch this initiative aimed at raising awareness about the health and economic impacts of air pollution, assessing the challenges concerning air quality in Addis Ababa, and supporting local capacity to develop and implement an Air Quality Management Plan (AQMP) by 2020.

RESILIENCE OPPORTUNITY:
Addis Ababa Drainage Master Plan

The Addis Ababa City Roads Authority (AACRA) is currently developing a comprehensive, citywide drainage master plan that will help address localized flooding caused by stormwater run-off.

RESILIENCE OPPORTUNITY:
Urban Agriculture Initiative

In April 2020, the Mayor of Addis Ababa launched a new urban farming initiative aimed at tackling growing concerns around food insecurity driven by drought and the COVID-19 pandemic. The City has identified land for horizontal and vertical urban farming projects, and launched a call for urban agriculture experts to support the City.

Lack of risk awareness and emergency preparedness

Addis Ababa is vulnerable to a myriad of natural and man-made hazards. The city is prone to both riverine and rainfall flooding. Low-income communities forced to live near riverbanks, low-lying floodplains, and unstable hillsides are particularly vulnerable to riverine floods. Urban fire typically affects residents living in dense, inner-city informal settlements. While there have been some efforts to enhance the city's capacity to respond to fire emergencies, much remains to be done in terms of enhancing both institutional and community preparedness. Furthermore, the risk of urban fire associated with the ongoing construction of high-rise buildings is rapidly increasing. Prevention methods, levels of preparedness, and responses to the emerging high-rise fire risk are all considered inadequate.

Although Addis Ababa is located in a zone where the risk of seismic activity is moderate, inadequate enforcement of earthquake standards in building construction, coupled with low preparedness and capacity, make the city vulnerable to earthquakes. The lack of regular and adequate maintenance of infrastructure and buildings further exacerbates the risk of future collapse.

Addis Ababa has also experienced frequent outbreaks of diseases, ranging from cholera to the ongoing COVID-19 pandemic. Like many cities across the world, it is likely to witness more frequent disease outbreaks as a result of globalization, urbanization and climate change.

Despite these risks, the City has limited capacity to plan for, withstand, and respond to the broad range of threats and hazards facing its residents and its critical physical assets (CPA). For instance, the city lacks a disaster risk management strategic framework that can serve as a guiding document for decision-making regarding the design and implementation of disaster risk management related plans and programs. In addition, there are currently no regulatory tools that can be used to establish responsibilities, duties, plans, concepts, and priorities in a coordinated manner with the participation of all actors. The owners and operators of assets lack detailed assessments of risks faced by CPA such as hospitals, fire stations, and electricity and water distribution networks. In addition, they rarely have business continuity plans (BCP) or standard operating procedures (SOP) for coordinating an emergency response to a shock or stress event. They also have limited skilled manpower, with no training and capacity building program for CPA owners and operators to manage unforeseen risks to their operations.

Finally, there is insufficient communication between the City Administration and the public, and so there is limited community participation in disaster risk reduction and emergency response.

25   UN-HABITAT. (2003). Urban Inequities Report. Addis Ababa.

Addis Ababa has a very large network of social groups such as *Ïddïrs* (informal social protection system whose main function is to help members during bereavement), *mahbär* (neighborhood or religious associations), and *Ïqqub* (rotating credit schemes) that are actively operating in the city. With over eight in 10 residents belonging to such social groups,[25] this informal network could provide a significant opportunity to strengthening community-based emergency response.

30,000
residents across the city estimated to be vulnerable to flooding risk *

A 6.5 magnitude earthquake, similar to the one that hit the city in 1906, could lead to as many as... **

4,000-5,000 deaths

12+ billion birr economic loss

8 in 10
residents belong to social protection groups (e.g. *Ïddïr*, *Ïqqub*)

*, ** DPPC, 2015.

RESILIENCE OPPORTUNITY:
Capacity Building in Disaster Management Program

The U.S. Forest Service, in support of USAID/Ethiopia, has been working with the Addis Ababa Fire and Disaster Risk Management Commission (AAFDRMC) to help fire fighters and emergency responders build capacity in urban emergency management and response. This partnership has helped enhance AAFDRMC's training academy program through intensive training programs, curriculum development, and standard operating procedures.

RESILIENCE OPPORTUNITY:
COVID-19 multi-stakeholder task force

Following the confirmation of the first COVID-19 case on March 14, 2020, the City established a multi-stakeholder task force to ensure that response efforts are coordinated. The City prepared a disaster mitigation and contingency plan. In partnership with the Ministry of Health, convention centers and meeting halls were converted into temporary treatment centers with a total capacity of 5,550 beds. The City partnered with 800 co-ops to supply 200,000 liters of sanitizers as well as food and other essential goods at a fair price to residents. Additionally, the City mobilized 30,000 youth volunteers in a citywide campaign aimed at raising awareness of the risks associated with COVID-19 and educating the general public on proper hygiene and physical distancing.

Weak urban governance

Addis Ababa currently faces several governance challenges that affect the provision of basic infrastructure and services. For instance, a lack of clarity of roles and responsibilities between various levels of government generates major inefficiencies in the planning and delivery of critical infrastructure and services. Addis Ababa's urban governance is also characterized by high fragmentation and poor coordination between numerous entities. Despite various structural and institutional reforms conducted over the past two decades, much needs to be done to further clarify overlapping jurisdictions and enhance coordination among government agencies.

There is a significant shortage of skilled and experienced staff at all levels. High turnover rates of leadership, managerial, and technical staff not only exacerbates existing human capacity constraints, but also leads to institutional memory loss. Poor data and knowledge management systems further undermine decision-making and long-term, evidence-based planning efforts.

Despite its capacity constraints, the City has not fostered strong partnerships with the private sector for urban infrastructure and services delivery. Except for a few instances, there is generally a lack of involvement of the private sector and civil society in infrastructure and service delivery. Heavy top-down decision-making structures, poor downward accountability systems, and the absence of mechanisms to meaningfully engage with non-government stakeholders are major obstacles to effective urban governance. Further, existing government systems and processes are no longer adequate to meet the demands of citizens' rising expectations and the challenges of complex global economies. For instance, the City has yet to capitalize fully on the opportunity provided by Information and Communications Technology (ICT) to enhance municipal public service and engage with the public.

As pointed out by stakeholders during the strategy development process, the prevalence of corruption at all levels of city government has been an impediment to the city's development. Corruption has resulted in significant failures; for instance, the lack of implementation of building codes, resulting in the construction of poor and unsafe buildings across the city, and infrastructure failure.

Over the past years, Addis Ababa's aggregate revenue has gradually expanded, reaching 44,7 billion ETB in 2018-19. However, the City is highly reliant on state revenues to cover its expenditure.[26] Over the years, the share of municipal revenues has steadily declined, under the combined effect of weak institutional capacity, a low tax rate, a low tax base, low charges and fees for utilities, inadequate debt collection, and non-recovery of major infrastructure. The City needs to further enhance its capacity to increase municipal revenues to meet the growing demand for urban infrastructure and services fueled by rapid urbanization.

26 Also known as tax revenues, this includes revenue derived from taxation of incomes, profits, rental incomes, and capital gains, taxes on sales of goods and services.

RESILIENCE OPPORTUNITY:

Smart Woreda project

As part of its efforts to modernize and automate service delivery, in February 2019 the City launched the "Smart Woreda project." This initiative, currently being piloted in five woredas of the city, allows residents to receive identification cards and vital events services through electronic platforms. Through this initiative, the City aims to make its services more accessible to residents, reduce the cost of accessing those services, improve turnaround times, and strengthen its accountability and responsiveness. Eventually, this pilot project will be scaled up to the remaining woredas across Addis Ababa.

RESILIENCE OPPORTUNITY:

Automated citizens' complaints

The AARPO, in partnership with the Public Complaint and Appeals Corrective Office, has created a citywide automated system for handling citizens' feedback and complaints in an effective and timely manner. The system, which is designed to escalate unresolved citizen complaints all the way to the Mayor's Office, requires stronger political support to be scaled-up and institutionalized across all city agencies.

RESILIENCE OPPORTUNITY:

Strengthening the City Council standing committees

The Addis Ababa City Council currently has seven standing committees with a mandate of monitoring and evaluating the City's approved annual plans. In order to strengthen these committees, the City Administration has reorganized them and assigned qualified chairs with an elevated position, similar to that of a bureau head. This arrangement has helped increase the committees' efficiency in supervising their assigned executing agencies.

Priority shocks and stresses

Developing a holistic understanding of risks and vulnerabilities is an important first step towards building resilience in any city. One of the key tasks undertaken during Phase 1 of the strategy process was to assess Addis Ababa's priority assets, shocks, and stresses. We engaged several stakeholders through workshops, focus group discussions, interviews, and surveys, to identify and prioritize (based on likelihood and impact) the most significant shocks and stresses currently facing Addis Ababa, and those anticipated to affect the city in the future. We also triangulated the findings with evidence from an extensive literature review, to ensure that we were capturing long-term trends (both past and future) that were not necessarily reflected in our consultations.

Priority Shocks

1 Inflation[27]

2 Rioting and civil unrest

3 Flooding

4 Infrastructure and building failure

5 Internal displacement

6 Urban fire

7 Hazardous material release

8 Disease outbreak

9 Terrorism

10 Construction accident

Priority Stresses

1 High unemployment

2 Corruption

3 Lack of affordable housing

4 Environmental degradation

5 Homelessness

6 Water shortage

7 Drug and alcohol abuse

8 Population growth
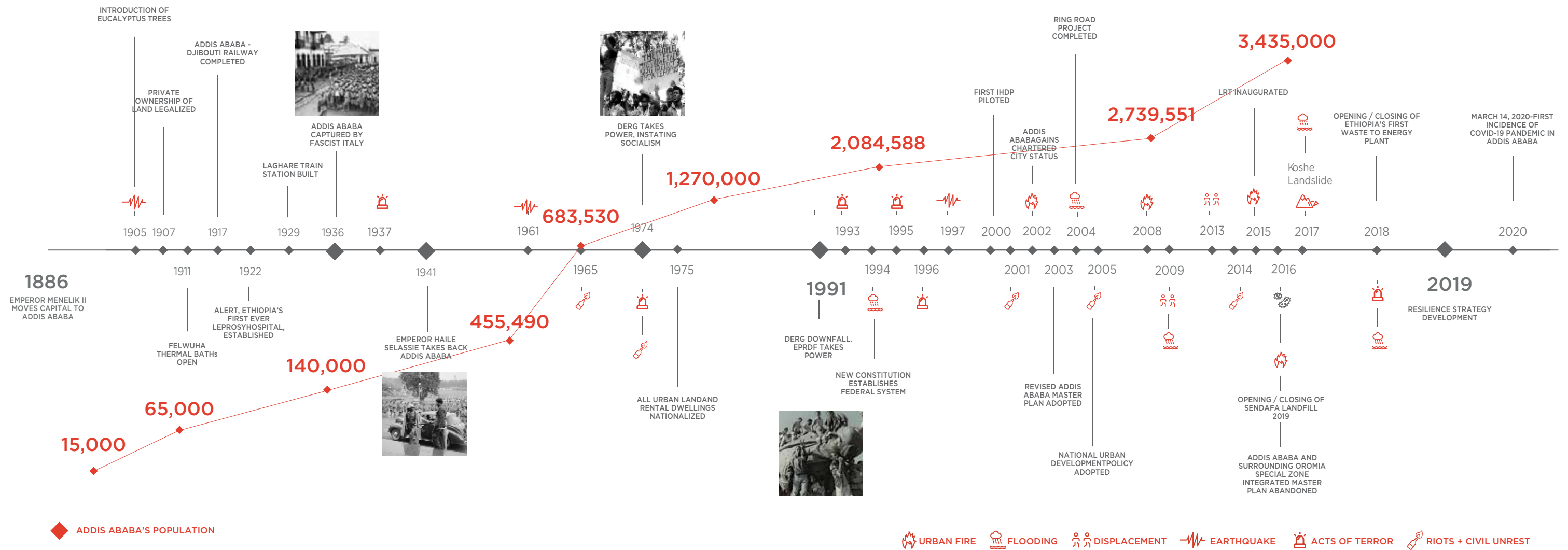
9 Inadequate waste and sanitation

10 Traffic congestion

27 While inflation is typically listed as a shock, engagements with stakeholders revealed that in the specific context of Addis Ababa, it could be categorized as a stress given that is a long-standing problem.

Timeline of formative events in Addis Ababa's history

INTRODUCTION OF
EUCALYPTUS TREES

ADDIS ABABA -
DJIBOUTI RAILWAY
COMPLETED

RING ROAD
PROJECT
COMPLETED

3,435,000

PRIVATE
OWNERSHIP OF
LAND LEGALIZED

FIRST IHDP
PILOTED

LRT INAUGURATED

ADDIS ABABA
CAPTURED BY
FASCIST ITALY

DERG TAKES
POWER, INSTATING
SOCIALISM

2,084,588

ADDIS
ABABAGAINS
CHARTERED
CITY STATUS

2,739,551

OPENING / CLOSING OF
ETHIOPIA'S FIRST
WASTE TO ENERGY
PLANT

MARCH 14, 2020-FIRST
INCIDENCE OF
COVID-19 PANDEMIC IN
ADDIS ABABA

LAGHARE TRAIN
STATION BUILT

1,270,000

Koshe
Landslide

683,530

1905 1907   1917   1929 1936 1937   1961   1974   1993 1995 1997 2000 2002 2004   2008   2013 2015   2017   2018   2020

1911   1922   1941   1965   1975   **1991**   1994 1996   2001 2003 2005   2009   2014 2016

1886

EMPEROR MENELIK II
MOVES CAPITAL TO
ADDIS ABABA

ALERT, ETHIOPIA'S
FIRST EVER
LEPROSYHOSPITAL,
ESTABLISHED

EMPEROR HAILE
SELASSIE TAKES BACK
ADDIS ABABA

455,490

DERG DOWNFALL.
EPRDF TAKES
POWER

2019

RESILIENCE STRATEGY
DEVELOPMENT

FELWUHA
THERMAL BATHS
OPEN

140,000

ALL URBAN LANDAND
RENTAL DWELLINGS
NATIONALIZED

NEW CONSTITUTION
ESTABLISHES
FEDERAL SYSTEM

REVISED ADDIS
ABABA MASTER
PLAN ADOPTED

OPENING / CLOSING OF
SENDAFA LANDFILL
2019

65,000

NATIONAL URBAN
DEVELOPMENTPOLICY
ADOPTED

ADDIS ABABA AND
SURROUNDING OROMIA
SPECIAL ZONE
INTEGRATED MASTER
PLAN ABANDONED

15,000

◆ ADDIS ABABA'S POPULATION

🔥 URBAN FIRE   🌊 FLOODING   👥 DISPLACEMENT   〰 EARTHQUAKE   🚨 ACTS OF TERROR   🔫 RIOTS + CIVIL UNREST

Vision

for a Resilient Addis Ababa

By 2030, Addis Ababa will flourish into a safe, livable, and prosperous city. We will stay true to our core values of diversity and solidarity, and continuously learn from the past to ensure that the environment, and most importantly people, are at the center of our governance and growth.

Summary of our pillars, goals and actions

Addis Ababa's Resilience Strategy is organized into:

3 pillars
strategic directions that guide us on the way to achieving our vision for the city

13 goals
middle- to long-term outcomes that the Strategy will aim to deliver

48 actions
that address the city's main shocks and stresses, and meet the city's resilience goals.

PILLARS	GOAL	#	ACTION
Pillar 1 **A smart and thriving city** Building a thriving city grounded in a diversified economy and strong governance processes.	1.1 Nourish the ecosystem for innovation and job creation	1	Enable growth-oriented businesses to thrive
		2	Expand the digital jobs program to target youth, women, and PWD
		3	Establish an incubator program for start-up businesses
		4	Bridge Addis Ababa's skills gap
	1.2. Leverage our existing environmental, physical, cultural, and human assets to help sustain economic growth	5	Develop an integrated and sustainable tourism strategy
		6	Launch a study on the informal economy to develop more effective policy interventions
	1.3. Foster efficient and transparent governance for the city	7	Leverage technology for citizen-centric public service delivery
		8	Undertake a study on locally appropriate public participation mechanisms
		9	Set up a citywide performance reporting and management dashboard
		10	Develop a Smart City strategy and roadmap
		11	Build a centralized data center
Pillar 2 **Connected, inclusive, and safe communities** Taking a more participatory, human-centric approach to planning the city of today and tomorrow.	2.1. Improve quality, distribution, and accessibility of affordable housing	12	Apply a resilience lens to the city's affordable housing program
		13	Enable the use of resilient and affordable building materials and methods
		14	Improve construction control and supervision
	2.2. Promote human-centered, efficient, and integrated mobility	15	Redesign and optimize the city's bus network
		16	Enhance accessibility, safety, and urban integration along the LRT corridors
		17	Manage peak-hour travel demand
		18	Explore the future of Addis Ababa's ring road
		19	Improve road users' awareness and behavior
	2.3. Develop our capacity to manage risks	20	Conduct a comprehensive citywide disaster risk assessment
		21	Establish a policy, strategy, and legal framework for citywide disaster risk management
		22	Prepare Disaster Mitigation and Contingency Plans
		23	Establish an Emergency Operation Centre (EOC)
	2.4. Foster a culture of resilience in the city	24	Collaborate to launch a Resilience Academy
		25	Pilot the Addis Ababa City Currency
	2.5. Empower and protect youth, women, and vulnerable groups	26	Shape the next generation of resilience champions through education and volunteerism
		27	Develop a youth empowerment program
		28	Create safer public spaces for women and girls
		29	Ensure universal accessibility across the city
		30	Build community-based resilience in collaboration with Community Care Coalitions (CCCs)
		31	Strengthen social protection schemes and maximize their integration to enhance the resilience of the urban poor
Pillar 3 **Healthy and livable places** Creating a livable city that promotes the health and well-being of its residents.	3.1. Provide adequate, safe, and reliable water and sanitation services for all	32	Build a Water Resilient City
		33	Establish a Water Fund
		34	Enhance water security through improved groundwater abstraction monitoring and regulation
		35	Promote decentralized waste treatment and water sensitive design
		36	Improve sanitation service provision
	3.2. Manage our resources sustainably	37	Develop a sustainable public procurement policy
		38	Scale up adoption of clean cookstoves and fuels
		39	Design and implement energy-saving measures
		40	Establish a recycling park
		41	Develop a participatory mountain range rehabilitation program
	3.3. Improve the quality of our environment	42	Modernize solid waste management
		43	Build institutional capacity and partnerships to reduce air pollution
		44	Establish an accredited environmental pollution monitoring laboratory and data management system
	3.4. Provide risk-aware and participatory public space design and implementation	45	Design and build green and multifunctional streets
		46	Improve participatory design in resilient public spaces
		47	Launch a tactical urbanism program
	3.5. Ensure the provision of health, affordable and reliable food for all.	48	Build a sustainable and resilient city-region food system

How to read our actions

Resilience challenge
Identifies the challenge that the action seeks to address.

Action description
Briefly describes what the action entails.

Network inspiration Boxes
These boxes refer to inspirations from other GRCN cities or best practices in context.

Resilience co-benefits
Outlines the resilience benefits and co-benefits delivered by the action.

Related shocks
Outlines which shocks are addressed by the action. In case the action does not address a shock, only stresses are listed.

Related stresses
Outlines which stresses are addressed by the action.

Connection to SDGs
Outlines which SDGs are addressed by the action.

Action owner/ lead
Identifies the agency of the Addis Ababa City Administration that will lead the implementation of the action.

Potential partners
Identifies potential partners that will be involved in the implementation of the action.

Scale
Local, citywide, metropolitan, regional

Time frame
Short (1-2 years), medium (2-5 years) or long term (5+ years)

Next steps
What needs to be done within the period of one year to implement the action.

Action status

- **New action:** The initiative is new and was articulated during the strategy development process
- **Ongoing:** The initiative is already happening in the city. The proposed actions here will further strengthen, complement and look for better ways of implementation to maximize impact.
- **Scale-up action:** The initiative has happened in the city or elsewhere in a limited way already. The action seeks to expand the best practices and lessons learned to the wider city.

Inspiration from the Network

Access to the GRCN network has allowed Addis Ababa to share learnings with cities that share similar challenges and leverage best-in-class solutions from across the globe. Listed below are the cities and experiences that have inspired and shaped the actions included in the Addis Ababa Resilience Strategy.

BELFAST

Belfast Coin

PILLAR 2
Pilot the Addis Ababa City Currency

≫ P. 108

PARIS

Create an open-source, multi-target, research and training center for resilience

PILLAR 3
Collaborate to launch a resilience academy.

≫ P. 106

JUAREZ

Plaza Juan Gabriel Design Competition

PILLAR 3
Improve participatory design in resilient public spaces.

≫ P. 140

NEW YORK CITY

Establishing Performance Management Infrastructure to Drive Initiative Delivery

PILLAR 1
Set up a citywide performance reporting and management dashboard

≫ P. 80

BARCELONA

Diversification of affordable housing

PILLAR 2
Apply a resilience lens to the City's affordable housing program

≫ P. 89

SEOUL

Cheonggyechoen Restoration project

PILLAR 2
Explore the future of Addis Ababa's ring road

≫ P. 96

SURAT

Diversifying Business Sectors and Opportunities with a Focus on Small- and Medium-Sized Enterprises

PILLAR 1
Enable growth-oriented small businesses to thrive.

≫ P. 67

QUITO

Building Sustainable and Resilient Food System

PILLAR 3
Build a sustainable and resilient city-region food system

≫ P. 145

SALVADOR

Incubator focused on SDGs

PILLAR 1
Establish a start-ups and incubation village

≫ P. 71

NAIROBI

Rockefeller Foundation's Digital Jobs Program

PILLAR 1
Expand the digital jobs program to target disadvantaged youth, women, and PWD.

≫ P. 69

SANTIAGO DE CHILE

Generating and implementing a comprehensive regional waste management model

PILLAR 3
Modernize solid waste management

≫ P. 134

SANTA FE

Tactical Urbanism on Parque del Norte

PILLAR 3
Launch a tactical urbanism program

≫ P. 142

CAPE TOWN

Water resilience and avoiding Day Zero

PILLAR 3
Build a water resilient city

≫ P. 121

Pillar 1
A smart and thriving city

Building a thriving city grounded in a diversified economy and strong governance processes.

While Addis Ababa's economy is growing at a record rate, the benefits of this growth remain unevenly distributed among an urban population that is also rapidly expanding. High rates of unemployment exist side by side with untapped opportunities to expand into high-productivity sectors and to effectively harness the informal economy.

Digital technology holds the potential to transform the city's economy, and also its governance. Long-standing challenges in this area have affected the provision of basic infrastructure and have resulted in poor service delivery to residents and businesses. As our population continues to grow in the years to come, our city must be able to understand and meet the needs of all residents.

This pillar is about forging the economy of the future and fostering an enabling environment for the businesses and people of Addis Ababa to thrive. Initiatives in this pillar build on different programs of the Addis Ababa City Administration to improve service delivery, to create more transparent and inclusive governance, and to support and make way for jobs in emerging industries.

GOAL 1.1	Nourish the ecosystem for innovation and job creation
GOAL 1.2	Leverage our existing environmental, cultural, and human assets to help sustain economic growth
GOAL 1.3	Foster an efficient and transparent governance for the city

GOAL 1.1

Nourish the ecosystem for innovation and job creation

ACTION

1 Enable growth-oriented small businesses to thrive

RESILIENCE CHALLENGE
As part of its efforts to combat unemployment, the Addis Ababa City Administration, in concert with the federal government, has been implementing the Micro and Small Enterprises (MSEs) program since 2005. The program seeks to support the formation and growth of MSEs through the provision of work premises, finance, marketing support, and extension services, as well as technology transfer and training. The program is delivered through MSE one-stop centers established at the kebele (neighborhood) level and through collaborations with training institutes, micro-credit financial institutions, and NGOs. It is estimated that the MSE program has helped create more than 900,000 jobs during the first Growth and Transformation Plan (GTP I) period. However, according to a World Bank study, out of all enterprises created, only 1,000 have graduated to become emerging middle-scale enterprises, suggesting that MSEs supported through the program face major sustainability challenges.[28] Moreover, the study has found that established MSEs tend to make very little income: approximately 90% of them earned less than 600 birr per month. The lack of sustainability and poor performance of MSEs are attributed to the program's targeting system, which focuses on unemployment status rather than on entrepreneurship potential. Furthermore, the program's group formation requirement to access loans means that entrepreneurs are not coming together out of genuine business partnerships, and groups often fail to function well. While the City has primarily focused on supporting MSEs through this program, many growth-oriented entrepreneurs and young businesses across the city continue to face significant challenges due to the lack of enabling environment for their growth and expansion. These businesses have huge potential if adequately supported.

ACTION DESCRIPTION
This action aims to create an enabling environment for growth-oriented enterprises to thrive and expand in Addis Ababa. To achieve this goal, the City will:

• Conduct a landscape of the state of growth-oriented small businesses in Addis Ababa.
• Create mechanisms to foster stronger business-to-business linkages between growth-oriented small businesses and outsourcing opportunities in larger enterprises.
• Establish platforms for the City to engage regularly with actors with growth-oriented enterprises, and to better understand their constraints and needs.
• Provide a platform to promote and showcase the activity of successful growth-oriented small businesses.

INSPIRATION

SURAT (INDIA)
DIVERSIFYING BUSINESS SECTORS AND OPPORTUNITIES WITH A FOCUS ON MICRO-, SMALL-, AND MEDIUM-SIZED ENTERPRISES

The economy of Surat is heavily dependent on two dominant sectors: textiles and diamond cutting, income generators dependent on global markets and macro-economic trends. Recession in either of these two sectors would have a significant impact on the economy of the city. Therefore, Surat is focused on catalyzing alternative industrial sectors, such as technology, tourism, the automobile industry, and the food industry. It is also looking at creating additional livelihood opportunities for its residents, to sustain them in good times, as well as in economic downturns.

To build this economic resilience, Surat will prioritize many of its efforts on supporting micro-, small-, and medium-sized enterprises through the following actions:

- **Launching a capacity-building program** to support entrepreneurs and MSMEs that leverages new partnerships with national-level institutions and banks to improve access to skills development opportunities and financing.
- **Promoting and supporting women entrepreneurs and start-up businesses** in particular, by offering targeted business counseling and training.
- **Establishing a center of excellence and incubation center** to conduct Research & Development (R&D) for diverse business opportunities and skill development.

⟫ **PLEASE SEE THE SURAT RESILIENCE STRATEGY, PAGES 51-54, FOR MORE INFORMATION.**

RESILIENCE CO-BENEFITS	• Create sustainable and competitive local businesses. • Generate good employment and livelihood opportunities. • Support the creation of thriving middle-sized enterprises and stimulate the local economy. • Build stronger relations between the public and private sectors. • Encourage transfer of technology, knowledge, and skills.
RELATED STRESSES	Unemployment, Poverty, Informality
CONNECTION TO SDGS	SDG 8
ACTION OWNER/LEAD	Addis Ababa Job Opportunity Creation and Enterprise Development Bureau (AAJOCEDB)

POTENTIAL PARTNERS	Addis Ababa Trade and Industry Development Bureau (AATIDB), Addis Ababa Chamber of Commerce and Sectoral Association (AACCSA), Entrepreneurship Development Centre, financial institutions, donors
SCALE	Citywide
TIME FRAME	Medium-term
ACTION STATUS	New
NEXT STEPS	• Complete landscape mapping of growth-oriented businesses. • Create mechanisms for business-to-business linkages. • Establish public-private engagement platforms.

28 World Bank. (2018). Enhancing Economic Development and Job Creation in Addis Ababa: the role of City Administration. Washington, D.C: World Bank.

ACTION

2

Expand the digital jobs program to target youth, women, and PWD

RESILIENCE CHALLENGE

While ICT is becoming increasingly available in Addis Ababa, the city has yet to harness the potential of digital technology to transform its economy and address its long-standing unemployment problem. Some contributing factors are poor ICT infrastructure, heavy government regulation and control, and low digital literacy rates. The ongoing liberalization of Ethiopia's telecommunications sector could, however, change this by creating an enabling environment for the digital economy, and digital jobs, to grow and thrive. There is growing evidence that access to these opportunities is most transformative for disadvantaged youth. However, youth are not well positioned to compete for these opportunities, in part due to real digital skills gaps, but also because their talent and potential are often overlooked by employers. ICT is also not gender-neutral and women remain significantly under-represented in the digital economy globally.[21]

ACTION DESCRIPTION

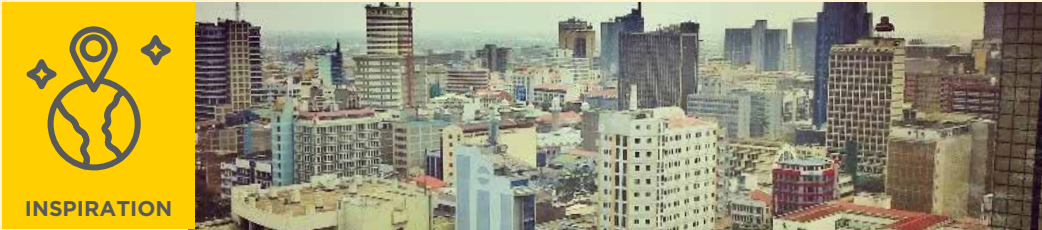Digital jobs, defined as any short-term or permanent positions that use information technology to deliver a product or service, offer significant opportunities for higher wages and sustainable employment. Through this action, the City will create a Digital Jobs program aimed at developing digital skills and catalyzing the growth of sustainable ICT-enabled employment for disadvantaged youth, women, and PWD in Addis Ababa. The program will focus on:

• Providing digital and soft skills training for disadvantaged youth, women, and PWD to prepare them for digital jobs. Training will be demand-driven and designed in close partnership with employers to ensure that they adequately reflect market needs.
• Facilitating post-training job placements: The City will identify and partner with employers who are willing to hire disadvantaged youth, women, and PWD who have been trained through the program. These job placements will enable program trainees to acquire transferable workplace skills and experience, while at the same time helping companies to meet their demand for a trained and motivated workforce.
• Creating temporary digital jobs in the public sector, particularly in institutions with massive manual data, where demand for digitization and back-office work (scanning documents, data entry work, etc.) is rapidly growing in line with the deployment of e-governance across the city. In addition to creating employment opportunities and supporting the expansion of e-governance, this intervention will contribute to building the capacity of city agencies.

The City will leverage lessons learned from the Rockefeller Foundation's Digital Jobs for Africa (see "Network Inspiration," page 69) and other similar programs to ensure successful program design and implementation. For instance, it will provide transportation and meal stipends as well as other incentives to remove financial barriers to program enrolment and participation.

RESILIENCE CO-BENEFITS	• Create sustainable, flexible, and inclusive job opportunities for disadvantaged youth, women, and PWD. • Strengthen participants' future employment opportunities and serve as a springboard to access jobs with higher pay, new professional development opportunities, and enhanced personal development. • Drive growth in the digital economy. • Enhance and modernize service provision by both the public and private sectors. • Enhance social cohesion and promote gender equality.
RELATED SHOCKS	Rioting and civil unrest
RELATED STRESSES	Unemployment, Poverty, Lack of social cohesion, Gender inequality
CONNECTION TO SDGS	SDG 8 and 9
ACTION OWNER/LEAD	Addis Ababa Science and Technology Agency (AASTA) and AAJOCEDB

POTENTIAL PARTNERS	Addis Ababa Women and Children Bureau, Addis Ababa Youth and Volunteer Coordination Office, Federation of Ethiopian National Associations with Persons with Disabilities (FENAPD), Addis Ababa University (AAU), Technical and Vocational Education and Training (TVET) Institutes, Addis Ababa Kaizen institute, development partners (e.g. Mercy Corps, Mastercard Foundation), private sector actors (e.g. EQOS Global, Gebeya IT Academy, iCog Labs)
SCALE	Citywide
TIME FRAME	Medium-term
ACTION STATUS	Ongoing
NEXT STEPS	• Establish profiles of possible digital jobs, identify target population, and design a robust beneficiary targeting mechanism. • Conduct outreach to private and public institutes to promote impact sourcing and form partnerships for post-training placements.

29 Dalberg Global Development Advisor. (2013). Digital jobs in Africa: Catalyzing inclusive opportunities for youth. The Rockefeller Foundation. Retrieved from https://www.rockefellerfoundation.org/report/digital-jobs-in-africa-catalyzing-inclusive-opportunities-for-youth/

INSPIRATION

NAIROBI (KENYA)
DIGITAL JOBS AFRICA

In response to the challenges of widespread youth unemployment in Africa, and recognizing the tremendous employment opportunities provided by the phenomenal growth of the ICT sector, The Rockefeller Foundation launched the Digital Jobs Africa initiative in 2013. The objective of the initiative was to equip youth – especially those with high potential but limited access to opportunities – with the technical skills, soft skills, and job placement support necessary to transition into a technology-enabled workforce. Over a period of seven years, Digital Jobs Africa was implemented across six countries – Egypt, Morocco, Ghana, Kenya, South Africa and Nigeria – with the goal of creating 250,000 jobs and impacting one million lives. To achieve this, the Rockefeller Foundation invested US$97 million and focused on three specific interventions:

- **Creating digital jobs** by catalyzing the Impact Sourcing sector,[30] leveraging the rising demands from African-based companies, governments, and multinationals to create employment opportunities, and exploring new and innovative job opportunities.
- **Working with local organizations to provide demand-led skills training** for high-potential but disadvantaged youth to gain the skills and experienced required for digital job opportunities in diverse sectors, including business process outsourcing, online work, retail, and hospitality. The training curriculum was influenced and designed to meet the needs of the labor market, and included a focus on soft skills and life skills, such as financial literacy.
- **Supporting an enabling environment** for digital jobs through partnerships with government to develop infrastructure and adopt policies necessary to accelerating the growth of the Impact Sourcing sector.

30 Sourcing is the socially responsible arm of the business process and information technology outsourcing industry, which employs individuals, especially high-potential but disadvantaged youth, women, and marginalized people, who would otherwise not have an opportunity for sustainable employment.

ACTION

3

Establish an incubator program for start-ups

RESILIENCE CHALLENGE

Addis Ababa's MSEs and entrepreneurs face a myriad of challenges to their growth and operations. There are few appropriate office spaces in the city and lease terms are generally inflexible. Basic services (such as power and internet connectivity) remain inadequate, inaccessible, or expensive. Lack of access to financing is another bottleneck facing entrepreneurs.

Moreover, most MSEs are launched by aspiring entrepreneurs with little prior work experience and limited exposure to a mature business environment, making them particularly vulnerable in their early years. ICT start-ups in particular tend to attract technology professionals with little business experience. However, there are very few business incubators in the city that provide business support resources and services

(e.g. support in preparing effective business plans, coaching, mentorship, networking, etc.) to aspiring entrepreneurs with viable business ideas.

ACTION DESCRIPTION

The City will establish a start-up incubator program to create a conducive environment for early-stage, growth-oriented tech entrepreneurs and ICT-enabled businesses to develop their business ideas and launch their enterprises. The program will provide a range of support to ICT startups, including:

- Shared modern facilities and infrastructure, such as office space, meeting rooms, reliable power, and telecommunications.
- Business advisory services to assist entrepreneurs with regulatory compliance (i.e. registration and licensing), management issues, financial management, etc., at competitive rates.
- Coaching and mentorship programs by hand-picked experienced business owners and professionals.
- Professional networking: access to a community of like-minded entrepreneurs to foster knowledge-sharing with peers, linking incubators to other businesses, investors, incubators, programs, etc.
- Financial support.

To establish this incubator, the City will develop a robust feasibility study and business plan that will be prepared in close collaboration with key relevant stakeholders (government agencies, entrepreneurs, entrepreneurial support providers, investors, etc.).

RESILIENCE CO-BENEFITS	• Enhance the viability and growth of small businesses. • Foster an entrepreneurial culture. • Reduce unemployment, particularly among the youth. • Develop and scale innovative solutions to the city's resilience challenges. • Diversify the local economy.
RELATED STRESSES	Unemployment, Inadequate education systems, Undiversified economy, Inadequate infrastructure
CONNECTION TO SDGS	SDG 8 and 9
ACTION OWNER/LEAD	AASTA
POTENTIAL PARTNERS	Ministry of Innovation and Technology (MINT), Addis Ababa Chamber of Commerce and Sectoral Association (AACCSA), entrepreneurial support organizations (Bluemoon, ICE Addis, etc.), universities and other educational institutions, local technology companies, investment funds, banks, development partners

SCALE	Citywide
TIME FRAME	Medium-term
ACTION STATUS	New
NEXT STEPS	• Conduct a participatory feasibility study that will further develop the incubator concept and determine strategies for the design and operation of the incubator. • Develop a business plan that outlines the incubator's business model, governance structure, and potential programming and services offered. • Establish a broad-based partnership of public and private sector sponsors.

INSPIRATION

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SALVADOR (BRAZIL)
INCUBATOR FOCUSED ON SDGs

On May 10, 2019, Salvador opened Brazil's first public incubator focused on the United Nations' Sustainable Development Goals (SDGs). An initiative of the city's Resilience Strategy, the Municipal Innovation Center, known as COLABORE, was constructed out of 16 old shipping containers amid the trees of the City Park. Recognizing that social inequality is the greatest challenge of many Brazilian cities, the City of Salvador envisions COLABORE as a coworking space for micro enterprises, start-ups, and individuals who have equity solutions for the city that also fulfill the aspirations of the SDGs. The facility's placement in one of the most popular meeting places in the city, with around 100,000 visitors per month, puts its mission at the center of the municipal conversation. COLABORE is designed to be a shared work environment, catalyzing interaction between entrepreneurs. Users will have access to offices, an auditorium, and meeting rooms, allowing them to network while saving money on office space. Workstations around the site will allow for periodic training courses on social entrepreneurship, boosting Salvador's innovation economy. The incubator will also have a number of sustainable features:

- **Solar Energy:** 12 photovoltaic solar panels that generate an average of 520 kW per month and avoid the emission of approximately 3 tons of CO2 per year.
- **Vegetation:** 270 square meters of green roof offers thermal insulation, reducing the temperature inside the building by up to 5°C.
- **Water storage:** Rainwater barrels capture water that is used to irrigate the green roof. The condensed water from the air conditioning system is recycled for the same purpose.
- **Ventilation:** In order to reduce energy consumption, the building was designed to take full advantage of cross ventilation, keeping the air inside fresh and cool.
- **Lighting:** To reduce electricity consumption, the workspaces were designed for maximal natural light, and no film was used on the windows.
- **Active mobility:** The building has a designated space for users to park bicycles, encouraging active mobility.
- **Acoustics:** The vegetation around COLABORE works as a natural acoustic barrier, helping to reduce noise as well as the internal ambient temperature.
- **Permeability:** The site features 300 square meters of permeable surfaces, contributing to the reduction of surface runoff.
- **Sewerage:** The building's effluent is treated by anaerobic and aerobic processes, allowing the reuse of treated water for irrigation and other non-potable applications.

ACTION

4   Bridge Addis Ababa's skills gap

RESILIENCE CHALLENGE

Over half of Addis Ababa's unemployed have completed secondary or post-secondary education, suggesting that the local economy is not generating enough jobs for the growing number of graduates that are joining the labor market. This also indicates a mismatch between employers' demands and existing labor skills. The are several factors behind the current skills gap and mismatch, including:

• Lack of proper information and awareness at lower levels of education about different fields of study and career choices.
• Inadequate competence, employable skills, and job readiness among university and technical college graduates.
• Inadequate technical and soft skills to handle jobs in high value-added and emerging sectors such as ICT, electronics manufacturing, and tourism.
• Many people – both young and old – do not possess the digital skills required for many jobs of the twenty-first century.
• Lack of encouragement for women to participate in sectors other than traditionally female-dominated sectors, such as domestic work.
• Limited opportunity for TVET graduates to transition towards self-employment.

ACTION DESCRIPTION

The overarching objective of this initiative is to connect classroom learning with the job market, thereby ensuring that students can make more informed decisions on career choices and pathways, and are job-ready and visible to the job market. The aim is to help address the skills gap and support a thriving and diversified local economy.

The action proposes to:

• Initiate curriculum revision for lower level (below grade 8) and TVET education. Starting from lower levels, the education curriculum will be revised to include courses focusing on digital skills and STEM, encouraging innovation and entrepreneurship.
• Establish at least one career advisory center in each sub-city to provide students with education and career information and guidance, as well as opportunities to connect with further education institutions and employers from a young age.
• Enhance cooperative training programs in government institutions, institutionalize ongoing efforts, and create incentive measures (tax incentives, recognition and awards to employers, etc.) for private companies to provide better cooperative training opportunities.
• Partner with civil society groups that support gender equality to organize campaigns, events, and activities aimed at breaking down gender stereotypes around curriculum and careers, and inspiring young girls to pursue careers in high value-added jobs.

GOAL
1.2   Leverage our existing environmental, cultural, and human assets to help sustain economic growth.

RESILIENCE CO-BENEFITS	• Raising awareness of educational and work opportunities. • Enhancing the employability of young people. • Reducing the gap between the skills of the workforce and labor market needs. • Reducing unemployment and enhancing social cohesion. • Creation and growth of businesses.
RELATED STRESSES	High unemployment, Poverty, Economic inequality, Informality, Lack of social cohesion, Political instability
CONNECTION TO SDGS	SDG 4, 8, 9
ACTION OWNER/LEAD	Addis Ababa Education Bureau (AAEB) and TVET Agency

POTENTIAL PARTNERS	TVET institutions and primary schools, AASTA, AACCSA, Addis Ababa Labour and Social Affairs Bureau (AALSAB), CSOs working on education and gender equality, donors
SCALE	Citywide
TIME FRAME	Medium-term
ACTION STATUS	New
NEXT STEPS	• Convene government institutions and private sector actors to identify, design, and incorporate additional appropriate incentive measures for cooperative trainings. • Pilot two career advisory centers in the city. • Launch at least one event in partnership with NGOs aimed at breaking down gender stereotypes in relation to education and career opportunities.

ACTION
5

Develop an integrated and sustainable tourism strategy

ACTION
6

Launch a study on the informal economy to develop more effective policy interventions

RESILIENCE CHALLENGE

Addis Ababa, as the diplomatic capital of the African continent, has become a gateway not only to Ethiopia, but to the continent itself, with multiple flights landing in the city daily. However, the tourism industry has benefited very little from the city's connectedness. As it stands, aside from MICE tourism (Meetings, Incentives, Conference, and Exhibition), the city lacks the staying power to take advantage of the economic and cultural benefits that tourism can bring. Ethiopia's tourism strategy – which emphasizes ancient culture and heritage, as well as national parks, as core tourist attractions – puts focus on assets outside the city, contributing to making Addis Ababa a stopover on the way to other destinations across the country. Although tourism has recently received increasing government attention and support as an area of opportunity for job creation, the absence of a dedicated and well-coordinated tourism strategy for Addis Ababa further inhibits investment and growth in the sector. Without a clear vision and roadmap for how to develop the sector, tourism in Addis Ababa continues to face a myriad of challenges, including poor branding and promotion, inadequate tourist products and experiences, limited capacity for hospitality and tourism, and weak coordination among actors in the sector. Meanwhile, in addition to the city's historical and diplomatic identities, various stakeholders are increasingly contributing to Addis Ababa's attractiveness globally. A rich food tradition, a booming music and arts scene, a budding fashion industry, athletics, skating culture – the city's residents, especially the youth, are shaping Addis Ababa's identity as a young, vibrant, and active city. Unfortunately, there is little support for those involved in the aforementioned sectors. This is holding the city back from taking advantage of these assets, not only to develop a strong tourism sector, but also to strengthen social cohesion, increase youth involvement, and improve viable employment opportunities.

ACTION DESCRIPTION

The City will develop a tourism strategy that will provide a long-term and coherent vision and roadmap for transforming Addis Ababa into an attractive, welcoming, and competitive tourist destination. In addition to creating a sense of direction and catalyzing investment in the tourism sector, the strategy will focus on leveraging tourism as a positive force for supporting local businesses, generating decent jobs, empowering the youth, enhancing social cohesion, and strengthening the city's overall resilience.

To drive expansion of tourism into Addis Ababa and enable its contribution to resilience building, the strategy will focus on key areas, including but not limited to:

- Better marketing and branding of the city and its key assets.
- Enhancing tourist attractions across the city, as well as visitors' experiences and journeys.
- Strengthening leadership in the sector and collaboration among actors.
- Capacity building and skills development at all levels.
- Protecting and rehabilitating heritage buildings in the city.
- Promoting responsible and sustainable use of resources.
- Ensuring that tourism works for local communities, particularly the youth.

The strategy will be researched and developed through a robust consultative process with tourism partners and stakeholders from government, the private sector, and civil society (artists, art galleries, youth associations, etc.). It will be complemented by an implementation plan to ensure that the strategy leads to tangible impacts on the ground and meets its stated objectives.

RESILIENCE CHALLENGE

Despite the support that the informal economy provides for many residents, the City currently lacks up-to-date and reliable information on the size, composition, needs, and existing conditions of the sector and its participants. This limits the City's ability to enact tailored policies and initiatives that effectively address the challenges and needs of those involved in the sector, most of whom are estimated to be women. It also limits the City's ability to provide social protection and decent working environments for those in the sector, especially vulnerable groups such as migrants, domestic workers, and those engaging in sex work.

Current efforts by the City to register and provide vending space for informal street vendors can also be more effective if driven by more nuanced data than is currently available. Additionally, lack of information has led to recent inner-city redevelopment plans that have unknowingly disrupted the livelihoods of residents who use their homes as workspaces in inner city areas. The COVID-19 pandemic is yet another shock that has severely hit informal workers and reinforced the need for livelihood support following a shock and social protection measures.

The City currently cannot use the informal sector to increase its tax base, thereby increasing its own-source revenue, as there is no accurate data on the number of people involved in the sector and their earning power. The lack of information also prevents the City from understanding thriving sectors, and particularly the participation of migrants, refugees, and low-skilled workers, hindering investing to partner with them to reduce unemployment and underemployment.

ACTION DESCRIPTION

This initiative proposes a thorough assessment of Addis Ababa's informal economy sector to establish up-to-date and reliable data on industries involved in the sector, form an understanding of their contribution to the city's overall economy, and gather demographic, socioeconomic, and aspirational information on their participants. The study will also include a rapid impact assessment of the COVID-19 outbreak on actors engaged in the informal economy.

Strategic directions that can be pursued based on the study findings are:

- Understanding the steps necessary to integrate the informal sector into the overall economy of the city, and leverage it for increasing employment opportunities and improving residents' standards of living.
- Aligning urban planning practices with the needs of the informal sector to enhance its benefits, rather than disrupting the livelihoods of those involved in it.
- Introducing emergency income replacement measures for informal workers in case of shock events leading in loss of livelihood.
- Establishing a livelihood restoration fund for informal workers hit by the COVID-19 pandemic in the recovery phase.
- Providing much-needed legislative and enforcement support to ensure that those in the informal sector have opportunities for decent and safe employment.
- Exploring the potential of leveraging the informal sector to increase the city's own-sourced revenue through taxation.

RESILIENCE CO-BENEFITS	• Generating growth, higher earnings, and employment in the tourism sector. • Diversifying the local economy. • Expanding livelihood opportunities for youth and marginalized communities. • Increasing access to foreign currency. • Improving the city's overall image, quality of life, and residents' sense of pride.
RELATED SHOCKS	Riots and civil unrest
RELATED STRESSES	High unemployment, Poverty, Inflation, Lack of social cohesion, Undiversified economy, Youth disenfranchisement
CONNECTION TO SDGS	SDG 8, 9, 12
ACTION OWNER/LEAD	Addis Ababa City Culture, Arts, and Tourism Bureau (AACATB)

POTENTIAL PARTNERS	FDRE PMO, Tourism Ethiopia, Ministry of Culture and Tourism, Ministry of Youth and Sports, Authority for Research and Conservation of Cultural Heritage, Ethiopian Airlines, Museums, art galleries and cultural centres, Hotel Owners' Association, Tour operators associations, CSOs (youth associations, traditional and cultural associations, Ethiopian Running Association, etc.), training and academic institutions.
SCALE	Citywide
TIME FRAME	Long-term
ACTION STATUS	New
NEXT STEPS	• Establish a technical working group responsible for overseeing the development of the city's integrated and sustainable tourism strategy. • Develop a RfP and launch the strategy development process. • Implement recommendations and actions of the strategy, and ensure their continuity in the future.

RESILIENCE CO-BENEFITS	• Increase the supply of decent and high-quality jobs. • Support the creation of dignified work environments for those employed in the informal sector. • Influence the quality of life of those involved in the informal sector for the better, and strengthen their ability to withstand shocks such as inflation and displacement. • Curb gender-based violence aimed at domestic and sex workers by providing protection and support that is informed by concrete information on their needs and the challenges they face. • Decrease the potential for riots, civil unrest, and looting by increasing employment opportunities. • Increase the city's tax base and contribute positively to the city's economy. • Build a positive relationship between the City Administration and those involved in the informal sector, making the latter feel an increased sense of citizenship.
RELATED SHOCKS	Disease outbreak, Economic crisis

RELATED STRESSES	Lack of up-to-date and reliable data for future planning, Lack of integrated planning, Unemployment, Poverty, Economic inequality, Lack of social cohesion, Gender-based violence, Traffic accidents, Inflation
CONNECTION TO SDGS	SDG 1, 5, 8, 10, 11
ACTION OWNER/ LEAD	AAPDCo
POTENTIAL PARTNERS	AALSAB, Addis Ababa Trade and Industry Development Bureau (AATIDB), AACCSA, CSA, MoTI, development partners
SCALE	Citywide
TIME FRAME	Medium-term
ACTION STATUS	New
NEXT STEPS	• Design the terms of reference of the study in consultation with key partners, and commission the study. • Design and implement tailored and effective policy interventions based on the recommendations of the study.

GOAL 1.3
Foster an efficient and transparent governance for the city

ACTION
7
Leverage technology for citizen-centric public service delivery

RESILIENCE CHALLENGE

While some progress has been made over the last few years, public service delivery is grossly inadequate in Addis Ababa. One of the key factors affecting poor service delivery in the city is the lack of automation and adherence to a common and clear set of processes, policies, and standards for service delivery. The City's continued reliance on paper-based operations forces residents to travel and queue at various government offices, wasting valuable time and money on procedures that do not require face-to-face interactions. Longer processing and approval times, coupled with the current procedural complexity, negatively impacts business creation. The lack of automation also leads to greater opportunities for corruption, thereby eroding public trust. Limited information on the services offered by the City, and lack of adequate mechanisms to handle citizens' feedback and complaints, are additional factors contributing to inadequate service delivery.

Recognizing the role that digital technology can play in enhancing public service delivery to residents and businesses, the City has recently launched several e-government services, in line with the national e-government strategy. The m-Gov platform, introduced in 2017, now allows citizens to access information on more than 50 public services – including utility bills, taxes, bus routes, and exam results – via their mobile devices. More recently, the City launched the Smart woredas initiative in five selected *woredas* with the objective of modernizing and automating all their services. An automated system to handle citizens' feedback and complaints has also been established with support from AARPO, but far more is needed to ensure that it is used effectively and being institutionalized across the city. In its effort to combat the COVID-19 outbreak, the government has further accelerated the deployment of e-services across government agencies to minimize physical contact and halt the spread of the virus. Digital tools that allow critical and senior public servants to work from home have also been procured, but additional efforts are needed to equip and train more municipal staff.

ACTION DESCRIPTION

The action will build on and expand current efforts aimed at promoting the use of ICT to improve quality of public services delivered to residents and businesses during normal times, and ensure continuity of critical services in time of crisis. The overall objective is to fundamentally change how public services are provided, by promoting a shift from traditional procedure-oriented to a result-oriented and citizen-centric approach to public service delivery that is supported by digital technology. This will be achieved through the following interventions:

- Automate processes, workflows, policies, and standards for service delivery. Agencies and sectors with lower service performance (i.e. business license registration, construction permits, and land registration) will be prioritized in a first phase.
- Scale-up and institutionalize the City's automated system for handling citizens' feedback and complaints.
- Ramp up procurement of digital tools and infrastructure necessary to support the shift towards e-governance.
- Provide training to public servants on digital tools introduced and multichannel public service delivery, ensuring that they are effectively serving residents.

RESILIENCE CO-BENEFITS	• Improving digital skills, motivation, efficiency, and productivity of public servants. • Improving quality of public service. • Improving transparency and reducing corruption. • Improving trust between citizens and government. • Ensuring continuity of critical services.
RELATED STRESSES	Corruption, poor governance regulatory climate.
CONNECTION TO SDGS	SDG 11
ACTION OWNER/LEAD	AASTA
POTENTIAL PARTNERS	Mayor's Office, AARPO, all city agencies and bureaus, MINT, AAU, Information Network Security Agency (INSA), development partners.

SCALE	Citywide
TIME FRAME	Long-term
ACTION STATUS	Ongoing
NEXT STEPS	• Identify the implementation barriers of the existing automated system for handling citizen's feedback and complaints, and recommend potential solutions. • Conduct a rapid assessment of procurement and training needs and gaps, and formulate recommendations. • Identify priority sectors with lower service delivery performance and initiate e-service provision.

Undertake a study on locally appropriate public participation mechanisms for Addis Ababa

Set up a citywide performance reporting and management dashboard

RESILIENCE CHALLENGE

Over the past decade, the Addis Ababa City Administration has introduced various public participation mechanisms, as part of the numerous reform programs that the country has been engaged with in its efforts to improve public service delivery. At present, the City's main public participation mechanism is the "public wing," a platform established at all levels (national, regional, local) to engage with a wide range of stakeholders from the private sector and civil society.[31] Public wing members meet with the state wing to discuss strategic plans and their implementation.

Despite these attempts to embed public participation in the City's decision-making, planning, and implementation processes, public participation in Addis Ababa remains generally weak. Efforts made to enhance community consultation and participation have had limited success due to a variety of factors, including high politicization of these consultation mechanisms and low commitment of decision-makers.

Furthermore, initiatives are often designed in a top-down approach without ensuring that there is support from civil servants down the line. Initiatives are generally benchmarked from other countries and implemented without adequate customization to the local context. Moreover, there is a lack of evaluation of the successes and failures of these different mechanisms, which in turn limits the City's ability to learn from the past and ensure that interventions are supplementing one another and continuously improved.

The resulting lack of deep and meaningful public participation is leading to ineffective and poorly accepted policy interventions, which in turn have led to significant delays in project delivery, loss of public resources, and even protests and civil rioting.

ACTION DESCRIPTION

This action aims to launch a comprehensive study that will help identify locally appropriate public participation mechanisms and formulate recommendations for their effective implementation and institutionalization within the Addis Ababa context. The study will look back at previously introduced public participation mechanisms and assess their respective successes and failures. To ensure that the process of conducting the study is in itself highly participatory, a wide range of stakeholder engagements methods and tools – such as door-to-door surveys, public meetings, and web-based engagements – will be mobilized. Adequate attention will also be given to ensuring that the study captures the inputs of a wide range of stakeholders from across the city, with a particular emphasis on poor and vulnerable residents whose voices are not always included in decision-making and planning process. The study's final recommendations will be disseminated widely to the public for consultation and approval.

RESILIENCE CHALLENGE

Addis Ababa's five-year Strategic Plan requires each agency to revise and operationalize their actions on a yearly basis. However, implementation of this plan has faced many difficulties, including a limited understanding of the existing planning and reporting tools, and the fact that these tools are not standardized or uniformly implemented across agencies. The City is still using a paper-based planning and reporting system, which is time consuming, does not enable real-time performance tracking, and is subject to false reporting. This approach has resulted in low collaboration and cooperation between the various departments and agencies operating in the city, and also in the overlapping of activities, generating major inefficiencies in the delivery of basic infrastructure and services. Key performance indicators currently used to track and assess the performance of agencies tend to focus on outputs rather than outcomes or impacts.

ACTION DESCRIPTION

This action proposes to develop an automated citywide performance reporting and management dashboard, which will create an online system for each agency in the city to report and monitor their performance against a set of indicators on a monthly and quarterly basis. The City will:

• Develop appropriate Key Performance Indicators (KPIs) for the context of Addis Ababa, including resilience considerations, in consultation with various municipal agencies. This will be done by assessing the existing planning tools, gathering current indicators, conducting a benchmark of other city dashboards, and developing outcome-focused metrics for major city activities. These metrics and indicators can also serve to take the pulse of the city's resilience.
• Develop and test the dashboard system. Before official release, the system must be tested and debugged internally.
• Train end users within each agency to be able to capture data in the system and keep the information current and accurate.

This dashboard will improve the speed at which this information is captured and shared across city agencies and improve accountability. In the medium to long term, the ambition is to ensure that the dashboard is accessible to the general public, thereby enabling a culture of greater transparency and accountability.

RESILIENCE CO-BENEFITS	• Enabling better understanding of citizens' needs and more informed policies and decisions. • Increasing transparency, accountability, and acceptability. • Creating ownership and empowering citizens. • Enhancing public service delivery and access. • Restoring citizen trust.
RELATED SHOCKS	Riots and civil unrest
RELATED STRESSES	Corruption, Political instability, Poor governance regulatory climate
CONNECTION TO SDGS	SDG 11

ACTION OWNER/LEAD	Addis Ababa Public Service and Human Resource Development Bureau (AAPSHRDB)
POTENTIAL PARTNERS	AAPDCo , Ethiopian Institute of Architecture, Building Construction and City Development (EiABC), Ethiopian Civil Service University (ECSU)
SCALE	Citywide
TIME FRAME	Short-term
ACTION STATUS	New
NEXT STEPS	• Design the terms of reference of the study in partnership with key stakeholders and launch tender. • Implement recommendations of the study.

RESILIENCE CO-BENEFITS	The citywide performance reporting and management dashboard will: • Creating a standardized reporting format and facilitate access for all users. • Informing decision-making for the Mayor and City Administration, as there will be a centralized system to monitor sector performance based on standardized indicators. • Fostering improvement in service delivery. • Increasing transparency and accountability, and building public trust.
RELATED STRESSES	Uncoordinated planning, Corruption
CONNECTION TO SDGS	SDG 11, 17

ACTION OWNER/LEAD	AAPDCo
POTENTIAL PARTNERS	AAPSHRDB, MINT, AASTA, development partners
SCALE	Citywide
TIME FRAME	Short-term
ACTION STATUS	New
NEXT STEPS	• Identify appropriate metrics and KPIs in consultation with key stakeholders. • Develop and test the dashboard system. • Train end users and launch system across the city.

31 These include private sector representatives, youth associations, women, professionals, cooperatives, non-governmental organizations, and other stakeholders identified as relevant by government organs.

NEW YORK CITY (UNITED STATES)
ESTABLISHING PERFORMANCE MANAGEMENT INFRASTRUCTURE TO DRIVE INITIATIVE DELIVERY

New York City has developed a robust performance management infrastructure to support accountability and delivery on the city's agenda and initiatives, including those outlined in OneNYC, the city's resilience strategy. At the core of this effort is a central unit established by the Mayor's Office of Operations that partners with city agencies to monitor program progress, problem solve on any issues, and escalate opportunities for collaboration to advance delivery of initiatives. This central team works with individual initiative leads to:

- Develop a charter and conduct a project plan diagnostic for each initiative, to identify key opportunities for collaboration and provide project plan development support.
- Conduct regular progress reviews to measure performance against milestones and identify actions to accelerate progress or resolve any challenges.
- Formalize close-out of each initiative once complete.

In addition to this program delivery system team, the city has established an online tracker tool that is publicly available on the City's website, which provides regular updates on the status and progress of each initiative included under the umbrella of these city commitments.

⟫ **PLEASE SEE THE MAYOR'S OFFICE OF OPERATIONS PERFORMANCE WEBSITE, FOR MORE INFORMATION.**

10 Develop a Smart City strategy and roadmap

RESILIENCE CHALLENGE
As in many other cities in the region, Smart city development is gaining momentum in Addis Ababa. The City has implemented several ICT-driven initiatives to improve the efficiency of urban operation and services as well as overall quality of life. In 2017, the City inaugurated its first Smart parking at *Megenagna* to alleviate road traffic congestion, and several other similar facilities are being built in high-congestion areas across the city. More recently, the Addis Ababa City Administration launched the Smart woredas initiative in six selected *woredas* with the objective of modernizing and automating all their services. The City plans to scale up this pilot to the remaining *woredas* of Addis Ababa.

While the City recognizes the potential of technology-enabled solutions to improve service delivery and foster economic development and job creation, what is lacking is a vision of what being a Smart City could mean for the local context. A better understanding of opportunities, challenges, and potential risks (related to cyberattacks, for instance) is also required to ensure that Smart city development works for Addis Ababa and helps to meet the current and future challenges that the city faces.

Based on this vision, and before embarking on a specific project, the City needs to develop an overarching strategy for what it wants to achieve, and guidelines for what specific Smart City pilots and technologies would do to enhance its ability to efficiently deliver quality services to its residents.

ACTION DESCRIPTION
This action proposes to develop a comprehensive 10-year Smart City strategy and a five-year roadmap, which will guide and coordinate Smart city development in Addis Ababa around a shared vision. The Strategy will define what "Smart city" means to Addis Ababa, and will include the Smart City vision and mission statements, goals, guiding principles, as well as selected priority areas of interventions. The accompanying five-year roadmap will outline key actionable initiatives, programs, and projects to be implemented, along with clear roles and responsibilities, timelines, and the KPIs by which projects will be assessed.

The strategy will be developed as an integrated effort that aligns with other urban, economic, social, environmental strategies, policies, and plans of the city. The process will ensure that the strategy builds on previous work and research related to Smart city development in Addis Ababa. The strategy and roadmap will be informed by relevant international best practices for using and leveraging existing ICT assets, infrastructure, and legacy systems. Early and frequent stakeholder engagement will be at the heart of the strategy development process to secure strong stakeholder buy-in and ensure its successful implementation.

RESILIENCE CO-BENEFITS	A Smart Addis Ababa will embrace new and creative solutions that ensure the City operates more efficiently and transparently, attracts and encourages businesses, and improves overall quality of life - all while leveraging and enhancing its history and culture and reducing the threat of cyberattacks.
RELATED SHOCKS	Cyberattack, Infrastructure and building failure
RELATED STRESSES	Traffic congestion, Corruption, Aging infrastructure, Inadequate infrastructure
CONNECTION TO SDGS	SDG 8,9,16

ACTION OWNER/LEAD	AASTA
POTENTIAL PARTNERS	MINT, AAU, Kotebe Metropolitan University (KMU), INSA, Ministry of Urban Development and Construction (MoUDC), donors
SCALE	Citywide
TIME FRAME	Short-term
ACTION STATUS	New
NEXT STEPS	• Prepare a Request for Proposals (RfP) for the Addis Ababa Smart City Strategy and Roadmap, and launch tender. • Implementation of pilot initiatives proposed by the Strategy.

11 Build a centralized data center

RESILIENCE CHALLENGE

To support Smart city development, the City must ensure that it has the right infrastructure in place. Engagements with stakeholders in the ICT sector revealed that there are several public agencies in the city that have their own data centers, but there is currently a lack of interoperability among these different platforms. This fragmentation and lack of interoperability sacrifices opportunities to reduce costs and capital expenditure. Additionally, existing data centers do not meet the minimum requirements and standards when compared to data centers used by other comparable metropolitan areas. They fare poorly in terms of performance (fast processing, backup, and ability to reset), resilience (ability to overcome single points of failure), scalability, disaster recovery, and human capacity.

ACTION DESCRIPTION

This action proposes to establish a new data warehousing model and centralized data center, which serves both the City Administration and residents, and which meets industry standards for server administration, virtualization, cost efficiency, service levels, and data security.

By providing a unified physical infrastructure and an accessible software platform, the action aims to improve coordination and optimization of ICT resources across city agencies. This in turn will help minimize operating and maintenance costs, improve data-sharing workflows, drive performance, and centralize IT support. In addition, a centralized structure allows IT staff to have better oversight and handle routine tasks (such as software installation, updates, and security patches) from one location, thereby effectively using limited human resource capacity and creating more opportunities for real-time experience sharing among personnel.

We envision the creation of a centralized data center for the city as the first step towards establishing an open data portal for sharing information with the public, fostering data-driven planning, improving transparency, building trust, and increasing efficiency in government service delivery. It will also support Smart city development.

RESILIENCE CO-BENEFITS	• Creating adequate data storage infrastructure. • Standardizing data collection and storage practices. • Increasing transparency and fight corruption. • Building resistance to cyberattacks and data breaches. • Promoting data-driven planning. • Delivering cost savings across city agencies.
RELATED SHOCKS	Infrastructure failure, Cyberattack
RELATED STRESSES	Aging infrastructure
CONNECTION TO SDGS	SDG 9, 11
ACTION OWNER/LEAD	AASTA

POTENTIAL PARTNERS	MINT, Ministry of Innovation and Technology, Ethio Telecom, Ethiopia Electric Utility (EEU)
SCALE	Citywide
TIME FRAME	Short-term
ACTION STATUS	Ongoing
NEXT STEPS	• Conduct benchmark study on data center service models, facilities, and governance. • Identify and define minimum citywide data center facility standards and specifications. • Propose and document data center governance structure and service delivery model.

Pillar 2
Connected, inclusive, and safe communities

Taking a more participatory, human-centric approach towards planning the city of today and tomorrow.

Fueled by rapid urbanization and increasing rural-urban migration, Addis Ababa's communities are growing. As we tackle the long-standing challenge of providing affordable and adequate housing, it has become ever clearer that the deficit is widening between available housing stock and the growing demand expected over the next decade.

Our city's transport system likewise faces acute challenges. The public transport network has not kept pace with rising demand. As a result, our communities are disconnected and residents unable to access jobs, markets, and basic services. Urban infrastructure remains car-oriented, yet road traffic congestion continues to have adverse effects on the city. At the same time, inadequate consideration for pedestrians, the vast majority of the city's population, exposes them to high risk of road traffic accidents.

Our communities are also increasingly exposed to both known and unknown disaster risks related to poorly managed urbanization and economic activities. Despite these growing risks, the City has limited understanding of the threats it faces, and currently lacks the appropriate systems and protocols to protect residents, particularly vulnerable groups.

While Addis Ababa was long known for being a socially and spatially mixed city, it is gradually transforming into a more divided city. This has the potential to undermine our social cohesion and threatens our ability to cope with future shocks and stresses.

This pillar is about transforming Addis Ababa's communities into more inclusive, connected, and safe centers of resilience. Initiatives in this pillar offer innovative strategies for improving urban housing and mobility, and for empowering and protecting vulnerable groups, while also nurturing a sense of community resilience and disaster preparedness among residents of Addis Ababa.

There is a crucial need for a more participatory, human-centric, and rights-based approach to planning the city of today and tomorrow.

GOAL 2.1	Improve quality, access, and distribution of affordable housing
GOAL 2.2	Promote human-centered, efficient, and integrated mobility
GOAL 2.3	Develop our capacity to manage risks
GOAL 2.4	Foster a culture of resilience
GOAL 2.5	Empower and protect youth, women, and other vulnerable groups

GOAL 2.1

Improve quality, access, and distribution of affordable housing

ACTION

12

Apply a resilience lens to the city's affordable housing program

RESILIENCE CHALLENGE

Since 2005, the Addis Ababa City Administration has been implementing the IHDP, a large-scale condominium construction program aimed at providing affordable housing to low-income and middle-income households. So far, the program has produced and transferred a respectable 200,000 housing units all over Addis Ababa,[32] created significant job opportunities, and helped strengthen the local construction sector. Despite these achievements, the IHDP has encountered several challenges. While 734,712 residents have registered in three different ownership schemes, the program has managed to address only 24% of the anticipated beneficiaries. Moreover, the housing typology of the program does not offer incremental stages for construction and there has been little effort to use local construction materials. Evidence suggests that this dependence on specific materials and lack of alternative approach has contributed to increasing construction costs, making the housing units unaffordable to targeted low-income households. In addition, the IHDP design process lacks inclusion and involvement of a wide range of stakeholders, particularly beneficiaries, resulting in designs that do not always reflect local aspirations and lifestyles. While efforts have been made to build condominium apartments in the city center, many of the developments are located in the outskirts, where access to livelihood opportunities is limited. Finally, inadequate construction supervision has raised concerns over the quality, safety, and durability of the condominium buildings.

ACTION DESCRIPTION

We plan to launch an international design competition that will challenge built environment professionals to come up with innovative affordable housing concepts for pilot sites across the city. The competition is intended to inform the IHDP's improvements and to scale winning concepts across Addis Ababa, thereby addressing the city's affordable housing problem.

Competition entries will be evaluated against a range of criteria, including affordability, replicability, resource efficiency, environmental performance, incorporation of local building materials and techniques, responsiveness to local culture and lifestyles, risk awareness and resilience in building design, inclusivity, and accessibility.

Each submissions would need to be accompanied by a business plan that demonstrates the affordability of proposed units, as well as an implementation framework that articulates the roles of various stakeholders involved in the delivery and management of the proposed housing units.

RESILIENCE CO-BENEFITS	• Shortening project timelines and reducing costs of housing units. • Spurring innovation in the housing and construction sectors . • Improving public participation in the design and planning of the city's affordable housing programs. • Enhancing the stock of decent and affordable housing, particularly for low-income groups • Improving health and quality of life for low-income and vulnerable households.
RELATED SHOCKS	Infrastructure failure
RELATED STRESSES	Lack of affordable housing, Homelessness, Lack of social cohesion, Inflation, Rapid urbanization, Lack of integrated planning

CONNECTION TO SDGS	SDG 9 and 11
ACTION OWNER/LEAD	Addis Ababa Housing Development and Administration Bureau (AAHDAB)
POTENTIAL PARTNERS	AAPDCo, MoUDC, EiABC, banks, development partners
SCALE	Citywide
TIME FRAME	Medium-term
ACTION STATUS	Ongoing
NEXT STEPS	• Secure political buy-in and funding for housing design competition. • Identify pilot sites and develop competition brief. • Launch design competition and evaluate submissions.

32 Data obtained from the Addis Ababa Housing Development Agency, October 2019.

INSPIRATION

BARCELONA (SPAIN)
DIVERSIFICATION OF AFFORDABLE HOUSING

Barcelona faces a myriad of housing challenges: insufficient public rental stock, relocation and displacement of residents due to gentrification, difficulties faced by young people in accessing housing, and the need to adapt housing for an aging population. To tackle these challenges, the City launched the *Right to Housing Plan 2016-2025*, which places a strong emphasis on housing as a human right. As part of this plan, which was approved in 2017, the City has launched a series of public competitions aimed at identifying new models of housing tenure and new ways of living together by partnering with cooperatives and philanthropic organizations that are also interested in making housing a basic right.

In August 2017, the City tendered four plots of land for the construction of nearly three hundred protected homes. Two of the sites were intended for housing cooperatives, and the other two for non-profit organizations that create affordable rented homes. Each cooperative owns the surface rights for a period of 75 years, with an option to extend that period to 90 years. The foundations and non-profit organizations are expected to offer limited rent prices equivalent to or less than the prices set out by law for protected homes (€7.28 per square meter).

Another model being pursued by the City of Barcelona is the assigned-for-use housing cooperative, or cohousing. In October 2017, the City launched a public competition aimed at building 110 cohousing apartments on five plots of municipal land. The cohousing scheme involves the City Council or a private owner signing over the use of an unused property or plot of land so that a cooperative can build on it. The cooperative members design and build the physical project. Members pay a deposit and a monthly lower-than-market fee for the use of the home. They can have lifelong access to a home, even though they will never be the owners: ownership of the property rests with the cooperative and the land remains publicly owned, thus guarding against property speculation.

In assessing the projects submitted, special attention was paid to environmental criteria, such as the use of building systems with a low environmental impact, and social criteria, such as how well projects fit in with the area, and the participation of cooperative members. Successful projects also featured a significant number of communal areas, shared use of basic facilities, and joint management. Eligibility was restricted to cooperatives fostering a housing model that is different from the traditional ownership or rental models. Besides making municipal plots available, the City Council is also in contact with ethical and cooperative banks to facilitate funding for the projects. Overall, six cohousing projects are currently underway in different parts of the city.

ACTION
13 Enable the use of resilient and affordable building materials and methods

RESILIENCE CHALLENGE

Ethiopia's existing building codes and regulatory frameworks discourage the use of alternative construction materials, such as earth and bamboo, that are not only locally available and affordable, but are also more sustainable and resilient. These regulatory restrictions, which also apply to self-built and low-rise housing construction, are identified as one of the bottlenecks to accessing affordable housing, especially for low-income households. At the same time, concerns over the higher costs of imported construction materials and the embodied energy of cement-block buildings are increasing over time. There is also growing interest from stakeholders in the construction sector to use construction materials and methods that are reflective of local culture and identity, as well as being considerate of on-the-ground realities, in terms of hazards and geotechnical issues.

ACTION DESCRIPTION

This action aims to create an enabling environment for the promotion of resilient and affordable construction materials and methods in Addis Ababa. To this end, the City will:

• Host a workshop that brings together key stakeholders in the sector and leverages existing know-how and research to identify opportunities and bottlenecks for the adoption of alternative building materials and methods.
• Revise codes to incorporate appropriate resilient and affordable building materials and methods.
• Prepare and adopt a legal framework promoting resilient and affordable building materials and technologies, including in public construction projects.
• Design and implement a capacity building program on construction standard customization as well as code and legal framework development, specifically focused on alternative building materials.
• Develop manuals, and train homeowners as well as building professionals (both high-capacity and artisanal professionals) to acquire new skills and knowledge needed to design and construct buildings using these alternative and resilience building materials.

RESILIENCE CO-BENEFITS	• Delivering affordable and risk-aware houses. • Encouraging sustainable sourcing and use of materials, thereby reducing environmental degradation. • Creating decent livelihood and employment opportunities. • Spurring innovation in the construction sector. • Reducing reliance on carbon-intensive materials such as cement.
RELATED SHOCKS	Urban fire, Earthquake
RELATED STRESSES	Lack of affordable housing, Homelessness, Informal housing / Settlements, Environmental degradation, Climate change
CONNECTION TO SDGS	SDG 9 and 11
ACTION OWNER/LEAD	Addis Ababa Construction Bureau (AACB)

POTENTIAL PARTNERS	EiABC, Addis Ababa Institute of Technology (AAIT), AASTA, MoUDC, professional associations, real estate developers, The World Bank
SCALE	Citywide
TIME FRAME	Medium-term
ACTION STATUS	Scale-up
NEXT STEPS	• Host workshop on opportunities and bottlenecks to the use of alternative building materials and methods. • Revise codes to include resilient and alternative building materials. • Design professionals' capacity-building program focusing on construction standard customization and code and legislation development.

ACTION
14 Improve construction control and supervision

RESILIENCE CHALLENGE

Over the past decade, Addis Ababa's booming construction sector has played a key role in driving economic growth and job creation. However, poor construction practices such as improper monitoring and quality control by contractors and government regulators, as well as overall lack of transparency, have had a detrimental impact on the cost as well as the quality and safety of buildings. This is further exacerbated by poor planning, scope definition, and communication between stakeholders.

While there are few current examples, infrastructure and building collapse is expected to become a higher future risk, unless appropriate action is taken. The lack of regular and adequate maintenance of infrastructure and buildings heightens the risk of future collapse.

The construction boom has been accompanied by an increase in accidents on construction sites. Daily laborers are particularly affected. The rise in accidents is mainly attributed to the lack of health and safety measures, low commitment to enforcing construction policies, and low levels of awareness among workers to use safety equipment.

ACTION DESCRIPTION

This action will redevelop construction quality and safety control, and a monitoring and evaluation system to reduce delays, accidents, and wastages, while improving efficiency and economy.

• Carry out a Rapid Visual Screening (RVS) survey that will establish an inventory of buildings vulnerable to seismic and fire risks, and help identify priority structures that need to be retrofitted along with associated costs.
• Design and implement capacity-building activities for building inspectors and building code officials aimed at strengthening the capacity of public agencies to enforce building codes and regulatory frameworks.
• Establish a professional accreditation system for engineering, construction management, and building professionals, to provide quality assurance for individuals and serve as a tool for identifying and incentivizing high-performing professionals and contractors.
• Introduce a digital permitting system that will help accelerate permit application, review, and approval processes.
• Equip city departments and agencies with appropriate hardware and software solutions (such as project management software and Building Information Modelling, or BIM), and train staff in their use as well as their operation and maintenance.
• Set up a training program for building professionals (engineers, architects, vocational workers, etc.) on risk-informed design, good construction practice, and occupational health and safety.

RESILIENCE CO-BENEFITS	• Increasing administrative efficiency, regulatory effectiveness, and transparency in the sector. • Enhancing the capacity of private building professionals. • Improving construction quality and safety. • Decreasing risks in the built environment.
RELATED SHOCKS	Infrastructure failure, Earthquake
RELATED STRESSES	Corruption
CONNECTION TO SDGS	SDG 9 and 11
ACTION OWNER/LEAD	AACB

POTENTIAL PARTNERS	EiABC, AAHDAB, AAPDCo
SCALE	Citywide
TIME FRAME	Medium-term
ACTION STATUS	Scale-up
NEXT STEPS	• Conduct Rapid Visual Screening (RVS) survey. • Establish accreditation system for contractors and building professionals. • Procure software and hardware solutions and train staff in their use, operation, and maintenance.

Promote human-centered, efficient, and integrated mobility

15   Redesign and optimize the city's bus network

including risky driver behavior (which further exacerbates the city's congestion and road accident problems), service quality, and the roadworthiness of vehicles.

ACTION DESCRIPTION

The City will launch a comprehensive program aimed at redesigning and optimizing the existing bus network for greater operational efficiency, quality of service, and environmental sustainability. More specifically, the City will:

RESILIENCE CHALLENGE

While recent efforts to increase the capacity of the public transport system are commendable – investment in an electrified LRT system, launch of Sheger express bus service, ongoing construction of a new BRT line, to name only a few – much remains to be done to improve and optimize existing public transport services in Addis Ababa.

The City currently faces challenges in increasing the frequency of both the LRT and conventional bus services, due to weak integration among modes and an outdated operational system. Coordination among these services could be further improved to provide a more seamless travel experience for commuters. The introduction of effective bus prioritization measures, such as dedicated lanes, could help improve bus speeds and service reliability.

Service improvements are also urgently needed on the privately-owned minibus services (also known as "paratransit" or "popular transport") which currently provide the bulk of the city's public transport services, to address concerns

- Accelerate efforts to expand the city's bus fleet and implement BRT lines proposed in the 2017 Addis Ababa Structure Plan.
- Redesign bus routes (based on demand and road hierarchy) and introduce new numbering and schedules.
- Introduce bus priority measures such as segregated bus lanes, high occupancy vehicle (HOV) lanes, priority bus access at peak hours, priority traffic lights for buses, etc.
- Introduce off-board fare collection system and smart ticketing technology.
- Upgrade intermodal transit hubs, bus stops, and stations to improve intermodal transfers, physical accessibility, waiting environments, and passenger information.
- Launch a study to explore the future role of paratransit and private operators in the city's evolving public transport system.
- Leverage the learnings from the COVID-19 pandemic to co-create a contingency plan aimed at maintaining minimum public transport services during crises.

To ensure effective enforcement of proposed measures, robust engagement of all stakeholders, including bus operators, public transport users, relevant transport authorities, and traffic police, among others, will be conducted. The City will also launch a multimedia campaign explaining proposed measures and expected results to citizens.

RESILIENCE CO-BENEFITS	• Enhancing the quality and attractiveness of the bus network services and reducing the use of private vehicles. • Improving accessibility to jobs and services. • Reducing traffic congestion, enhancing economic productivity, and reducing air pollution.	**POTENTIAL PARTNERS**	Addis Ababa Transport Authority (AATA), AAPDCo, Anbessa City Bus Service Enterprise (ACBSE), development partners (e.g. ITDP, WRI, Bloomberg, C40)	
		SCALE	Citywide	
		TIME FRAME	Medium-term	
RELATED SHOCKS	Disease outbreak	**ACTION STATUS**	Ongoing	
RELATED STRESSES	Inadequate public transportation systems, Traffic congestion, Traffic accidents, Poor air quality, Climate change	**NEXT STEPS**	• Set up a working group to oversee the optimization of the bus network and identify appropriate strategies. • Mobilize funding for the bus optimization program. • Launch study on the future role of the paratransit system in the overall public transport system.	
CONNECTION TO SDGS	SDG 3, 9, 11, 13			
ACTION OWNER/LEAD	Addis Ababa Transport Bureau (AATB)			

ACTION
16
Enhance accessibility, safety, and urban integration along the LRT corridors

RESILIENCE CHALLENGE
Addis Ababa has invested in a LRT system, running for 34km along two corridors (north-south and east-west), serving 39 stations and transporting 120,865 passengers per day. While the LRT has undoubtedly helped to absorb demand along the two corridors, the system is already overcrowded, and service frequency remains low (10 minutes during peak hours and 15 minutes during off-peak hours).

The LRT has not been adequately integrated with the surrounding urban environment, and has created new barriers between neighborhoods, severing communities. Integration with other modes of transport could also be further enhanced in order to improve transfers between modes and provide more seamless travel across the city.

Pedestrian safety along the LRT corridor is compromised. At-grade pedestrian crossings are not signalized, making pedestrians entering and exiting LRT stations vulnerable to traffic accidents. Lifts and escalators at pedestrian bridges are not always working, making it difficult for vulnerable users (i.e. the elderly, PWD) to access the system. There is an urgent need to address the challenges faced by the LRT, and take action to further optimize the system. This is particularly

important given the significant financial investment made by the City to build this infrastructure and the key role that it already plays in meeting the growing demand for public transport in the city.

ACTION DESCRIPTION
Building on the foundational study on road safety along the LRT conducted by the World Resources Institute (WRI), the City will identify and apply a combination of traffic calming measures, sound urban design practices, planning solutions, and engineering solutions, to ensure that the LRT is well integrated into its surrounding environment and that last-mile connections from its stations are safe and accessible. Potential measures and solutions could include:

- **Pedestrian priority measures:** clearly defined and well-lit pedestrian routes and crossings, continuous sidewalks, removal of barriers to pedestrian movement, piloting no vending zones and permissible vending areas, etc.
- **Safety measures:** speed limitations, physical traffic calming measures (speed humps, chicanes, refuge islands, etc.), signalized pedestrian crossings, staggered midblock crossings, banning U-turns at level crossings.
- **Modal integration measures:** providing and coordinating feeder bus services and routes within the station areas, enforcing parking restrictions, banning paratransit loading and unloading at LRT stations, installing shared taxis stops, introducing "Kiss and Ride" facilities, installing bicycle facilities at LRT stations.
- **Urban integration measures:** identifying and adding additional at-grade or elevated pedestrian crossings based on the suitability of the location, redesigning stairs according to universal guidelines, installing clear markings and traffic signage, street lighting, street furniture, landscaping, and greening the corridor.

Efforts will be made to ensure that lessons learned from this action will inform the design and implementation of ongoing and planned BRT systems.

RESILIENCE CO-BENEFITS	• Enhancing pedestrian safety and accessibility for all along the LRT corridor. • Reducing traffic congestion at stations and along the corridor. • Enhancing integration and convenience of public transport services. • Restoring spatial and community connectivity. • Enhancing urban landscaping and improving the city's image.
RELATED STRESSES	Traffic accidents, Inadequate transportation, Lack of integrated planning, Lack of social cohesion
CONNECTION TO SDGS	SDG 3, 9, 11, 13
ACTION OWNER/LEAD	Ethiopian Railway Corporation (ERC) and AATMA

POTENTIAL PARTNERS	AATB, AACRA, Addis Ababa River basins and green areas development and administration agency (AARBGADAA), development partners (e.g. WRI, Bloomberg, C40, ITDP), Ministry of Transport (MoT), bilateral and multilateral donors
SCALE	Local
TIME FRAME	Long-term
ACTION STATUS	Ongoing
NEXT STEPS	• Conduct further analysis on necessary measures and solutions to implement along the LRT corridor, and prepare an action plan with clear timelines. • Mobilize funding for implementing appropriate measures and solutions. • Implementation of appropriate measures and solutions.

ACTION
17
Manage peak-hour travel demand

RESILIENCE CHALLENGE
Car ownership in Addis Ababa is on the rise. As a result, road congestion has become a pervasive problem, particularly during peak hours, with crippling effects on the local economy, as well as on public health and safety.

The rise of traffic congestion also limits the attractiveness of public transport, as the city currently lacks effective bus prioritization measures such as dedicated lanes. Commuters using public transport experience long waiting and travel times. With public transport vehicles operating at 50% of capacity to minimize the spread of the COVID-19 virus, the global pandemic has further placed pressure on the city's public transport services and has highlighted the need to keep roads clear for emergency vehicles and critical workers.

ACTION DESCRIPTION
This action will introduce a series of cost-effective measures to manage actual peak travel demand in the city and curtail the growing trend towards a car-centric development:

- Reduce and control on-street parking through increased on-street parking fees in central locations, peak-hour parking

restrictions on main roads, introduction of a towing system for illegal parking, and an IT-based fee collection and enforcement system.
- Where appropriate, apply reversible traffic lanes during peak hours.
- Accelerate the expansion of walking and cycling infrastructure and facilities, in line with the NMT Strategy, and introduce appropriate cycling subsidies, particularly for low-income households.
- Partner with high traffic generators, such as large corporations, hospitals, and government offices, to expand remote work, flexi-working, as well as shared mobility solutions (e.g. carpooling) for their workers, building on measures introduced as part of the COVID-19 response.
- Improve safety and security on public transport by taking different measures to combat spreading of diseases, terrorism acts, theft and harassment.
- In the long term, launch an opportunity study for the introduction of congestion pricing with the objective of curbing traffic congestion, while generating revenues for increased investment in sustainable transport solutions (public transport, non-motorized transport).

RESILIENCE CO-BENEFITS	• Reducing peak-hour traffic congestion and associated challenges (traffic accidents, air pollution, GHG emissions). • Enhancing economic productivity. • Promoting sustainable mobility solutions (such as mass transport, NMT, and carpooling). • Improving quality of life. • Raising city revenue for financing sustainable transport solutions.
RELATED SHOCKS	Infrastructure failure, Disease outbreak, Terrorism
RELATED STRESSES	Traffic congestion, Traffic accidents, Inadequate transportation, Pollution, Climate change
CONNECTION TO SDGS	SDG 11, 13

ACTION OWNER/LEAD	AATB
POTENTIAL PARTNERS	AATA, development partners (e.g. WRI, Bloomberg, C40, ITDP)
SCALE	Citywide
TIME FRAME	Long-term
ACTION STATUS	Ongoing
NEXT STEPS	• Identify high-traffic and congested corridors where dedicated bus lanes should be prioritized. • Identify high traffic-generating/attracting organizations and explore willingness to pilot mobility programs.

ACTION

18 Explore the future of Addis Ababa's ring road

RESILIENCE CHALLENGE

Addis Ababa's ring road is an orbital and multi-lane highway that connects all the five main gates in and out of the city with the rest of the country. The ring road has a total length of 36.8 km and a speed limit of 50-80 km per hour. While the ring road was initially built to pass through peripheral areas of Addis Ababa, most segments of this massive infrastructure are currently located in high density urban areas due to the city's rapid outward expansion. As a result, the ring road disconnects neighborhoods, communities, and businesses. Furthermore, the infrastructure mainly caters to cars, and other road users, particularly pedestrians, are not benefiting from it. The ring road is not physically accessible, and the intervals between pedestrian bridges are longer than average walking distances. Existing foot bridges are not located where pedestrians typically cross the road, making it inaccessible and extremely unsafe for pedestrians, especially for vulnerable road users (the elderly, children, PWD).

The ring road is however gradually evolving. The City is planning to build a BRT system that will run partly on sections of the ring road. Additionally, the AACRA and AATMA are taking various steps to enhance overall accessibility by signalizing existing intersections and adding new junctions. While these efforts are commendable, global evidence suggests that addressing the challenges created by urban highways often requires a long-term, visionary, and holistic response.

ACTION DESCRIPTION

The action will investigate and reimagine the future of Addis Ababa's ring road, in a way that maximizes the benefits delivered by this critical investment for all users, and helps achieve this city's overall vision for sustainable urban growth and mobility. More specifically, the City will:

• Conduct a comprehensive assessment of existing conditions along the ring road (including safety, traffic, mobility choices, accessibility, urban integration, land-use, and pollution), and commission other technical studies to inform decision-making and planning, as required.
• Organize multidisciplinary stakeholder convenings to collectively explore the current and future role of the ring road.
• Conduct an opportunity assessment for transforming the ring road into a safe, accessible, and multimodal complete street.
• Learn from and exchange with cities that have embarked on urban highway transformation projects.
• Draw up a long-term vision for transforming the ring road, a vision supported by robust technical studies and stakeholder consultations.
• Conduct extensive stakeholder consultations to ensure that the visioning process is inclusive, has strong buy-in from stakeholders, and leads to robust social cohesion and urban regeneration outcomes (i.e. connected neighborhoods, mixed-use function).

RESILIENCE CO-BENEFITS	• Enhancing safety and accessibility for all. • Improving the city's image and boosting the local economy. • Restoring community cohesion. • Reducing local air pollution and improving public health. • Reducing rainfall flooding risk.
RELATED SHOCKS	Rainfall flooding
RELATED STRESSES	Traffic accidents, Inadequate transportation, Lack of integrated planning, Lack of universal accessibility, Air pollution
CONNECTION TO SDGS	SDG 3, 9, 11, 13
ACTION OWNER/LEAD	AATMA, AACRA, AAPDCo, AARPO

POTENTIAL PARTNERS	AATB, AATA, AARGADAA, development partners (e.g. ITDP, WRI, Bloomberg)
SCALE	Citywide
TIME FRAME	Long-term
ACTION STATUS	Ongoing
NEXT STEPS	• Set up a multidisciplinary working group responsible for collectively exploring the future role of the Addis Ababa's ring road. • Design TOR for baseline assessment study. • Design and initiate a robust stakeholder engagement process.

INSPIRATION

SEOUL (SOUTH KOREA)
CHEONGGYECHEON RESTORATION PROJECT

In the 1940s, the Cheonggyecheon river running through Seoul deteriorated into an open sewer due to increasing pollution. The City of Seoul decided to pave it over with concrete for sanitary reasons. Thirty years later, a six-lane elevated highway was built over it, further removing the river from the public. However, by the end of the twentieth century, structural problems started to emerge as the highway aged, posing serious safety concerns and requiring a significant amount of money to repair and maintain it. Furthermore, the infrastructure had become highly congested and polluted. Residents of the area were more than twice as likely to suffer from respiratory disease as those living in other parts of the city. The space beneath the elevated highway was mostly avoided by the public due to criminal activity and illegal waste dumping, which led to the decline of the downtown area.

At the turn of the millennium, Lee Myung-Bak, the then mayor and future president of Korea, successfully campaigned on a promise to remove the freeway and restore the Cheonggyecheon. As part of the restoration project, the elevated highway was dismantled, the river was uncovered and revived, and landscaping works were undertaken along the corridor. To alleviate fears of traffic congestion, the city government also invested heavily in public transportation, including a dedicated bus lane. The City established the Cheonggyecheon Restoration Citizens' Committee, comprising professionals and citizen groups, to gauge public opinion, communicate the project goals through public information sessions, and elevate concerns.

The Cheonggyecheon Restoration project has brought many benefits to Seoul. It provides flood protection for up to a 200-year flood event, and has reduced the urban heat island effect, with temperatures along the stream 3.3° to 5.9°C cooler than on a parallel road four to seven blocks away. Overall biodiversity has significantly increased in and around the river. The project has reduced small-particle air pollution by 35%, down from 74 to 48 micrograms per cubic meter.

The project has also increased the number of businesses, as well as property values, adjacent to the area. The restored area has enhanced quality of life downtown, and has become a major tourist attraction, with an average of 64,000 visitors daily.

Photo taken from: https://inhabitat.com/plans-forge-on-for-la-river-restoration-with-the-opening-of-the-glendale-narrows-riverwalk/

ACTION

19   Improve road users' awareness and behavior

RESILIENCE CHALLENGE

Road safety has become an issue of great concern in recent years. Since 2006, the city has registered 400 fatalities per year on average, out of which a significantly high proportion (88%) involve pedestrians. Many factors contribute to traffic accidents, including reckless driving, poor road design, speed limits, inadequate enforcement of traffic rules, and vehicle roadworthiness.

According to Addis Ababa's annual road safety report, 83% of road crashes in the city are attributed to behavioral factors.[33] This implies that there is a huge potential to significantly reduce the number of road traffic accidents through educational programs that raise awareness of traffic rules and the road safety of all road users (drivers, pedestrians, motorcyclists, cyclists), and through more stringent enforcement of traffic rules. Traffic dynamics in Addis Ababa are becoming complex, as new transport solutions (LRT, BRT, bicycles, motorcycles, and three-wheelers) are being rapidly introduced. Improved awareness

on how to share the roadway between different users will be crucial in reducing traffic accidents.

ACTION DESCRIPTION

The action will continue and expand existing road safety programs to further educate and bring about lasting behavioral change in Addis Ababa's road users. The action proposes to:

• Improve enforcement of traffic rules by introducing more severe penalties for traffic violations (e.g. penalty points and fines), taking more serious steps to preventing corruption in traffic law enforcement, and adopting speed cameras, among other solutions. A review of international best practices and consultations will be conducted, with relevant stakeholders, to identify the most effective enforcement measures to adopt.
• Launch a multi-media educational program targeting drivers, pedestrians, cyclists, and other vulnerable road users (e.g. children), to enhance awareness of basic rules of the road and road traffic safety.

RESILIENCE CO-BENEFITS	• Increase enforcement and compliance with traffic rules. • Improve road safety and public health. • Reduce road traffic congestion.
RELATED STRESSES	Traffic injuries, Traffic congestion
CONNECTION TO SDGS	SDG 3, 4, and 11
ACTION OWNER/LEAD	AATMA
POTENTIAL PARTNERS	AATB, Addis Ababa Police Commission (AAPC), MoT, AACRA, schools, AAU, NACTO

SCALE	Citywide
TIME FRAME	Long-term
ACTION STATUS	Scale-up
NEXT STEPS	• Conduct best practice review and consultations with stakeholders to identify effective measures to improve road users' awareness and behavior. • Design and launch a multi-media road awareness campaign.

33 Addis Ababa City Administration. (2017). *Addis Ababa Annual Road Safety Report, 2017-2018.*

GOAL
2.3   Develop our capacity to manage risks

ACTION
20

Conduct a comprehensive citywide disaster risk assessment

RESILIENCE CHALLENGE

Addis Ababa currently lacks a robust understanding of the disaster risks it faces. While there have been recent efforts aimed at enhancing risk knowledge,[34] decision-makers do not have a detailed assessment of disaster risks posed on the city, comprehensive risk profiles with organized information on each hazard, vulnerability, and coping capacity, as well as other related baseline information. When available, data and information on risks is usually not organized for different audiences, or easily accessible to all relevant stakeholders, including at-risk communities. This in turn hinders the city from undertaking informed disaster preparedness, response, and recovery.

ACTION DESCRIPTION

This action proposes to develop a comprehensive and citywide multi-hazard risk assessment that will lay the building blocks for effective disaster risk management policies and contingency planning for Addis Ababa. The assessment will determine the nature and extent of city risk, by analyzing hazards and evaluating the existing conditions of vulnerability that together could potentially harm exposed people, property, services, livelihoods, and the environment on which they depend. Key related activities include:

• Systematic inventory and evaluation of the existing situation.
• Hazard, exposure, and vulnerability assessment, as well as loss/impact analysis
• Risk scenario assessment (including an analysis of potential cascading failures across the city under each scenario).
• Risk profiling and evaluation.

Recognizing that local communities possess knowledge of risks and are generally the first responders when disasters occur, great emphasis will be placed on ensuring that the risk assessment is conducted in a participatory manner, with deep and meaningful involvement of all members of society, and particularly at-risk communities.

The action will also involve communicating information about hazard exposures and vulnerabilities to the general public. Communication efforts will be informed by lessons learned from past disasters and the current COVID-19 pandemic.

RESILIENCE CO-BENEFITS	• Improving understanding of the wider risk landscape. • Enhancing decision-making and leadership. • Enhancing long-term planning, coordination, and collaboration between actors. • Building a sense of ownership and empowerment for all actors. • Increased public risk awareness, and improved channels and mechanisms of communication.
RELATED SHOCKS	Disease outbreak, Flooding, Urban fire, Landslides, Earthquake
RELATED STRESSES	Civil unrest and riot, Infrastructural failure, Aging infrastructure, Overburdened infrastructure
CONNECTION TO SDGS	SDG 9, 11
ACTION OWNER/LEAD	AAFDRMC

POTENTIAL PARTNERS	MoUDC, National Disaster Risk Management Commission (NDRMC), MoH, AAWSA, AACRA, Addis Ababa Health Bureau (AAHB), Addis Ababa City Electric Utility, AAPC, INGO/NGOs (Red Cross, Tebeta Ambulance, Community Care Coalitions), bilateral and multilateral donors (e.g. US Department of Forest, UNDRR).
SCALE	Citywide
TIME FRAME	Long-term
ACTION STATUS	New
NEXT STEPS	• Develop RfP for the comprehensive citywide disaster risk assessment, and launch tender. • Conduct comprehensive citywide risk assessment.

34 Addis Ababa City Administration. (2015). *Addis Ababa City Risk Profile Program Report.*

ACTION
21

Establish a policy, strategy, and legal framework for citywide disaster risk management

RESILIENCE CHALLENGE

Despite being vulnerable to multiple hazards, Addis Ababa currently lacks a citywide disaster risk management policy and strategic framework that can serve as a guidance document for decision-making regarding the design and implementation of disaster risk management related plans and programs. In addition, the City has no regulatory tools that can be used to establish responsibilities, duties, plans, concepts, and priorities in a coordinated manner with the participation of all actors. As a result, the City has very limited capacity to plan for, withstand, and respond to a broad range of threats and hazards, as well to respond and adapt to foreseeable and unforeseeable risks.

ACTION DESCRIPTION

The City will establish a policy, strategy, and legal framework for disaster risk management (DRM), which will strengthen citywide emergency preparedness, response, and recovery.

The proposed policy, strategy, and legal framework will be developed in alignment with the 2017 FDRE National Policy and Strategy on Disaster Risk Management.

Led by the AAFDRMC, its preparation will involve:

• Formulation of a citywide DRM Policy and Strategy based on robust assessment and consultation of relevant stakeholders. This will be accompanied by an action plan containing strategic activities, expected outcomes, and an implementation timeline.
• Formulation and approval of related regulation.
• Preparation of mainstreaming guidelines.
• Identification of priority programs and projects for policy and strategy execution.
• Capacity-building activities for effective compliance monitoring and enforcement by all city agencies and bodies.

RESILIENCE CO-BENEFITS	• Enhance decision-making and leadership in DRM. • Enhance long-term planning, coordination, and collaboration between DRM actors. • Reduce and eventually prevent disaster risk and vulnerability. • Build the capacity of actors in the sector.
RELATED SHOCKS	Disease outbreak, Flooding, Urban fire, Landslides, Earthquakes, Infrastructure failure
RELATED STRESSES	Civil unrest and riot, Aging infrastructure, Overburdened infrastructure, Unplanned urban growth
CONNECTION TO SDGS	SDG 9, 11
ACTION OWNER/LEAD	AAFDRMC

POTENTIAL PARTNERS	NDRMC, MoUDC, AAPC, AAPDCo, AAEPGDC, AAU, Bahir Dar University Institute of Disaster Risk Management and Food Security, development partners active in DRM (e.g. UNDRR, US Department of Forest), Tebeta Ambulance, CCCs.
SCALE	Citywide
TIME FRAME	Long-term
ACTION STATUS	New
NEXT STEPS	• Establish steering and technical committees responsible for overseeing the preparation of the citywide DRM policy, strategy, and legal framework. • Develop RfP for DRM policy, strategy, and legal framework, and launch tender.

ACTION

22 Prepare Disaster Mitigation and Contingency Plans

RESILIENCE CHALLENGE

Despite being repeatedly affected by different kinds of disasters, the City does not have an established arrangement to enable timely, effective, and appropriate responses prior to, during, and after an emergency. For instance, there are currently no hazard mitigation plans that would typically help raise awareness of threats and vulnerabilities, as well as identifying long-term strategies for risk reduction. Previous efforts have focused more on responding to disasters, rather than on preventing or minimizing impacts by addressing the root causes of disasters.

Furthermore, there are currently no contingency plans in place to coordinate available services and assistance for affected citizens and businesses, or to ensure continuity of critical services (power, water, hospitals, etc.) during and after a disaster.

ACTION DESCRIPTION

This action will involve preparing Disaster Mitigation and Contingency Plans for the city of Addis Ababa.

The Disaster Mitigation Plan will identify priority hazards that threaten the city, and appropriate mitigation actions for avoiding or minimizing the potential losses from those hazards. It will include an action plan detailing how mitigation actions identified will be priorities and implemented.

The Contingency Plan will identify, prior to a disaster, all critical procedures and resources necessary to improve timely response and recovery from the impact of likely hazard events citywide. It will establish clear decision-making criteria, recovery times, technical and logistical responses, and coordination and communications procedures to be adopted by relevant stakeholders, as well as roles and responsibilities.

To ensure that the Disaster Mitigation and Contingency Plans are evidence-based and risk-informed, their development will build on the analysis of the comprehensive citywide risk assessment (Action 20). These plans will also incorporate lessons from the COVID-19 pandemic and past disaster response efforts. Once the plans have been produced, tests and operational drills will be conducted on a regular basis to assess their adequacy and effectiveness. Furthermore, staff of relevant stakeholders involved in the execution of the plans will receive continued training and capacity-building in their roles dealing with disaster events.

RESILIENCE CO-BENEFITS	• Increased public risk awareness, improved channels and mechanisms of communication. • Increased provision of effective Early Warning Information (EWI) for communities at risk. • Assuring continuity of services in the event of an emergency. • Enhancing decision-making and leadership. • Enhancing long-term planning and coordination and collaboration between actors.
RELATED SHOCKS	Disease outbreak, Flooding, Urban fire, Landslides, Earthquake
RELATED STRESSES	Civil unrest and riot, Infrastructural failure, Aging infrastructure, Overburdened infrastructure
CONNECTION TO SDGS	SDG 9, 11
ACTION OWNER/LEAD	AAFDRMC

POTENTIAL PARTNERS	NDRMC, MoUDC, MoH, AAWSA, AACRA, AAHB, Addis Ababa City Electric Utility, AAPC, CSOs (Red Cross, Tebeta Ambulance, CCCs), donors (e.g. US Department of Forest, UNDRR).
SCALE	Citywide
TIME FRAME	Long-term
ACTION STATUS	New
NEXT STEPS	• Assemble a multi-stakeholder working group responsible for overseeing the preparation of the Contingency and Mitigations Plans. • Complete development of Contingency and Mitigation Plans. • Test the Plans through drills.

ACTION

23 Establish an Emergency Operation Center (EOC)

RESILIENCE CHALLENGE

Addis Ababa lacks dependable technology and protocols to support centralized emergency monitoring and response, and so the City has limited ability to collect and analyze disaster risk management data, and to interpret that data. As a result, there is inadequate provision of early-warning information to the community in the event of an emergency.

There is insufficient sharing of information, poor communication, and poor coordination and collaboration between actors involved in disaster risk management at all levels.

Community participation in disaster risk reduction and emergency response is also very limited, leaving residents, particularly vulnerable groups (children, the elderly, PWD), often unprepared for extreme events. However, the City's recent effort to mobilize youth volunteers as part of its COVID-19 response effort is a step in the right direction and needs to be further strengthened. The pandemic has also revealed the key role played by the private sector in developing home-grown solutions to tackle the public health emergency.

ACTION DESCRIPTION

This action consists of establishing an Emergency Operation Centre (EOC), which will be hosted under the City Fire and Disaster Risk Management Commission. The facility will serve as the city's central coordination, command, and control centre for emergency related operations and activities. Activation of the EOC will facilitate the City's overall emergency response operations by providing a working platform and resources to support response staff through established structures, capabilities, and procedures. Furthermore, the facility will provide an opportunity to bring relevant response actors together to establish common objectives and strategies, creating unity of effort. The proposed EOC would have all the necessary infrastructure and capacity to respond to a variety of potential shocks affecting the city, from climate disasters to public health emergencies. This action will also develop guidelines detailing the EOC's activation, operation, and deactivation mechanisms for various disaster scenarios. Lessons from the COVID-19 pandemic response efforts will inform the design of such guidelines, including mechanisms for effectively mobilizing community groups and private sector actors.

RESILIENCE CO-BENEFITS	• Improved collection and analysis of emergency information. • Communicating EWI clearly and quickly to at-risk communities. • Deploying resources more efficiently. • Improved collaboration, coordination, and information sharing between CPA owners. • Improved safety, stability, security, and continuity of critical physical assets and the services they provide. • Enhancing decision-making and leadership.
RELATED SHOCKS	Disease outbreak, Flooding, Urban fire, Landslides, Earthquake
RELATED STRESSES	Civil unrest and riot, Infrastructural Failure, Aging infrastructure, Overburdened infrastructure
CONNECTION TO SDGS	SDG 9, 11

ACTION OWNER/LEAD	AAFDRMC
POTENTIAL PARTNERS	NDRMC, MoUDC, MoH, AAWSA, AACRA, AAHB, Addis Ababa City Electric Utility, AAPC, CSOs, (Red Cross, Tebeta Ambulance, Community Care Coalitions), donors (e.g. US Department of Forest, British Embassy).
SCALE	Citywide
TIME FRAME	Long-term
ACTION STATUS	New
NEXT STEPS	• Gather information and experience from other cities on establishing and operating an EOC. • Explore core features, functions, and benefits of an EOC.

GOAL
2.4   Foster a culture of resilience

ACTION
24   Collaborate to launch a Resilience Academy

RESILIENCE CHALLENGE

Inadequate technical capacity is identified as a major and cross-cutting challenge in resilience-building across all urban systems in Addis Ababa, including urban planning, transport, solid waste management, and disaster risk management. Lack of adequate skills and trained manpower at all levels has contributed to uncoordinated planning and poor service delivery, threatening the city's daily functions and its ability to recover after a shock.

Public servants, and other urban professionals working in the public and private sectors, currently lack the practical and technical knowledge to diagnose problems, and to prescribe and implement innovative, holistic, and tangible solutions to Addis Ababa's main resilience challenges. This is partly caused by our educational and capacity-building systems reliance on conceptual or theoretical teaching approach. Another reason is the weak integration between universities, the public sector, and the private sector.

ACTION DESCRIPTION

This action proposes to collaborate with the Addis Ababa City Plan and Development Commission, academic institutions such as Addis Ababa University and Kotebe Metropolitan University, donors, and potential private sector and industry actors, to establish a "Resilience Academy." The academy will be dedicated to delivering a demand-driven and practical capacity-building program on urban resilience for city leaders, managers, and technical staff. The program intends to fill the city's capacity gaps by establishing customized programs that focus on resilience theory and on systems thinking, as well as the city's resilience challenges (water and sanitation, urban mobility, solid waste management, disaster risk reduction, community engagement, etc.).

The Resilience Academy will build on and strengthen existing capacity-building interventions in the city. We envisage its curriculum being designed in partnership with a wide range of stakeholders from both inside and outside city government. The Resilience Academy should provide both on-the-job and off-the-job training. In terms of its institutional arrangement, the action proposes to house the Academy in an anchor institution to be identified at a later stage in close collaboration with the Plan and Development Commission and other key partners. Lessons and experience from other Resilience Academies (i.e. Singapore, Paris, Cape Town) across the Global Resilient Cities Network will also be leveraged to inform its institutional set-up and curriculum design.

RESILIENCE CO-BENEFITS	• Enhancing municipal staff's skills and understanding of resilience. • Ensuring effective implementation of city plans, strategies, and policies. • Improved service delivery across the city. • Enhancing effective utilization of resources.
RELATED STRESSES	Inadequate education system, Inadequate governance
CONNECTION TO SDGS	SDG 4, 8
ACTION OWNER/LEAD	AAPDCo

POTENTIAL PARTNERS	All Addis Ababa City Administration bureaus, departments and agencies, AAU, KMUECSU, donors, foreign universities, 100RC
SCALE	Citywide
TIME FRAME	Long-term
ACTION STATUS	New
NEXT STEPS	• Identify an anchor institution for the Resilience Academy. • Identify potential partners for the Resilience Academy, formalize partnerships, and establish roles and expectations.

INSPIRATION

PARIS (FRANCE)
CREATE AN OPEN-SOURCE, MULTI-TARGET RESOURCE, RESEARCH, AND TRAINING CENTER FOR RESILIENCE

As part of the implementation of its Resilience Strategy, the City of Paris is setting up an open-source, multi-target resource, research, and training center for resilience. This center will be responsible for:

- Developing research programs around the resilience strategy and urban resilience in general.
- Supporting the design of dedicated training courses and MOOCs on resilience-related issues.
- Creating specialized Master courses and training courses for staff members of local authorities as well as private and not-for-profit organizations. Courses will be designed in collaboration with various stakeholders, including local municipalities, universities, and corporations.
- Training senior City staff on risks and resilience.

The research, training and resource center relies on existing bodies at all levels in the City of Paris, including: the Smart City partners committee, the Parisian Climate Agency, and leaders of the Sustainable Paris agenda.

ACTION

25   Pilot the Addis Ababa City Currency

RESILIENCE CHALLENGE
The Addis Ababa City Administration is taking various actions to encourage volunteerism and community service that create environmental awareness, elevate vulnerable social groups, and build social cohesion. Recent clean-up and tree-planting campaigns conducted in the city, in partnership with the national government, have enjoyed wide public participation. However, the City currently lacks a system for rewarding residents for socially and environmentally responsible behaviors. Experience from across the Global Resilient Cities Network has shown that new technologies make it easier for cities to adopt and use digital local currencies to incentivize behaviors that strengthen the economic and social well-being of a city.

ACTION DESCRIPTION
Building on recent successes at the city level, and leveraging the opportunities provided by new technology, the City will pilot a digital currency that can help Addis Ababa become more resilient by motivating residents towards impactful and positive behaviors, such as increased local spending, healthy living, recycling, civic activity, etc. The city currency will be deployed via a smartphone app that conducts standard transactions and directs giving to selected actions and causes. The Arada sub-city has been selected as the pilot location as the district has a high population density, has a large youth population that is more likely to adopt the app, and is a central hub for local businesses, as well as for sports and leisure centers.

Under this first pilot, the city currency will be used to incentivize the following behaviors:

- Waste collection and recycling: residents will receive a public transport ticket in exchange for every three plastic bottles collected, thus contributing to a cleaner and greener city.
- Volunteerism: residents who volunteer their time to work with local associations, such as elderly care centres, will be rewarded with the newly introduced city currency.
- Tax compliance: residents will be encouraged to collect value-added tax (VAT) receipts for business transactions and report them to the city tax authority using the digital app. In exchange, residents will accrue a percentage of their shared invoices in the form of the new city currency.

The accrued city currency can be used to pay for various municipal services, such as utilities, but also to access a number of cultural and sports facilities managed by the City (theatres, cinemas, sports facilities, etc.).

RESILIENCE CO-BENEFITS	• Encouraging civic engagement. • Promoting environmental responsibility. • Increasing local spending and supporting local businesses. • Building social cohesion with a place-based sense of community. • Promoting recycling and facilitating a circular economy • Improving tax compliance by local businesses and local tax collection.
RELATED STRESSES	Inflation, Poverty, Economic inequality, Lack of social cohesion, Corruption, Environmental degradation
CONNECTION TO SDGS	SDG 3,8,9,11,12, 16
ACTION OWNER/LEAD	AASTA

POTENTIAL PARTNERS	Mayor's Office, MINT, Arada Sub-City Government Administration, Colu, relevant city agencies (transport authority, solid waste Management Agency, etc.), financial institutions, utility companies, residents, local businesses, universities and academic institutions, sports and leisure centers, local charities
SCALE	Citywide
TIME FRAME	Short-term
ACTION STATUS	New
NEXT STEPS	• Address potential challenges related to technical connectivity and financial infrastructure. • Conduct outreach to residents, businesses, and institutions in Arada to identify potential participants. • Launch the pilot city currency in Arada. • Evaluate the Arada pilot and potentially develop a plan for scaling up the action.

INSPIRATION
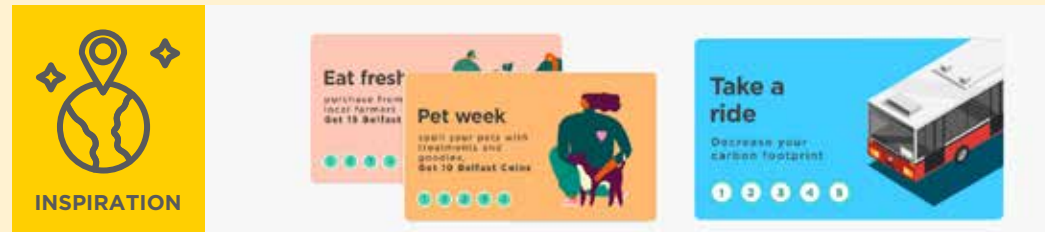
BELFAST (NORTHERN IRELAND)
BELFAST COIN

Belfast's population has decreased, from 416,679 in 1971 to 339,579 in 2017, with neighboring towns and cities increasing in population. Currently there is a limited number of residents living in the city center. The structure of the city center is changing rapidly, partly due to this demographic shift, but also due to the changing nature of retail. In addition, Belfast experienced an acute shock in August 2018, when Bank Buildings, a historic listed building in the city center that housed a major multinational retailer, was destroyed by fire. The impact of the fire was felt immediately and directly in terms of spend in the city in the lead-up to the Christmas period, but a longer-term risk exists in the potential for consumer behaviors to change permanently, over time, ultimately making Belfast City Centre a less attractive destination, in opposition to all the city's goals and objectives.

Following a successful application to the 100 Resilient Cities global currency challenge, held in partnership with Colu, Belfast is set to introduce its own app-based city currency later this year, to incentivize residents and visitors to visit and shop in the city center, helping to grow the local economy.

Belfast Coin will be an incentive-based digital currency – the first in Northern Ireland – aimed at rewarding positive actions by residents, encouraging economic growth, and helping to achieve environmental goals. As part of the challenge, Belfast City Council has worked alongside Colu, a Tel Aviv and UK-based company, and has shared best practice with several global cities.

In May 2019, Colu announced the formal commencement of the pilot initiative, and work is now underway to sign up a range of partners and build an eco-system of stakeholders before the currency is formally launched. Once it goes live, residents will be able to download the app and set up their own Belfast Coin account. Each "coin" will be worth £1, and can be used to make purchases in participating shops, restaurants, and businesses. Residents will be able to accumulate Belfast Coin in return for a range of activities, including shopping locally, recycling, volunteering, and taking part in civic activities.
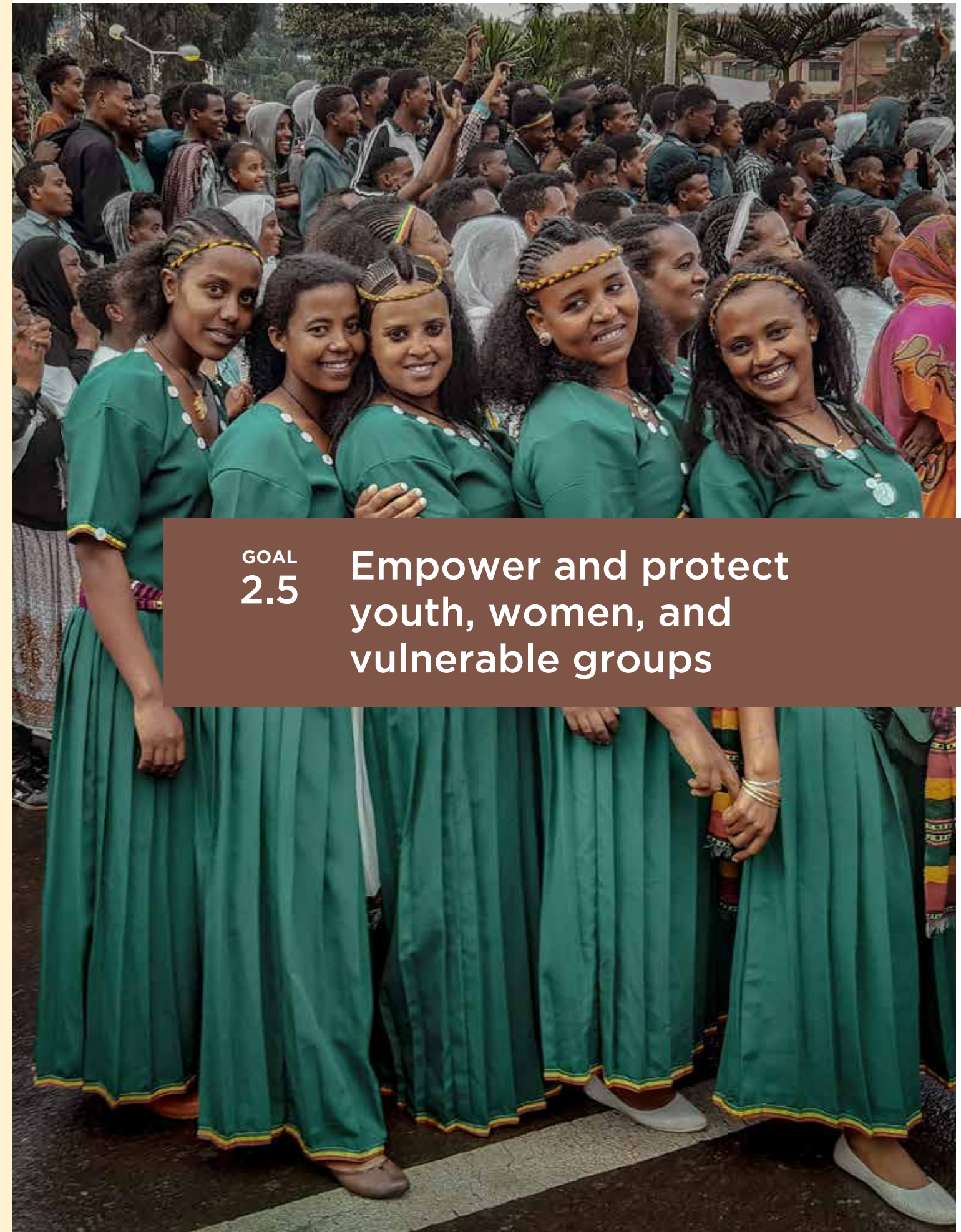
GOAL 2.5 Empower and protect youth, women, and vulnerable groups

ACTION
26
Shape the next generation of resilience champions through education and volunteerism

RESILIENCE CHALLENGE

Schools plays a vital role in shaping tomorrow's leaders. However, the current education system in Addis Ababa is not adequately empowering youth to become tomorrow's problem solvers, innovators, social leaders, and resilience champions. Elementary courses are mainly focused on theoretical learning, offering limited opportunities for students to turn theory into practice and apply their knowledge to real-life situations. Very few schools support the formal curriculum with extra-curricular activities, which are known to provide a productive break from study, help students expand and diversify their interests and skills, and foster personal growth and development.

There is a growing concern that the inadequacies in the education system is one of the factors contributing to the city's poor governance, whether it is the lack of skilled and committed professionals or prevalence of corruption at all levels. It is important, therefore, that the City start cultivating the next generation of leaders and resilience champions. This is crucial to strengthening the city's ability to effectively respond to shocks and stresses.

ACTION DESCRIPTION

The City will work with a network of schools, educational partners, and civil society organizations to:

• Design and implement an Ethics Education course that will be integrated into the lower-level curriculum to promote values and ethics to children and young people.
• Partner with selected schools to pilot extra-curriculum activities and after-school clubs covering a range of areas (e.g. reading, writing, debating, languages, arts and crafts, ICT, etc.) as well as after-school community service programs that will allow students to be involved in resilience-building efforts in their city from an early age. Pilot schools will be selected based on a number of criteria (capacity, vulnerability, HIV prevalence, rate of orphanhood, etc.) to ensure a good mix of geographic locations and achieve wider co-benefits.
• As part of the existing environmental sciences curriculum, organize educational visits and trips for students to various sites and facilities across the city (the botanical garden, ecological areas, museums, wastewater treatment plant, factories, etc.) to raise awareness of risks and environmental issues facing the city, while also opening their minds to new interests, skills, and career paths.
• Organize a citywide competition to inspire and support young people to design projects that address one or more of the city's shocks and stresses.

These various activities will be organized in partnership with active members from civil society organizations and the private sector.

RESILIENCE CO-BENEFITS	• Nurturing useful life skills (such as teamwork, leadership, problem-solving skills) from an early age. • A greater sense of citizenship among children and young people. • Increasing young people's awareness of local and global challenges. • Embedding deeper understanding of resilience into the education system.
RELATED STRESSES	Inadequate education system
CONNECTION TO SDGS	SDG 3, 9, 11, 13
ACTION OWNER/LEAD	AAEB

POTENTIAL PARTNERS	Ministry of Education (MoE), Ministry of Science and Higher Education (MoSHE), donors, public and private schools, private sector organizations, civil society organizations
SCALE	Citywide
TIME FRAME	Long-term
ACTION STATUS	Ongoing
NEXT STEPS	• In consultation with relevant partners, develop criteria for selecting pilot schools to launch after-school community service program. • Co-design extra-curricular activities, educational visits, and after-school community service programs in partnership with pilot schools, education stakeholders, city agencies, and private sector actors. • Design and launch a resilience competition for students across the city.

ACTION
27
Develop a youth empowerment program

RESILIENCE CHALLENGE

Addis Ababa's youth (aged 15-29) account for 35.3% of the city's total population. This large youthful population represents a double-edged sword for the city, offering the potential to spur growth, but also posing a great challenge in terms of job creation, which could have wider social implications for social cohesion, crime and violence, and substance abuse.

Effective policies and measures are critical to harnessing the benefits of this "youth bulge." Measures taken in the past have mainly focused on job creation, which is important considering that 21% of young people are unemployed. Less has been done to meaningfully engage with youth on topics directly concerning them, to promote their active participation in resilience-building efforts, and to empower them to become active citizens and participants in society. This is however rapidly changing with the City's numerous initiatives to encourage youth volunteerism, including the involvement of youth volunteers in the current COVID-19 response.

ACTION DESCRIPTION

The action aims to increase the participation of Addis Ababa's youth in the city's decision-making, planning, and development process generally, and in resilience-building efforts more specifically. The City will:

• Partner with relevant CSOs working with youth to identify appropriate mechanisms that can help amplify young voices and foster their participation in city planning and development, thereby allowing them to shape their current and future lives. These mechanisms will be identified through a deep engagement process with various youth groups across the city.
• Create a youth volunteer management platform to encourage them to participate in the city's resilience-building efforts, both in day-to-day life and times of crisis.
• Further engage with youth volunteers involved in the COVID-19 response and recruit new volunteers to form a youth volunteer reserve. The reserve could be deployed in future emergencies, and in good times, volunteers could participate in future urban development projects.
• Train and prepare youth response volunteers for all types of emergencies that the city might face (e.g. pandemic, flood, terrorist attack) and identify opportunities for engaging them in non-emergency, daily resilience building efforts.

RESILIENCE CO-BENEFITS	• Enhancing meaningful youth participation and engagement, decision-making, and leadership. • Strengthening relations between government and citizens. • Empowering youth to address the city's resilience challenges and take ownership of the solutions. • Preventing and reducing violence, rioting, and civil unrest.
RELATED SHOCKS	Riot and civil unrest, Disease outbreak
RELATED STRESSES	Unemployment, Lack of social cohesion, Youth disenfranchisement, Political instability
CONNECTION TO SDGS	SDG 10, 16

ACTION OWNER/LEAD	Addis Ababa Youth and Volunteers Coordination Bureau
POTENTIAL PARTNERS	Addis Ababa Sport Bureau, AALSAB, Addis Ababa Women and Children Affairs Bureau (AAWCAB), donors, CSOs, Rotaract and Rotarian clubs, CCCs.
SCALE	Citywide
TIME FRAME	Short-term
ACTION STATUS	Ongoing
NEXT STEPS	• Approach relevant CSOs and launch engagement with youth across the city to identify appropriate youth empowerment mechanisms and evaluate interest in participating in daily resilience activities. • Design a volunteer management platform.

ACTION

28   Create safer public spaces for women and girls

RESILIENCE CHALLENGE

Despite the city's progress in tackling gender biases and discrimination, gender-based violence in the form of catcalling, harassment and sexual assault in public spaces and transport systems is common and remains unaddressed. As it stands, there is no comprehensive data that provides accurate information on areas in which women feel unsafe, what forms of abuse they face, and the profiles of their attackers. This makes it difficult to plan and implement projects that directly address the safety of women in public spaces, limiting meaningful investment in protecting them. This in turn diminishes the sense of safety that women feel when navigating the city, restraining half the population of Addis Ababa from feeling ownership of the city and freely benefiting from its developments.

It also puts limitations on women in the workforce, who are forced to plan their days based on their safety needs instead of their economic aspirations. Additionally, lack of investment limits women's engagement with the natural and built environment, tying them to spaces that they deem safe, which limits their health and freedom.

ACTION DESCRIPTION

Inspired by Safe City, an internationally available app that crowdsources reports of incidents of sexual abuse and displays them as hotspots on a map, this initiative aims to:

• Construct a platform for women and girls to anonymously report sexual abuse and harassment in public spaces in real time. This data gathering can be done by developing a phone application where people can directly input information, and by establishing a dedicated, toll-free call centre where women can log in incidents of abuse
• Physically map public spaces, including but not limited to parks, streets, transportation hubs, and neighborhoods where women and girls feel most unsafe.
• Utilize the map of reports as a planning tool to design and implement actions that address safety concerns, ranging from improving street lighting and expanding safe transit options, to increasing policing.

By documenting the challenges faced by women every day and making informed investments in increasing the accessibility of public spaces for the city's largest vulnerable group, this initiative aims to improve the safety and usability of public spaces for all residents of Addis Ababa.

RESILIENCE CO-BENEFITS	• Enabling an understanding of the level of gender-based sexual abuse and violence in Addis Ababa. • Creating informed project design and implementation geared at addressing gender-based violence. • Improving the safety and accessibility of public spaces in Addis Ababa for all residents. • Improve the sense of citizenship that women have when navigating their city and contribute to their economic and social development by providing protection against violence.
RELATED STRESSES	Gender-based violence, Gender inequality, Unemployment, Urban poverty Economic inequality, Lack integrated planning
CONNECTION TO SDGS	SDG 5, 8

ACTION OWNER/LEAD	AAWCAB
POTENTIAL PARTNERS	AALSAB, AAJOCEDB CSOs (e.g. Network of Ethiopian Women's Associations, Setaweet Movement, Yellow Movement, Euruyan Solutions), technology start-ups
SCALE	Citywide
TIME FRAME	Short-term
ACTION STATUS	New
NEXT STEPS	• Establish a platform for collecting and storing data related to gender-based violence in public spaces. • Establish mechanisms for utilizing the gathered data in the design and implementation of projects that address gender-based violence.

ACTION

29   Ensure universal accessibility across the city

RESILIENCE CHALLENGE

Ethiopia has ratified the United Nations Convention on the Right of Persons with Disabilities (UNCRPD) and devised laws, policies, and proclamations to ensure the rights of PWD. However, Addis Ababa has failed to implement and enforce inclusive planning effectively in all arena of life. In recent years, there has not been meaningful progress in addressing the issue of accessibility at the city level, often due to a lack of awareness.

Additionally, there is currently no clear framework to ensure that those who violate laws or regulations aimed at protecting the rights of PWD (including accessibility issues) are held accountable.

Most efforts aimed at improving accessibility have mainly focused on the physical environment, neglecting other critical aspects such as access to information, communication, and services.

ACTION DESCRIPTION

This action aims to create the proper enabling environment that promotes the achievement of universal design in Addis Ababa. Leveraging efforts made by PWD associations, consortiums, civil society organizations, and the AALSAB, the action proposes to launch a comprehensive and participatory needs assessment of PWD based on the respective range of different disability types, as follows:

• Assess government institutions' accommodation levels and understanding of inclusive planning and implementation.
• Conduct a citywide accessibility audit and formulate appropriate recommendations to ensure that critical services and public buildings, such as hospitals, health centers, clinics, schools, universities, colleges, and public transport, are inclusive and universally accessible.
• Provide capacity-building training for professionals in the public and private sectors on universal design, to address critical implementation gaps.
• Promote adaptable, accessible, and universal design for new buildings and infrastructures, as well as retrofits.
• Create a platform for PWD to engage with the City Administration and continuously advocate for universal accessible design.
• Raise awareness of universal design and the rights of PWD.

RESILIENCE CO-BENEFITS	• Ensuring equal access to the city, its infrastructure, and services for PWD, the elderly, and other vulnerable and marginalized groups. • Ensuring access to employment and livelihood opportunities. • Empowering PWD to fully participate in society on equal terms with others. • Minimizing casualties to PWD when a shock, such as fire or flooding, occurs. • Enhancing social cohesion.
RELATED STRESSES	Lack of social cohesion, Unemployment, Economic inequality, Urban poverty, Homelessness, Inadequate transport
CONNECTION TO SDGS	SDG 10, 11
ACTION OWNER/LEAD	AALSAB and Addis Ababa Persons with Disabilities Association

POTENTIAL PARTNERS	MoLSA, FENAPD, CSOs working with and for PWDs (e.g. Humanity and Inclusion, Light for the World, World Vision, ICRC), donors (e.g. Embassy of Finland, Irish Aid).
SCALE	Citywide
TIME FRAME	Medium-term
ACTION STATUS	Ongoing
NEXT STEPS	• Launch a comprehensive and participatory needs assessment study. • Conduct outreach targeting government institutions to assess accommodation levels and understanding of universal design. • Conduct citywide accessibility audit and formulate appropriate recommendations.

ACTION

30

Build community-based resilience in collaboration with Community Care Coalitions (CCCs).

RESILIENCE CHALLENGE

Addis Ababa has a large network of social groups that actively operate in the city: *Ĭddïrs* (informal social protection systems whose main function is to help members during bereavement), mahbär (neighborhood or religious associations) and *Ĭqqub* (rotating credit schemes). It is estimated that 85.4% of people in Addis Ababa belong to these CCCs.[35]

These social groups provide a unique opportunity to build resilience to shocks and stresses at grass-roots level. However, the City Administration has not been engaging them in its resilience-building efforts in a consistent and integrated manner. Furthermore, unlike their counterparts in other regions across the country,[36] CCCs in Addis Ababa are not legally empowered to mobilize either in-cash or in-kind resources to provide a variety of community-support services at the city level. The City is currently taking steps to address this bottleneck. If supported adequately through training, financial resources, etc., social

groups that are trusted by residents, and which already play a critical role in their lives by helping them navigate difficult setbacks, could be further leveraged to cultivate a culture of resilience at the local level and maintain social cohesion.

ACTION DESCRIPTION

Through this action, the City will ensure that CCCs are legally established at the city level and engaged in a more integrated and consistent way, enabling the City to build community-based resilience via the following actions.

- Disseminate crucial information regarding emergency preparedness (including alerts during crisis) through the CCCs.
- Provide training to CCCs so that they can act as first responders during shock events.
- Connect CCCs with other volunteer networks and frontline responders in times of crisis.
- Support and enhance CCCs' involvement in delivering social support to help vulnerable households cope with shocks (e.g. price inflation, COVID-19).
- Capitalize on the trust and connectedness of CCCs to enhance existing community policing, and to create mechanisms for reporting abuse, exploitation, and violence (including gender-based attacks).
- During disease outbreaks, such as the COVID-19 pandemic, partner with CCCs to ensure safe burials and management of deaths, as well as support families psychologically and financially.
- Provide psychosocial support for vulnerable and marginalized groups through CCCs.
- Disseminate awareness and prevention messages regarding public health risks through CCCs.

RESILIENCE CO-BENEFITS	• Empowering social groups and residents to enhance public participation and community engagement in decision-making. • Creating a sense of ownership for the community to take matters into their own hands and contribute to development and resilience-building efforts. • Improving public safety. • Increasing awareness of disaster risk and response. • Applying asset-based community development to mitigate the challenges faced in the areas of livelihood, education, public health, and meeting basic needs.
RELATED SHOCKS	Rioting and civil unrest, Inflation, Flooding, Earthquake, Fire, Disease outbreak
RELATED STRESSES	Inflation, Homelessness, Urban Poverty, Crime and violence, Internal displacement, Lack of social cohesion

CONNECTION TO SDGS	SDG 2, 3, 10, 11
ACTION OWNER/LEAD	AALSAB in collaboration with CCCs
POTENTIAL PARTNERS	AAWCAB, Youth and Volunteerism Coordination Office, MoLSA, AAPC, Addis Ababa City Trust Fund
SCALE	Citywide
TIME FRAME	Medium-term
ACTION STATUS	New
NEXT STEPS	• Organize a series of meetings with CCCs to identify how they can help Addis Ababa in its COVID-19 emergency and recovery efforts. Prepare and sign MoU with CCCs. • Co-design a proposal to define potential areas of collaboration with CCCs and define guidelines for future engagements.

35 UN-HABITAT. (2003).
36 In Amhara, Oromia, SNNPR (Southern, Nations, Nationalities, and Peoples' region), and Tigray Regions, CCCs are legally empowered to mobilize resources both in-cash and in-kind, to issue receipts, and to work in a variety of community-support services.

ACTION

31

Strengthen social protection schemes and maximize their integration to enhance the resilience of the urban poor

RESILIENCE CHALLENGE

The City of Addis Ababa, in partnership with the Federal Government, is currently implementing various social protection actions in an effort to address the multiple dimensions of urban poverty. Through the National Price Stabilization Program, the Government is distributing selected food commodities (wheat, oil, and sugar) at subsidized prices through shops owned and operated by Consumer Associations, thereby containing the impact of high price inflation on the urban poor. Since 2015, the GoE, with the support of the WB, has been implementing the Urban Productive Safety Net Program (UPSNP) across 11 cities, including Addis Ababa. This flagship program aims to improve the income of poor households through urban safety net mechanisms, including both conditional and unconditional cash transfers to target beneficiaries. Another example is the Community-Based Health Insurance (CBHI) programme, which provides free medical services to the poorest of the poor[37] recognized by the respective *woredas*.[38]

Greater impact could be achieved by strengthening the linkages between these various initiatives. Coordination among these social protection programs and other development activities conducted by city agencies could also be further improved. For instance, the agencies implementing the Addis Ababa UPSNP have identified the need to create synergy with agencies responsible for solid waste management, urban greening, etc. to ensure that beneficiaries of the program's conditional cash transfers have greater access to public works opportunities. There is also a significant opportunity for these various initiatives to learn from each other on a variety of topics (appropriate governance for delivery, targeting mechanisms, etc.). The recent COVID-19 pandemic has revealed a critical need to expand social protection mechanisms to include emergency shelter solutions, which are currently inadequate. The lack of adequate emergency shelter increases the exposure of homeless populations and

other vulnerable groups to the virus, and puts the general population at greater risk.

ACTION DESCRIPTION

This action aims to enhance the resilience of the urban poor by maximizing the synergy and integration of existing social protection schemes. To this end, the City will:

- Harmonize and align existing databases of various social protection schemes (CBHI, UPSNP, National Price Stabilization Program, etc.) to improve targeting mechanisms. of the poorest of the poor.
- Explore alternative solutions (e.g. food vouchers) to provide fully subsidized food items to the poorest of the urban poor.
- Strengthen the UPSNP by incorporating more frequent reviews and adjustments of cash transfers to reflect inflationary pressure and increase the number of days on which beneficiaries can engage in public work. Additionally, the City will clarify the roles and responsibilities of key stakeholders related to public works and make recommendations aimed at strengthening coordination between the UPSNP and mandated city agencies.
- Create a forum for the owners of different social protection schemes to regularly meet, align their interventions, share best practices, and continuously learn from each other on issues of common interest (project governance, accountability mechanisms, etc.).
- Provide training and capacity-building activities to project owners of various social protection schemes to ensure successful delivery and maximization of impact.
- Provide financial support or temporary shelter for homeless populations as part of the COVID-19 response effort, and explore sustainable shelter solutions.
- Expand safe houses and provide emergency accommodation for women and children who become victims of domestic violence and abuse during and following the current crisis.

RESILIENCE CO-BENEFITS	• Mitigating the impacts of high price inflation and economic crisis on the urban poor. • Improved food security and access to health services for the poor and vulnerable. • Enhancing livelihood opportunities. • Fostering greater coordination among city agencies and social protection programs. • Ensuring safe shelter for vulnerable groups, including in times of crisis.
RELATED SHOCKS	Disease outbreak
RELATED STRESSES	Inflation, Unemployment, Poverty, Lack of social cohesion, Drug and alcohol abuse, Economic inequality, Food insecurity
CONNECTION TO SDGS	SDG 1, 2, 3, 8, 11

ACTION OWNER/LEAD	AALSAB
POTENTIAL PARTNERS	AAHB, AATIDB, AAJOCEDB, Consumers Associations, MoUDC, WB, Ethiopian Health Insurance Agency
SCALE	Citywide
TIME FRAME	Short-term
ACTION STATUS	Ongoing
NEXT STEPS	• Convene partners of various social protection schemes and identify areas for greater integration and alignment. • Co-develop a roadmap for joint design and aligned implementation for greater impact.

37 The "poorest of the poor" are low income households earning less than ETB 1,000 per month (UN-HABITAT, 2017).
38 The CBHI programme was launched in four regions of the country in 2011, and was rolled out in Addis Ababa in 2018.

Pillar 3
Healthy and livable places

Creating a livable city that promotes the health and well-being of its residents.

Over the years, Addis Ababa has expanded and developed at the expense of its natural ecosystems. As a city, we have embraced environmental protection in our policies and bylaws. However, in practice, economic development and urbanization have consistently taken precedence over the protection of our natural resources.

Coupled with residents' lack of environmental awareness and practice, our local and regional environment has taken a turn for the worse. Our once-lush mountains have undergone rapid deforestation, our water sources are depleting, our rivers have become open sewers, and the air we breathe grows dangerously polluted. These challenges, especially when combined with a changing climate, make us extremely vulnerable to risks such as flooding and water scarcity, which threaten the livelihoods, health, and well-being of Addis Ababa's residents.

This pillar is about improving the city's ability to effectively protect its natural resources and ecosystems, and thereby secure a more sustainable future. Initiatives in this pillar address water as a finite resource and an economic good, improving access to sanitation, modernizing solid waste management, reclaiming our mountain ranges, accelerating air quality improvement, promoting energy efficiency, and the development of new green spaces.

GOAL 3.1	Provide adequate, safe, and reliable water and sanitation services for all
GOAL 3.2	Manage our resources sustainably
GOAL 3.3	Improve the quality of our environment
GOAL 3.4	Embrace risk-aware and participatory urban design practices
GOAL 3.5	Ensure the provision of healthy, affordable, and reliable food for all

GOAL 3.1

Provide adequate, safe and reliable water and sanitation services for all

32 Build a Water Resilient City

RESILIENCE CHALLENGE

Addis Ababa's current water demand greatly exceeds the amount of water that can be supplied by the AAWSA through its public supply system. As a result, AAWSA is currently working on increasing water availability through dam capacity enhancement. It is also encouraging institutions (both governmental and private) that have high water consumption rates to source their own water through wells.

While supply-side interventions are important, dam capacity augmentation projects currently in the pipeline are often slow to complete and have already faced delays. As for borehole development, global experience suggests that while this might be a solution in the short term, it risks compromising the sustainability of the city's water supply in the long run if not adequately managed. There is thus a need to complement these efforts with demand-side interventions such as water conservation, which typically yield faster results and are cost-effective. With close to 40% non-revenue water, of which 29% is currently being lost due to poor maintenance and replacement of old and dilapidated infrastructure, there is also a significant opportunity to reduce the city's vulnerability to water shortage by improving detection of leakages and addressing inefficiencies in the distribution system.

The COVID-19 pandemic has highlighted the need to ensure that everyone in the city has access to clean and affordable water for handwashing, one of the most effective ways to combat the spread of the virus. It has also reinforced the need to scale-up investment in water and sanitation infrastructure for water scarce areas, beyond current efforts to set up portable handwashing facilities and supply water using water tank trucks.

ACTION DESCRIPTION

The action aims to strengthen AAWSA's capacity to manage the public water supply system more efficiently, and transform Addis Ababa into a water-Smart city. It proposes to:

• Carry out a City Water Resilience Assessment (CWRA) to establish a resilience profile of risks and vulnerabilities, and identify areas of intervention to enhance the resilience of the urban water system.
• Develop and maintain a robust leak detection program and provide guidance on selection of leak detection systems using a risk-based approach.
• Identify high water consumers and prioritize 10 of them for a targeted intervention to reduce water consumption, promote alternative use of water, and enhance water stewardship.
• Develop and implement a water conservation program for households, residential developments, and housing projects, which will include regulatory and pricing measures, incentives for conservation, and consumer education.
• Accelerate urgently required water supply investments into water insecure and underserved areas.
• Leveraging lessons from the COVID-19 outbreak and past shock events, establish emergency and contingency planning procedures, alongside a communications plan that keeps staff, customers, and other stakeholders informed of developments.

RESILIENCE CO-BENEFITS	• Improve water service provision, particularly for the urban poor, and reduce water scarcity. • Minimize waste and make the most of resources, while protecting ecosystems and preventing pollution. • Boost economic development, and enhance equity and social cohesion. • Enhance the capacity of AAWSA to maintain essential services, and improve financial viability of service provision. • Reduce vulnerability of residents and businesses to water-related shocks and stresses (e.g. waterborne and infectious disease).
RELATED SHOCKS	Disease outbreak
RELATED STRESSES	Water scarcity, Aging infrastructure, Inadequate infrastructure
CONNECTION TO SDGS	SDG 3,6,11 and 12

ACTION OWNER/LEAD	AAWSA
POTENTIAL PARTNERS	AACB, AAHB, AAHDAB, AAEB, AAEPGDC, WB, Splash Ethiopia, residents
SCALE	Citywide
TIME FRAME	Short-term
ACTION STATUS	New
NEXT STEPS	• Complete the CWRA and prepare an action plan based on the findings. • Identify hotspots of water insecurity for which to plan and implement contingency measures. • Identify and engage with 10 high water-consuming institutions to build a coalition for advancing and improving wise water use. • Initiate the household water management program.

CAPE TOWN (SOUTH AFRICA)
WATER RESILIENCE AND AVOIDING DAY ZERO

Near exclusive reliance on surface water from rainfall makes Cape Town and its surrounding area very vulnerable to drought shocks. The prospect of an imminent "Day Zero" – a scenario in which city government would turn off certain parts of the reticulation system, literally turning off the taps – made international headlines throughout 2017 and 2018. Yet the shock to Cape Town's water system can be traced back to a complex confluence of events, as early as 2015, which began the driest three-year period since the 1930s in the region's dam catchment area. The city's predominant lever of response was to increase water restrictions, which were first instituted at the beginning of 2016 and which grew more and more strict over the next two years, until Capetonians were allotted only 50 liters per person per day.

While city government grappled with uncertainty in the system, implementing small-scale augmentation projects to bring a limited amount of new water into the system, Capetonian households and businesses took remarkable action to contribute to the drought response. Lawns and water-sensitive plants were replaced with alternatives requiring less water. Bathing time was slashed and the resulting grey water collected for use in toilet flushing. Residents invested in water-saving devices such as low-flow taps, water-efficient shower heads, and smaller toilet cisterns. Capetonians who had the means to do so installed rainwater harvesting tanks and drilled boreholes and well points. A few corporate entities even went entirely off-grid, turning to groundwater or desalination. New businesses emerged that offered water saving solutions, demonstrating a noteworthy entrepreneurial spirit. This impressive collective response would eventually drive down water consumption by over 50% compared with pre-

drought levels – effectively reducing the demand for water, alleviating pressure on low dam levels, and making a momentous contribution to avoiding the projected Day Zero of 2018.

Still Day Zero loomed closer. This necessitated business continuity planning by all spheres of government, businesses, and communities for what would need to happen should the reticulation system be turned off. The city and provincial governments worked tirelessly with businesses to share information, hear concerns, and tweak plans. Business groups developed their own task teams. Neighborhood watches and other community organizations developed responses unique to their own communities. Cape Town was becoming a shock-ready city.

Steps that contributed to the city's growing resilience in the face of the crisis included the public sector improving its approach to partnering, and City Council establishing a "Section 80 Water Resilience Advisory Committee," comprising external experts from all spheres of government, academia, the agriculture sector, non-governmental organizations, and business, which began meeting in late 2017 to support the city's drought response and investment choices. Cape Town also installed Smart process controllers, which enable managing water pressure on a zone-by-zone basis, greatly decreasing water consumption. Another important contributor to Cape Town's water resilience was the city's public-facing Day Zero Campaign, which heightened in intensity in January 2018 to provide weekly information updates. These updates allowed Capetonians to understand dam behavior and water consumption in various rainfall scenarios. The *Water Outlook* publication helped inform businesses as they made their own investment decisions.

ACTION
33 Establish a Water Fund

RESILIENCE CHALLENGE

Development pressures are degrading the land and rivers on which Addis Ababa depends to sustain its water supply. The degradation of watersheds is a key challenge for sustainable water management in the city and the region. Addis Ababa's drinking water supplies are greatly affected by how land is managed. Practices that clear forests, increase erosion, and create pollution reduce both water quality and the reliability of the water supply. Rapid urbanization, poor governance, pollution, and climate change aggravate the problem. Water insecurity is one of the greatest risks impacting the city's resilience and sustainable development, considering that water consumption is on the rise while large parts of the population are still not supplied with sufficient amounts of safe water. In addition to providing water of a sufficient quality and quantity to meet the needs of agriculture, industry, energy, and households, preserving the integrity of environmental systems is critical to all dimensions.

Traditional urban water management systems, with their focus on built solutions or lack thereof, have had a devastating effect on the rivers, floodplains, and wetlands that provide the city with water and create habitat for wildlife.

ACTION DESCRIPTION

The action will focus on mobilizing investment for the protection and restoration of river systems and water sheds, to improve water security, and to leverage long-term and cost-effective solutions that allow both the city and nature to thrive together. It will comprise the preparation of a feasibility study on establishing a water fund, an organization that designs and enhances financial and governance mechanisms, and unites public, private, and civil society stakeholders around the common goal of contributing to water security in the city and the region through nature-based solutions and sustainable watershed management.

The work will build on the experience of The Nature Conservancy (TNC) with over 30 water funds around the world. The action will allow the city to play an active role in protecting its water sources, while helping the city to connect with the region and relevant partners – because source watersheds are a nexus for action for those working to build urban resilience, improve water security, drive sustainable development, and create a stable climate.

The action will focus on identifying opportunities to invest in nature, including protecting and restoring forests, wetlands, and grasslands, reducing agricultural runoff, building roads so as to minimize sediment entering rivers and streams, and helping to retain freshwater, filter pollutants, and reduce erosion.

RESILIENCE CO-BENEFITS	• Enhancing water availability, and therefore improving water service provision and reducing water scarcity. • Boosting economic development. • Improving ecosystem services. • Improving public health. • Reducing water pollution. • Enhancing cooperation and trust between the city and the region, as well as between urban and rural areas.
RELATED SHOCKS	Flooding
RELATED STRESSES	Water scarcity, Aging infrastructure, Environmental degradation
CONNECTION TO SDGS	SDG 3,6,11 and 12

ACTION OWNER/LEAD	AAWSA and AARPO
POTENTIAL PARTNERS	Mayor's Office, AAEPGDC, ONRS, AARPO, TNC, donors (e.g. The World Bank), PSOs.
SCALE	Metropolitan
TIME FRAME	Short-term
ACTION STATUS	New
NEXT STEPS	• Assess feasibility and generally determine how a Water Fund can positively contribute to water security in Addis Ababa. • Decide if the Water Fund should proceed to the Design Phase. • If approved, design and implement the Water Fund.

ACTION
34 Enhance water security through improved groundwater abstraction monitoring and regulation

RESILIENCE CHALLENGE

Groundwater serves as a main source of water in Addis Ababa, in meeting the city's current and future water demand. However, the relevant authorities lack sufficient and up-to-date information on the condition of the aquifer, overall abstraction volumes, and the sustainable yields of the aquifers. The City is therefore unable to monitor and regulate water abstraction and consumption. Mismanagement of groundwater resources and overexploitation have caused a continuous decline of groundwater levels in the aquifers on which Addis Ababa's water supply depends. Additionally, rapid urbanization and economic development have increased the city's water demand and have led to uncontrolled drilling of boreholes and abstraction of water. Wetlands, upland forests, and other crucial ecosystems, including relevant watersheds, are being depleted, reducing opportunity for groundwater recharge.

In recent years, government has encouraged large consumers to invest into decentralized, independent systems to meet the growing water demand and to reduce the burden on the public supply system. With increasing groundwater development and reduced water availability, there is growing awareness that an integrated management approach is needed to ensure the sustainable use of precious groundwater resources, to monitor and regulate abstraction and equitable use of the resource, as well as optimize the opportunities for groundwater recharge and water reuse. This must include reversing the current degradation of the catchments through new investments and Smarter policies, which would bring major benefits to ecosystems, including more reliable water supplies. However, the City lacks thorough understanding of its potential role and responsibility, as well as the current legal and regulatory framework and institutional capacities to monitor and regulate groundwater abstraction and use.

ACTION DESCRIPTION

The action aims to ensure that groundwater resources are managed in a sustainable manner in close cooperation with the relevant authorities through robust monitoring and regulation of abstraction. The action will help the City and AAWSA to:

• Establish institutional capacity to monitor and regulate groundwater abstraction within their mandates.
• Establish a comprehensive geo-referenced inventory of private, commercial, and industrial boreholes, and prepare minimum technical standards, including metering for boreholes, to monitor and regulate water abstraction, and to prevent pollution.
• Develop a licensing approach for drilling companies and introduce procedures that require newly drilled boreholes to be formally registered before commissioning.
• Develop a sustainable system for raw water charges to disincentivize over-abstraction (and/or limit abstraction).
• Develop and implement awareness campaigns with relevant stakeholders on appropriate and safe use of well-points and boreholes.

RESILIENCE CO-BENEFITS	• Decreasing the depletion of ground water. • Improving water supply and reducing water consumption. • Reducing groundwater pollution.
RELATED SHOCKS	Disease outbreak, Drought
RELATED STRESSES	Water scarcity, Water pollution, Environmental degradation
CONNECTION TO SDGS	SDG 3,6,11 and 12
ACTION OWNER/LEAD	AAWSA

POTENTIAL PARTNERS	AAPDCo, AAEPGDC, donors, CSOs, PSOs
SCALE	Citywide
TIME FRAME	Short-term
ACTION STATUS	New
NEXT STEPS	• Establish the legal frameworks and standards for sustainable groundwater use. • Initiate a capacity-building program for AAWSA. • Maintain a database of geo-referenced groundwater boreholes. • Conduct awareness-raising programs.

ACTION
35
Promote decentralized waste treatment and water-sensitive design

ACTION
36
Improve sanitation service provision

RESILIENCE CHALLENGE

AAWSA has launched an ambitious plan to expand the city's sewer network from its current 7% to cover the whole of the city, by gradually expanding the network of secondary sewer lines in order to give more people access to the sewerage system. To enhance its treatment capacity AAWSA has also invested significantly in the construction of multiple waste treatment facilities with the capacity to treat 100,000 m³ of wastewater per day.

Despite these efforts, a majority of the city's households depend on onsite sanitation facilities that either release up to 75% of waste to nearby rivers and drains, or need to be emptied by a limited fleet of vacuum trucks. With most of the city's waste ending up far from treatment plants, and a 5% open defecation rate, the city's onsite sanitation facilities do not comply with common minimum standards and fecal sludge management is highly insufficient. This reality puts significant financial and technical pressure on AAWSA to provide adequate services to its residents, particularly those living in underserved or informal neighborhoods. At the same time, Addis Ababa is experiencing a significant rise in high-end real estate development. Residents of these development can afford to pay for safe sanitation access (including transport and treatment of waste), but are not receiving that service due to AAWSA's constrained capacity.

ACTION DESCRIPTION
This action aims to capitalize on the rising construction of real estate ventures in Addis Ababa and their residents' ability to pay for basic services such as waste management. It will incentivize investments in decentralized wastewater infrastructure in higher income neighborhoods, to avoid untreated wastewater and fecal sludge being released into the environment. It will enhance the cooperation between AAWSA and private sector developers to utilize private sector funding to create water-sensitive neighborhoods that have self-initiated access to waste treatment. At the same time, the action will encourage the application of circular economy approaches that allow for the reuse of wastewater as an alternative source of water for non-drinking purposes, and will design elements that minimize the wastage of water. Related actions include:

• Review legal and regulatory framework, and identify risks and gaps that may hinder the adoption of water-sensitive urban design and water efficiency measures for housing and residential developments.
• Develop a minimum standard for decentralized wastewater treatment facilities that will allow for the safe and sustainable reuse of wastewater at the plot level.
• Establish a collaboration with private developers to pilot innovative housing and development-scale sustainable design and construction, to demonstrate that high performance water-sensitive and energy-efficient homes and developments can be built at a comparable cost and timeframe to existing developments.

RESILIENCE CHALLENGE
An estimated 50% of Addis Ababa residents lack access to adequate sanitation facilities, let alone safely managed sanitation services, and approximately 5% continue to practice open defecation. Besides affecting individual wellness, public health, and economic activity, inadequate sanitation is one of the most serious environmental problems the city faces.

In response to these challenges, AAWSA launched the Public Restrooms and Rest Stops Project in 2007, an initiative that aims to build shared sanitation facilities. These shared sanitation facilities include public restrooms serving high-traffic urban areas, and communal latrines shared between clusters of households in low-income communities. Through a partnership with the City's Job Creation and Enterprise Development Bureau, AAWSA franchises these facilities to co-operatives that are mostly comprised of vulnerable and unemployed groups, including women and PWD. In addition to increasing sanitation access and providing employment opportunities, these facilities are designed to have green areas, providing accessible public spaces for residents.

Although AAWSA has over a decade of experience in designing and implementing public and communal latrines, insufficient sanitation service provision still poses a large risk for building urban resilience in Addis Ababa. Additionally, given that AAWSA is the main provider of services including collection, transportation, and treatment of waste, the financially burdened utility is encountering difficulties in addressing the needs of the growing urban population.

ACTION DESCRIPTION
This action aims to capitalize on the structure that AAWSA has created to implement its Public Restrooms and Rest Stops Project, expanding it to cover more than facility provision, and endeavor to create businesses that provide services across the whole sanitation value chain. Through the creation and franchising of 100 businesses addressing issues such as the collection, transportation, treatment, and reuse of waste, this action aims to tackle the parts of Addis Ababa's sanitation value chain that are ripe for business development. The action will also:

• Conduct a baseline study to identify high priority areas for intervention, and gather primary data for designing and planning infrastructure investments covering the whole sanitation chain.
• Develop sustainable and financially viable management concepts that ensure these businesses are operated and maintained in a professional manner, while at the same time delivering multiple co-benefits that enhance livelihoods of poor and vulnerable communities.
• Establish service level agreements that incentivize meeting agreed-on goals and targets, while giving operators space to be creative with how they meet them (including operators that stack multiple revenue streams, community-based management structures, and creative community engagement and education efforts).
• Design, construct, and pilot businesses across all points of the sanitation chain.
• Gather learnings from pilot projects and use them to expand businesses to higher numbers.
• As part of the City's COVID-19 response, train and partner with sanitation workers to protect them and customers by ensuring that infection risks are minimized.

RESILIENCE CO-BENEFITS	• Reducing water demand and providing alternative water sources for non-drinking uses of water. • Reducing pollution and environmental degradation, leading to improved water quality and human health. • Decreasing the load on wastewater treatment plants' investment cost for the expansion of the city's main sewerage grid, thereby enabling AAWSA to focus on areas of need. • Private developers will gain brand recognition for their contribution to the cleanliness of the city by the city administration and AAWSA. • Enhancing energy production. • Reduce GHG emissions.	**ACTION OWNER/LEAD**	AAWSA
		POTENTIAL PARTNERS	AAHB, AACB, MoUDC, real estate developers, donors
		SCALE	Citywide
		TIME FRAME	Medium-term
		ACTION STATUS	New
		NEXT STEPS	• Identify existing residential developments suitable for refurbishing, and potential new developments that would allow for the application of water-sensitive designs. • Establish a collaboration with at least one private developer to pilot innovative housing and development-scale sustainable design and construction. • Co-develop standards, protocols, and guidelines for decentralized treatment plants. • Pilot innovative water-sensitive housing development project and scale up best practices.
RELATED SHOCKS	Disease outbreak		
RELATED STRESSES	Inadequate sanitation system, Environmental degradation, Water scarcity		
CONNECTION TO SDGS	SDG 3,6,11		

RESILIENCE CO-BENEFITS	• Providing poor and vulnerable households with access to safely managed sanitation services and income-generating activities. • Strengthening the capacity of AAWSA and local government. • Reducing environmental impact through reduction of fecal pollution. • Reducing carbon emissions by applying circular economy approaches to fecal sludge and wastewater management, while encouraging a culture of reuse. • Reducing investments and facilitating partnerships with the private sector, and potentially also with civil society organizations.	**ACTION OWNER/LEAD**	AARBGADAA
		POTENTIAL PARTNERS	AAWSA, AAHB, AAJOCEDB, AALSAB, cooperatives managing public restrooms and rest stops, development partners (e.g. World Bank, World Vision).
		SCALE	Citywide
		TIME FRAME	Medium-term
		ACTION STATUS	Ongoing
		NEXT STEPS	• Design and deliver training on COVID-19 risks for sanitation workers. • Conduct citywide sanitation baseline survey covering the whole sanitation chain, as well as required business models. • Design appropriate business models and service level agreements. • Construct pilot facilities and scale up best practices.
RELATED SHOCKS	Disease outbreak		
RELATED STRESSES	Inadequate sanitation systems, Environmental degradation, Unemployment, Poverty, Energy insecurity		
CONNECTION TO SDGS	SDG 6 and 11		

**GOAL
3.2**

Manage our resources sustainably

ACTION

37   Develop a sustainable public procurement policy

RESILIENCE CHALLENGE

A growing number of cities across the globe are strategically using procurement as a tool for pursing wider social, economic, and environmental goals. While the City has been using procurement to advance social and economic priorities (e.g. job creation, local manufacturing capacity), much remains to be done when it comes to leveraging public procurement to promote environmental objectives (e.g. resource efficiency, low carbon development). Limited awareness among stakeholders, from policy and decision makers to procurement officers, means that sustainability is not considered in current procurement policies and practices. As a result, the City Administration has not always shown strong environmental leadership.

With roughly 60 to 70% of its total budget (25-30 billion birr for the 2018/19 Ethiopian fiscal year) going into procuring various works, goods, and services, the City has a significant opportunity to use its market power to influence local suppliers and producers to shift more rapidly towards sustainable consumption and production patterns, while at the same time reducing its own environmental impact and promoting environmentally responsible behavior among all stakeholders in the city.

ACTION DESCRIPTION

Through this action, the City aims to lead by example by embedding sustainability into its procurement policies and practices. Concrete steps will be taken to implement sustainable public procurement:

• Conduct a comprehensive assessment of the City's procurement policies, procedures, and practices, to identify potential challenges and opportunities to the implementation of sustainable public procurement.
• Engage with local suppliers and the private sector to assess the scope for change and determine the extent to which local suppliers can respond to stricter standards.
• Identify priority sectors for implementing sustainable public procurement and launch pilot initiatives that can deliver both "quick wins" and "big wins."
• Revise procurement procedures to incorporate sustainability criteria and standards.
• Develop guidelines and trainings on how to incorporate sustainability criteria throughout the procurement process for procurement officers.
• Create awareness-raising schemes for city government officials, civil servants, and procurement professionals across the city administration.
• Monitor, evaluate, and learn to continuously improve the city's sustainable public procurement operational framework.

RESILIENCE CO-BENEFITS	• Reducing the Administration's environmental impact and overall environmental degradation in the city. • Promoting efficient and responsible resource utilization. • Encouraging sustainable consumption and production patterns. • Encouraging supply chain innovation. • Generating long-term cost savings. • Stimulating job creation and growth in the green and circular economy.
RELATED SHOCKS	Hazardous material release
RELATED STRESSES	Environmental degradation, Air pollution, Climate change
CONNECTION TO SDGS	SDG 9, 11, 12, 13

ACTION OWNER/LEAD	AAEPGDC
POTENTIAL PARTNERS	All relevant city government offices, the Mayor's Office, development partners (e.g. UNEP, foreign embassies)
SCALE	Citywide
TIME FRAME	Medium-term
ACTION STATUS	New
NEXT STEPS	• Conduct assessment of current procurement practices. • Design and implement awareness-raising activities on the benefits of sustainable public procurement. • Launch engagement process with suppliers and private sector.

ACTION

38   Scale up adoption of clean cookstoves and fuels

RESILIENCE CHALLENGE

The use of solid biomass (e.g. charcoal, wood, dung) for cooking, typically using inefficient or traditional cookstoves is still a prominent source of energy practice in Addis Ababa. While electric and improved biomass-powered cookstoves are now being produced domestically, they are not affordable for the low-income households and dwellers of informal settlements who are greatly affected by energy poverty. In the absence of financial incentives to switch to cleaner energy sources and technologies for cooking, and limited consumer awareness, households continue to rely heavily on polluting fuels and cookstoves, making them particularly vulnerable to indoor air pollution. Women and adolescent girls are greatly impacted as they are primarily responsible for cooking. In addition to poor health outcomes, reliance on solid fuels is driving forest degradation.

While both government and non-government actors have taken various steps to encourage the adoption of clean cookstoves and fuels in Addis Ababa, much remains to be done to create more coordinated and effective action. The sector continues to suffer from a lack of legislated standards for cookstoves, lack of strong political championing, and the poor monitoring and enforcement capacity of authorities. Furthermore, local SMEs manufacturing improved cookstoves lack the technical and financial capacity to improve their design and production, or to scale up manufacturing and distribution to a large segment of the population, a crucial step for lowering the initial upfront cost of some improved cooking solutions and fuels.

ACTION DESCRIPTION

This action aims to scale up adoption of cleaner cookstoves and fuels, with a particular focus on vulnerable populations. The City will:

- Introduce and enforce rigorous standards for clean cooking equipment.
- Provide technical support and institutional capacity-building for enforcing entities.
- Design and introduce financial incentives for low-income groups and residents in informal settlements to switch to clean cookstoves and fuels.
- Design and launch broad-based awareness-raising campaigns aimed at promoting improved cookstoves and fuels.
- Support local MSEs (such as biomass briquette and improved cookstove producers) to grow a thriving market for clean fuels and cookstoves, through capacity-building along the entire value chain, innovative financing schemes, and greater market linkages (by leveraging CCC groups, integrating cookstoves into existing government programs, etc.).

RESILIENCE CO-BENEFITS	• Ensuring access to reliable and sustainable energy. • Reducing energy poverty. • Reducing indoor and outdoor air pollution and improving public health. • Protecting forest resources and minimizing environmental degradation. • Generating employment opportunities through production of improved cookstoves and renewable biomass sources.
RELATED STRESSES	Energy scarcity, Poor air quality, Environmental degradation
CONNECTION TO SDGS	SDG 7, 11,13
ACTION OWNER/LEAD	AAEPGDC

POTENTIAL PARTNERS	Ethiopian Standards Agency, AAHB, Ministry of Health (MoH), TVET institutions, cookstoves manufacturers, donors (e.g. GiZ, SNV), INGOS and NGOs working in the clean cookstoves and fuels space, CSOs (*Ìddīrs*, CCCs, consumers' associations, etc.)
SCALE	Citywide
TIME FRAME	Medium-term
ACTION STATUS	Scale-up
NEXT STEPS	• Convene and coalesce a cross-section of government, private sector, academic, donor, and civil society stakeholders around a common platform for action. • Take stock of previous interventions (research, studies, policies, programs, etc.) and identify barriers impeding at-scale adoption of clean cookstoves and fuels. • Agree on priority activities and design a roadmap for concerted and effective implementation of proposed interventions.

ACTION

39   Design and implement energy-saving measures

The ubiquitous use of inefficient incandescent light bulbs across the city generates substantial wastage of already scarce power. Lack of adequate standards for energy-efficient lighting means that LED light bulbs and other efficient lighting technologies are scarce on the local market and generally unaffordable, particularly for low-income groups.

ACTION DESCRIPTION
This action aims to relieve pressure from the power grid by implementing demand-side measures that will help reduce demand for electricity. The City will:

- Introduce and enforce rigorous standards for energy-efficient lighting, in compliance with international standards.
- Provide technical support and institutional capacity-building for enforcing entities.
- Promote energy-saving behaviours through awareness raising activities.
- Design and implement innovative financing mechanisms to support uptake of energy-efficient lighting by low-income households.
- Identify and partner with champion institutions to roll out lighting retrofit projects.

RESILIENCE CHALLENGE
Addis Ababa is faced by the major stresses of power outages and energy scarcity, which negatively impact economic activity and delivery of critical services (water supply, hospitals, etc.). Factors contributing to constant disruptions include heavy reliance on hydropower, which is highly vulnerable to climate change, as well as the use of outdated equipment, including aging transformers that are susceptible to continual breakdown.

RESILIENCE CO-BENEFITS	• Minimize power wastage, relieve pressure on the power supply, and generate cost savings. • Ensure access to reliable and sustainable energy. • Reduce energy poverty.
RELATED SHOCKS	Power outage
RELATED STRESSES	Energy scarcity
CONNECTION TO SDGS	SDG 7, 11
ACTION OWNER/LEAD	AAEPGDC

POTENTIAL PARTNERS	AACB, MoWIE, Ministry of Revenue (MoR), Ethiopian Standards Agency, Ethiopian Solar Energy Association, donors (e.g. GiZ, USAID)
SCALE	Citywide
TIME FRAME	Medium-term
ACTION STATUS	Scale up
NEXT STEPS	• Identify locally appropriate and cost-effective, energy-efficient lighting solutions. • Convene and initiate discussion between MoWIE,MoR, and other relevant stakeholders for the introduction of relevant policy instruments.

ACTION

40   Establish a recycling park

RESILIENCE CHALLENGE

Addis Ababa's recycling sector currently faces several challenges that limit its expansion. Local recycling companies have difficultly accessing land to establish recycling plants or facilities. Lack of access to reliable power and water also hinders their activities. Various financial barriers also exist, such as the high cost of vehicles, equipment, and facilities, and limited access to finance. Local recyclers also face high competition from international companies who have easier access to capital and global markets. Financial, technological, and human capacity constraints further prevent local

recycling companies from participating in the entire recycling value chain. However, if adequately supported, the recycling sector could help address the city's long-standing solid waste management problem, while at the same time creating green jobs and helping the city shift towards a more circular economy.

ACTION DESCRIPTION

The action proposes to establish a recycling park dedicated to local recycling companies in Addis Ababa. In addition to easing access to space for conducting their activities, the facility will provide recyclers with access to reliable power and water, as well as other services such as access to finance and opportunities for technology, knowledge, and skills transfer. This will be achieved through the following proposed interventions:

- Build a dedicated park for recyclers in Addis Ababa.
- Create a dedicated revolving fund to support local recycling companies in purchasing machinery and equipment, or for any other reasonable business purposes, thereby enabling them to participate in the entire recycling value chain.
- Provide capacity-building to support recyclers in accessing global funding opportunities.
- Foster industry-university partnerships to support R&D in the sector.

RESILIENCE CO-BENEFITS	• Support the growth of local recycling businesses and a thriving circular economy. • Reduce the amount of waste that reaches the city's dumpsite and reduce environmental degradation and pollution. • Promote the efficient and sensible use of natural resources. • Create more decent and sustainable jobs. • Future-proof and diversify the economy.	**POTENTIAL PARTNERS**	AATIDB, AAIC, AAU, AACCSA, TVET and research institutions, Cleaner Production Centre, donors (e.g. WB, UNIDO, UNEP, UNDP, GEF, AFD)
		SCALE	Metropolitan
		TIME FRAME	Medium-term
		ACTION STATUS	New
RELATED STRESSES	Inadequate waste and sanitation, Environmental degradation, High unemployment	**NEXT STEPS**	• Launch extensive engagement process with all relevant actors to secure buy-in for the project and identify a suitable site. • Establish the governance of the recycling revolving fund and operationalize it.
CONNECTION TO SDGS	SDG 8, 9, 11, 12		
ACTION OWNER/LEAD	Addis Ababa Solid Waste Administration Agency		

ACTION

41   Develop a participatory mountain range rehabilitation program

RESILIENCE CHALLENGE

Addis Ababa is surrounded by hills and mountains that are covered with forests. The city is overlooked by the Entoto mountain range to the north, Yerer Mountain to the east, and Menagesha and Wachacha mountains to the west. The city's mountain landscape is under serious threat from the combined effects of rapid urban expansion, informal settlement proliferation, unsustainable harvesting of forests to produce biomass fuel, and lack of adequate forest management. This is leading to deforestation, soil erosion, and land degradation, which in turn exacerbate the city's vulnerability to existing shocks and stresses, such as flooding, landslides, urban heat island effect, air pollution, drought, and water scarcity.[39]

ACTION DESCRIPTION

The City will partner with the Oromia National Regional State to design and implement a joint program aimed at conserving, restoring, and sustainably managing its surrounding mountain and urban forests ecosystems. The program will build on past and ongoing efforts to restore mountains and manage forest resources sustainably, thereby incorporating lessons learned from previous successes and failures. The program is intended to be highly participatory in nature, and will focus on local communities as key stakeholders in designing and implementing the program and its proposed activities. Key proposed activities will include:

- Rehabilitate degraded upstream gullies through reforestation programs, physical interventions, traces, gabion building, etc.
- Area enclosure and community-based natural resource conservation activities.
- Launch agroforestry and ecotourism initiatives to provide employment and income generation.
- Expand *Gullele* Botanical Garden and develop recreational activities.

Efforts will be made to ensure that the implementation of this action will be closely coordinated with Action 33. Establish a Water Fund.

RESILIENCE CO-BENEFITS	• Combating illegal land grabbing activities along mountainsides and degraded upstream gullies in the city. • Increasing green and open spaces and enhancing recreational opportunities. • Reducing flooding and landslide incidents. • Improving groundwater recharge and water availability. • Improving air quality and increasing carbon sink. • Creating sustainable livelihood and employment opportunities through ecotourism and agroforestry activities. • Enhancing collaboration with the surrounding region.	**RELATED STRESSES**	Environmental degradation, Poor air quality, Lack of green spaces, Informal settlement
		CONNECTION TO SDGS	SDG 3, 6, 8,11, 13, 15
		ACTION OWNER/LEAD	AARBGADAA
		POTENTIAL PARTNERS	ONRS, EFCCC, development partners (UNEP, UNDP, The World Bank, WRI, TNC)
		SCALE	Citywide
		TIME FRAME	Long-term
		ACTION STATUS	Scale up
RELATED SHOCKS	Flooding, Landslide	**NEXT STEPS**	• Establish a joint task force of the Addis Ababa City Administration, Oromia National Regional State, and the EFCCC to oversee the design and implementation of the program. • Prepare a detailed work plan and schedule.

39 Addis Ababa Environment Protection Authority and Kotebe Metropolitan University. (2017). *Addis Ababa City State of Environment and Outlook.*

Improve the quality of our environment

ACTION

42 Modernize solid waste management

RESILIENCE CHALLENGE

Addis Ababa currently lacks reliable and up-to-date data on waste generation levels and characterization. This in turn hinders the city's ability to design effective policies and interventions to address its long-standing solid waste management challenges. Government actors, SMEs, and informal workers engaged in the sector all have limited capacities for managing the city's growing waste.

In addition, the City lacks adequate equipment and facilities to conduct regular maintenance and repair of its waste collection vehicles, which hinders the timely collection and disposal of waste. Hazardous waste management is another pressing challenge. To date, there is no facility dedicated to safely handling and disposing hazardous waste in the city, posing a great threat to public health. The COVID-19 pandemic has highlighted the need to improve the sector's capacity to handle health care waste safely, and to provide adequate protection to frontline waste workers facing increasing health risks.

Last, and crucially, lack of finance remains a bottleneck for the sector. Considering the principle of waste as a resource, there is untapped potential to apply financing mechanisms to waste collection and disposal, which can help raise additional financing for the sector and reduce the burden on the City's budget.

ACTION DESCRIPTION

The City will launch a program aimed at modernizing its solid waste management. The program will comprise the following components:

- Improve solid waste data and knowledge: the City will conduct several studies, including a comprehensive municipal waste generation, composition, and characterization study, a detailed analysis on plastic waste, and a feasibility study of the application of the "Polluters Pays Principle" (PPP) in waste management.
- Prepare a citywide integrated solid waste management (ISWM) master plan.
- Organize training and capacity-building activities for all waste actors on ISWM and safe handling of hazardous waste. In the medium term, the City will establish a solid waste training and research center at Bole Arabsa.
- Construct waste management facilities, including a well-equipped and capacitated waste vehicles maintenance and repair facility at Repi open dump site, an integrated compost, biogas, and electricity facility at Bole Arabsa, and a state-of-the-art hazardous waste management facility that will serve other cities in the country.
- Raise public awareness of waste management problems and proper waste disposal that includes waste segregation at household level.
- Partner with health facilities to improve management of health-care waste.

RESILIENCE CO-BENEFITS	• Improving health and quality of life, especially for marginalized groups, including informal waste pickers. • Reducing environmental pollution and flooding risk. • Diverting waste from landfills and encouraging sustainable consumption and production. • Creating job opportunities and supporting the local economy. • Improving the city's image. • Generating municipal cost savings and enhancing financial sustainability of city agencies
RELATED SHOCKS	Hazardous materials release, Disease outbreak, Flooding
RELATED STRESSES	Inadequate waste and sanitation systems, Environmental degradation, Insecure municipal finances

CONNECTION TO SDGS	SDG 3, 11, 12, 13, 15
ACTION OWNER/LEAD	Addis Ababa Solid Waste Administration Agency (AASWAA)
POTENTIAL PARTNERS	Addis Ababa City Manager Office, AAHB, AACRA, ONRS, donors (AFD, JICA, WB, UN Habitat).
SCALE	Citywide
TIME FRAME	Medium-term
ACTION STATUS	New
NEXT STEPS	• Design and deliver capacity-building programs for all waste workers on ISWM, health risks, and how to avoid COVID-19 contamination. • Develop and launch RfPs for municipal waste characterization, hazardous waste management, and PPP feasibility studies. • Develop and launch RfP for setting up a regional hazardous waste management facility.

INSPIRATION

SANTIAGO METROPOLITAN REGION (CHILE)
GENERATING AND IMPLEMENTING A COMPREHENSIVE REGIONAL WASTE MANAGEMENT MODEL

Since 2005, Chile has had a Comprehensive Solid Waste Management Policy. In recent years, this has enabled the country to achieve a level of household waste disposal in landfills with health and environmental guarantees of about 60% at the national level. Progress is being made in implementing a new approach on waste, aimed at reducing waste generation and promoting reuse.

Despite these advances, through its Resilience Strategy development process, the Santiago Metropolitan Region identified solid waste management as one of the chronic problems facing the metropolitan area. Waste management challenges have been accentuated by the lack of central coordination with existing comprehensive long-term waste management plans, a dearth of education on domestic and commercial recycling, and the high concentration of illegal landfills and small dump sites in suburbs and vulnerable neighborhoods.

To combat these challenges, Santiago Metropolitan Region is taking a three-pronged approach to generate and implement a comprehensive regional waste management model:

- Launch a Waste Management Technology Center: Design a center for the development of new waste management techniques, technologies, markets, and business models.
- Design and deploy "Santiago Recicla" Waste Recovery Program: Promote integrated waste management through the implementation of a network of "clean points" in the metropolitan region; renovate existing recycling facilities; launch organic waste recovery plans; develop a waste picker formalization plan; and create mobile apps to promote recycling.
- Implement "Basura Cero" Illegal Solid Waste Landfill and Dump Site Eradication Program.
- Create a program focused on minimizing illegal load and transportation of waste, as well as converting the use of the spaces allocated for waste disposal.

PLEASE SEE THE <u>SANTIAGO RESILIENCE STRATEGY</u>, PAGES 92-94, FOR MORE INFORMATION.

ACTION

43

Build institutional capacity and partnerships to reduce air pollution

monitoring stations installed by the US Embassy. Recently, five additional stations have been installed at Merkato, Piassa, Koshe, Gurd Shola, and Mexico Square. However, the City does not currently have reliable and up-to-date air quality data, and lack of adequate real-time and historical data has hampered decision-making. Additionally, in-depth studies on air pollution and its socio-economic impacts could improve general awareness and help shape more informed policies and strategies for improving air quality.

ACTION DESCRIPTION
This action seeks to build the institutional capacity and the partnerships necessary for the successful implementation of Addis Ababa's Air Quality Management Plan, which is currently under preparation. It proposes to:

- Establish additional monitoring stations across the city.
- Promote research and development on air pollution, its impacts, and monitoring and control systems.
- Assist in drafting legal instruments and legislation of emissions-reducing mechanisms from multiple sources, including vehicles, industry, and construction.
- Design and implement capacity-building activities to improve local technical capabilities.
- Support relevant bodies in accessing funding for air quality monitoring and improvement actions.
- Assist regulatory institutions by establishing and strengthening national and international partnerships on air quality monitoring and improvement.

RESILIENCE CHALLENGE
Various air quality policies, regulations, and standards have been introduced both at the national level and at city level to address worsening outdoor air pollution. However, air quality standards do not have clear implementation guidelines, resulting in poor enforcement. The lack of coordination mechanism between relevant government agencies has resulted in disjointed efforts with limited impacts on air quality improvement.[40]

The City has limited air quality monitoring infrastructure and institutional capacity. Until recently, there were only three air quality monitoring stations across the whole city: one maintained by Addis Ababa University and two air quality

RESILIENCE CO-BENEFITS	• Enhancing institutional capacity to monitor air quality and enforce regulatory instruments. • Improving air quality through reducing emissions from the transport, industry, and construction sectors. • Reducing the number of cases of respiratory diseases and associated healthcare costs. • Making reductions in other environmental externalities, such as acidic rain and the failure of buildings and infrastructure.		**ACTION OWNER/LEAD**	AAEPGDC
			POTENTIAL PARTNERS	AATA, AATB, AAHB, AACB, USEPA, UNEP, UNDP
			SCALE	Citywide
			TIME FRAME	Short-term
			ACTION STATUS	Ongoing
RELATED SHOCKS	Hazardous materials accident, Infrastructure failure		**NEXT STEPS**	• Draft appropriate legal instruments and legislation. • Support and strengthen air quality monitoring station selection and establishment.
RELATED STRESSES	Poor Air Quality			
CONNECTION TO SDGS	SDG 3, 11, 13			

40 UNEP and Environmental Compliance Institute. (2018). *Addis Ababa City Air Quality Policy and Regulatory Situational Analysis.*

ACTION

44

Establish an accredited environmental pollution monitoring laboratory and data management system

RESILIENCE CHALLENGE

While various environmental protection legislations, policies, and strategies have been introduced both at the federal and municipal level, environmental protection action in Addis Ababa is currently hampered by a lack of planning, monitoring, and enforcement capacity of relevant agencies. The absence of up-to-standard and accredited laboratory facilities in the city, coupled with inadequate institutional and technical capacities of regulatory bodies, makes continuous and/or regular pollution monitoring very challenging. Reliable environmental data and information is not readily available, and existing data

is often unorganized, further limiting the City's ability to design and implement evidenced-based environmental interventions. As a result, worsening environmental pollution (e.g. water, air, soil, noise pollution) is compromising public health and quality of life in the city.

ACTION DESCRIPTION

This action aims to improve the City's environmental monitoring, enforcement, and planning capacity by establishing an accredited environmental pollution monitoring laboratory and data management system within the Addis Ababa Environmental Protection and Green Development Commission (AAEPGDC). This action proposes to:

• Set up a state-of-the-art and accredited laboratory, and equipping it with the necessary resources (trained staff, laboratory equipment, vehicles, etc.).
• Conduct regular environmental inspections and take samples to ensure compliance with environmental protection legislation.
• Create an environmental data management system accessible online to all government agencies as well as non-government end users.
• Leverage collected data to produce a periodic State of the Environment report, policy briefs, and research to inform environmental policy design and implementation.

RESILIENCE CO-BENEFITS	• Strengthening AAEPGDC's monitoring, enforcement, and planning capacity. • Reducing environmental pollution, and enhancing biodiversity conservation and protections. • Reducing pollution-related diseases and improvement in public health. • Economic benefits from health cost savings.
RELATED SHOCKS	Disease outbreak, Hazardous material release
RELATED STRESSES	Environmental degradation, Poor air quality, Inadequate sanitation systems, Poor regulatory climate
CONNECTION TO SDGS	SDG 3, 6, 11, 12, 15
ACTION OWNER/LEAD	AAEPGDC

POTENTIAL PARTNERS	AAHB, Ethiopian Standards Agency, Conformity Assessment Agency, research and academic institutions (e.g. AAU, GeoHealth Hub/TASH), development partners (e.g. USEPA)
SCALE	Citywide
TIME FRAME	Medium-term
ACTION STATUS	New
NEXT STEPS	• Set up a cross-sectoral Working Group, led by the AAEPGDC, which will be responsible for overseeing implementation of proposed interventions. • Take stock of existing inter-sectoral environmental data and information from various city agencies, and identify gaps and needs. • Identify core features of the environmental pollution monitoring laboratory and required resources.

GOAL

3.4

Embrace risk-aware and participatory urban design practices

ACTION 45 — Design and build green and multifunctional streets

RESILIENCE CHALLENGE

In recent years, Addis Ababa has witnessed an increase in heavy rainfall and flooding events. The combination of inadequate drainage, loss of green spaces and associated expansion of impermeable surfaces, and clogging of drains and ditches by improper disposal of solid waste, causes flooding on roads during the rainy season. This, in turn, generates traffic congestion and accidents. Pedestrians are forced to pay for piggyback rides to traverse roads.

Moreover, Addis Ababa's streets are generally designed and constructed to move cars rather than people, although the majority of trips in the city are made on foot. Current street design disregards the safety and comfort of pedestrians. Pedestrian walkways lack green sheds and buffers, which are not only found to be deterrents to crashes and injuries, but which can also contribute to a more comfortable environment for all users.

ACTION DESCRIPTION

This action aims to integrate green infrastructure into the design and construction of new and existing streets in Addis Ababa. Green Infrastructure (GI) consists of a network of multi-functional natural and semi-natural features that provide ecological services and quality of life benefits. GI elements for streets include green drainage systems (swales, bioretention), street trees, rain gardens, and permeable pavements.

This action will seek to:

• Design a manual for integrating green infrastructure into street design and construction, and integrate criteria into procurement processes.
• Provide capacity-building and training to relevant city staff on how to integrate green infrastructure into new road projects or projects aimed at retrofitting existing roads.
• Launch pilots to demonstrate the technical and financial feasibility of the project.
• Scale up the integration of GI across the city.
• Involve residents and community groups in both the design and implementation of green streets, and leverage these participatory events to improve public awareness of waste disposal and environmental issues such as flooding.
• Improve awareness among key stakeholders of the functions and multiple benefits delivered by green infrastructure.

RESILIENCE CO-BENEFITS	• Creating attractive and safe streets for all users. • Improving stormwater management, reducing flood risk, replenishing groundwater aquifers, and improving water quality. • Contributing to urban cooling. • Improving air quality by trapping pollutants and enhancing GHG absorption. • Reducing traffic congestion and accidents, especially during rainy seasons. • Improving the health of our residents through the removal of pollutants from runoff water and the provision of clean and safe spaces. • Creating better public spaces and enhancing our city's image.
RELATED SHOCKS	Flash flooding, Infrastructure failure
RELATED STRESSES	Traffic congestion, Traffic accident, Inadequate green and public spaces, Urban heat storm or heatwave, Water insecurity, Poor air quality, Environmental degradation, Climate change

CONNECTION TO SDGS	SDG 3, 6, 11, 13, 15
ACTION OWNER/LEAD	AACRA
POTENTIAL PARTNERS	AAPDCo, AARBGADAA, AAWSA, AAEPGDC, universities, development partners (WB, 100RC, ITDP)
SCALE	Citywide
TIME FRAME	Long-term
ACTION STATUS	New
NEXT STEPS	• Develop a manual or toolkit to guide the design and implementation of green streets (both new and retrofits). • Launch pilots to demonstrate proof of concept.

ACTION 46 — Improve participatory design in resilient public spaces

RESILIENCE CHALLENGE

Demand for new recreational and green open spaces in Addis Ababa is increasing. However, the majority of existing public spaces –parks, public squares, cemeteries, river buffers, urban forests, streets, and road medians – do not reach the desired standards. Detailed studies have been conducted, and manuals and guidelines for public space design have been produced by the City, but the recommendations stemming from these activities have not been adequately implemented. The participatory process to establish these spaces (either with the community, with design professionals, or with other related stakeholders) has also generally been weak. As a result, the existence and locations of many public spaces are not known to residents, and public spaces are often underutilized. Public spaces in Addis Ababa are also mainly designed with the sole purpose of providing recreational space for residents. The City has not fully capitalized on the significant opportunities provided by multifunctional public spaces to protect from environmental hazards such as flooding and urban heat island effect. By adding a resilience lens to public space design and implementation, Addis Ababa could achieve wider social, environmental, and economic benefits.

ACTION DESCRIPTION

This action will contribute to the creation of resilient public spaces in Addis Ababa by proposing a transparent and participatory approach that considers resilience as a new planning paradigm.

More specifically, this action will:

• Commission studies that will help identify critical challenges and opportunities that exist regarding the design, development, and management of resilient public spaces in Addis Ababa.
• Revise existing public spaces design manuals and standards. The action will propose a standard design for all types of parks in the city (i.e. neighborhood, *woredas*, sub-city, and City parks), that will be flexible to allow for variations appropriate to each type of park. The manual will include key principles for adding a resilience lens to public space design and development. Workshops will be organized to train municipal staff on the revised manual and standards.
• Launch a resilient public space design competition. An open competition will solicit design approaches for resilient public spaces adapted to the local context. Submissions will be assessed against a range of criteria, such as inclusion of a participatory process with the community, and potential for strengthening the city's overall resilience (flood or urban heat mitigation, serving as emergency assembly point, etc.).

RESILIENCE CO-BENEFITS	Creating a practice for resilient public spaces will: • Set a standard framework for designing and building public parks. • Promote parks that are not only spaces for recreation, but which address other resilience challenges that the city faces, such as flooding. • Promote mental and physical health in urban residents by providing psychological relaxation and stress alleviation. • Stimulate social cohesion through physical activity. • Provide spaces for respite from air pollution, noise, and excessive heat.
RELATED SHOCKS	Rainfall flooding
RELATED STRESSES	Lack of green space, Environment degradation, Loss of biodiversity, Poor air quality, Lack of social cohesion, Urban heat island effect, Crime and violence
CONNECTION TO SDGS	SDG 3, 11,13 ,15

ACTION OWNER/LEAD	AARBGADAA
POTENTIAL PARTNERS	AARPO, AAPDCo, AACRA, AAFDRMC, AAEPGDC, AAWSA, MoUDC, EiABC, development partners (e.g. 100RC, UN Habitat, C40), CSOs (*İddir* Committee, Addis Ababa Resident Forum).
SCALE	Citywide
TIME FRAME	Medium-term
ACTION STATUS	Ongoing
NEXT STEPS	• Secure funding and prepare RfPs for proposed studies and revision of manuals and standards. • Establish a committee to oversee the resilient public spaces competition and develop a competition brief. • Launch the resilient public spaces competition.

INSPIRATION

JUÁREZ CITY (MEXICO)
PLAZA JUAN GABRIEL DESIGN COMPETITION

The City of Juárez in Mexico has seen a rebirth in the last five years. It was previously notorious for drug-related violence and crimes against women, and the urban fabric of the city deteriorated as the citizens of Juárez ceased making use of public spaces. However, the city recently undertook the redevelopment of its downtown historic district, and dedicated one of the main plazas to the most famous Juárense entertainer, singer-songwriter Juan Gabriel. The space acts both as a memorial in his honor, and as a signifier of the resilience of a people putting their difficult past behind them and looking forwards.

In 2017, 100 Resilient Cities partnered with Rebuild By Design and the Municipal Planning Institute to issue an open call for the beautification of Plaza Juan Gabriel. The design competition solicited ideas for low-cost, high-impact interventions that would be informed by community and stakeholder input and be connected to the City's resilience goals. One of the requirements for the proposals was the inclusion of green infrastructure that could have multiple benefits, such as storm water management and heat mitigation. Another key input for the proposals was the result of a placemaking exercise that took place before the design competition, in partnership with Gehl Institute. This exercise included a Public Life Study survey performed by architecture students.

The competition was initially geared toward architecture and design students from the local university, and later expanded to design firms from across the country. The shortlisted teams were required to attend a public workshop where they showcased their proposals and had the opportunity to receive feedback from the community. They then had a few weeks to adjust their designs and present their final proposals during a public event. The winning design proposal was created by a local firm of recent graduates. The design eliminated "blind spots" in the plaza, allowing full visibility from any vantage point, and included the installation of drainage to collect rainwater. The design contemplated adding floor and wall lighting to the existing small auditorium to improve safety, while the lower part of the auditorium would serve as a rainwater catchment area during the rainy season.

ACTION
47   Launch a tactical urbanism program

RESILIENCE CHALLENGE

Addis Ababa currently has 18 functional recreational parks, with a total coverage of 113.7 ha. This puts the city's green area coverage at 1.52 m^2 per capital, far below the WHO standard of 9 m^2 per capita. Moreover, many of the existing public spaces are fenced off and underutilized by the public.

Recognizing the broad environmental, social, and economic benefits provided by quality public spaces, the Addis Ababa City Administration has launched several large-scale public space projects. Many of these projects, however, follow a traditional approach to placemaking, which often requires complex planning processes and major capital investments. Additionally, these public space projects are often designed and built without adequately engaging the community and end-users.

ACTION DESCRIPTION

This action proposes to launch a tactical urbanism program to repurpose vacant and underutilized places across the city and transform them into vibrant public spaces, in partnership with the community. Tactical urbanism is a citizen-led approach to placemaking which departs from the traditional "design-present-defend" method of planning, and instead uses short-term, low-cost, and scalable interventions intended to catalyze long-term change.

Tactical urbanism has previously been applied in Addis Ababa, specifically at La Gare and Sebategna intersections, to test new designs for making intersections safer for pedestrians. The proposed program aims to continue and expand this work to a variety of other public spaces (green parks, playgrounds, streets, plazas, squares, etc.), across the city.

A number of key activities will be implemented to help generate creative, low-cost, and implementable projects to respond to Addis Ababa's multiple resilience challenges:

• Conduct stakeholder engagement (workshops, community asset mapping, etc.) to identify local needs and priorities, build community support, and co-design tactical interventions.
• Launch pilot interventions in partnership with the community to test various public space transformation options.
• Monitor and evaluate the pilots to understand how the project intervention is impacting the local area, and design a plan to scale the solution to other public spaces.

RESILIENCE CO-BENEFITS	• Improving Addis Ababa's overall image, attracting tourism, and supporting local businesses. • Encouraging people to work together in new ways, strengthening relationships, and building trust. • Allowing people to physically experience a different urban reality, "learn by doing," and test project ideas before larger investments are made.
RELATED SHOCKS	Rainfall flooding
RELATED STRESSES	Inadequate public parks and recreational spaces, Lack of social cohesion, Urban heat island effect, Environmental degradation
CONNECTION TO SDGS	SDG 3, 11
ACTION OWNER/LEAD	AARBGADAA

POTENTIAL PARTNERS	AARPO, AAEPGDC, AACRA, AATB, AATMA, Woreda administrations, residents, schools, artists, private sector organizations and civil society organizations located in the proposed intervention areas, academic institutions (EiABC, Fine Arts schools)
SCALE	Citywide
TIME FRAME	Short-term
ACTION STATUS	Scale up
NEXT STEPS	• Conduct a community asset mapping exercise to identify pilot areas. • Organize a co-creation workshop to re-imagine how public space could be used. • Design the intervention depending on the type of project and resources available. • Implement a temporary demonstration intervention and maintain the transformed space with the community.

INSPIRATION

SANTE FE (ARGENTINA)
TACTICAL URBANISM ON PARQUE DEL NORTE

A key initiative of Santa Fe's Resilience Strategy, Parque del Norte involves recovering and revitalizing 80 hectares of land formerly used as a landfill site, as well as the municipal Botanical Garden and several other underutilized green spaces. Key features of the project include building new pedestrian corridors, recreational spaces, sports facilities, a School of Labor, and a District Governance center. Owing to its extensive green-blue infrastructure, the park is expected to serve as a reservoir during the rainy season, making it an important flood mitigation asset. Parque del Norte is envisioned by the City as the anchor for the wider development of the northern region of Santa Fe, a previously peripheral area which is now poised for substantial population growth. The City also plans to attract large-scale public-private investments to build much needed houses and new neighborhoods to accommodate the growing population.

Since releasing its Resilience Strategy, the City of Santa Fe has been very successful in using tactical urbanism as a tool for advancing this flagship project with the participation of citizens. Tactical urbanism was also the first step in creating the basis for communicating the larger initiative and next steps of this district-scale revitalization.

The City first organized a workshop for community members and leaders to brainstorm and identify short-term, low-cost, scalable interventions that could add value to underutilized spaces in Parque del Norte. Nearly 40 participants, including the mayor of Santa Fe, neighbors of the park, business owners, cultural organization representatives, and youth groups, took part in the tactical urbanism workshop and proposed ideas to transform Parque del Norte into an actively programmed neighborhood destination. The proposed interventions included community programming, public art, furniture, lighting, and educational activities about resilience, recycling, and botanical gardening. In addition, community members proposed to remove parking for the main entrance and create artistic crosswalks to make the park more accessible to pedestrians. The materials to be used, and the partners to involve, were also determined during the workshop.

On June 5, 2018 World Environment Day, Santa Fe's CRO gathered the community to plan the build-day for the interventions in Parque del Norte. The activities then took place over the weekend of June 29 as a way to celebrate the one-year anniversary of the release of Santa Fe's Resilience Strategy.

GOAL 3.5

Ensure the provision of healthy, affordable, and reliable food for all

Build a sustainable and resilient city-region food system

RESILIENCE CHALLENGE

Price inflation, coupled with low incomes and structural poverty, have put pressure on residents' ability to access nutritious and healthy food. Lack of access to affordable food can have an enormous impact on people's health. Food price hikes and food insecurity can also exacerbate inequalities and lead to civil unrest and discontent.

In addition to food affordability, availability and quality are also important. Urban encroachment, which is taking away land dedicated to farming and contaminating water sources, constitutes a threat to the city's fresh food supply. An estimated 40% of vegetables supplied in the city are irrigated with wastewater drawn from polluted rivers, resulting in high levels of contamination in the city's fresh food supply. Excessive flooding and unanticipated droughts induced by climate change further threaten Addis Ababa's food system and the livelihoods of actors engaged in the sector, particularly the 1,300 smallholder vegetable farmers who practice urban agriculture within the city's boundaries.

Shocks such as civil unrest and infrastructure failure, which

are of great concern to stakeholders engaged during the strategy process, pose threats to the effective production and supply of food to residents in Addis Ababa. In addition, the COVID-19 pandemic and the desert locust invasion are beginning to disrupt food value chains in Ethiopia and elsewhere, impacting the livelihoods of farmers and the diets of rural and urban households. Recognizing these challenges, the City has recently launched an initiative to promote urban agriculture in Addis Ababa and tackle food insecurity. This provides a unique opportunity to promote a more integrated approach to food planning and further protect the city's food system from both known and unknown shocks and stresses. However, it requires addressing existing data and knowledge gaps in understanding the risks facing the city's food system, as well as stronger partnership with the surrounding ONRS.

ACTION DESCRIPTION

The overall objective of this initiative is to enhance the resilience and sustainability of Addis Ababa's food system. This will be achieved by conducting an in-depth and extensive assessment of Addis Ababa's food system at the city-region level.

The assessment will comprise a scenario analysis that will evaluate the food system's vulnerability to key shocks and stresses (price inflation, transport closure, water scarcity, pollution, etc.). In addition, it will formulate recommendations for strengthening the resilience of the entire food system, from food production to consumption.

Based on this analysis, the City will then develop a strategy for building a sustainable and resilient food system, in close cooperation with the neighboring ONRS. The strategy will include priority action areas with clearly defined baselines, goals, and metrics. It will be informed by good practices from cities working on protective and resilient food systems across the globe, and by lessons from the urban agriculture initiative.

RESILIENCE CO-BENEFITS	• Stabilized food commodity prices. • Enhancing access to affordable and nutritious food. • Improved food security, nutrition, health, and well-being. • Generating decent jobs and income opportunities, especially for smallholder farmers and vulnerable groups involved across the food supply chain. • Fostering stronger linkages and greater cooperation with surrounding cities and rural areas. • Protecting ecosystem services.
RELATED SHOCKS	Riots and civil unrest, Infrastructure failure, Disease outbreak
RELATED STRESSES	Inflation, Food insecurity, High unemployment, Poverty, Environmental degradation, Inadequate waste and sanitation

CONNECTION TO SDGS	SDG 1, 2, 3, 8, 11, 13
ACTION OWNER/LEAD	AARPO
POTENTIAL PARTNERS	Addis Ababa Food Security and Developmental Safety Net Agency, Ministry of Agriculture (MoA), Regional Bureaus of Agriculture, Trade Practices and Consumers' Protection Authority (TPCPA), Addis Ababa Consumer Associations, AACCSA, Ethiopian Public Health Institute, development partners (FAO, UNDP, WB).
SCALE	Regional
TIME FRAME	Medium-term
ACTION STATUS	New
NEXT STEPS	• Conduct food system assessment. • Develop strategy for building a sustainable and resilient city-region food system.

QUITO (ECUADOR)
BUILDING A SUSTAINABLE AND RESILIENT FOOD SYSTEM

The City of Quito is embarking on multiple initiatives to strengthen the local food production system and provide livelihoods to the local community. In 2002, the Metropolitan District developed AGRUPAR, the Participative Urban Agriculture Project, which fosters food production by making use of empty public and private lots. The initiative is run through ConQuito, the city's Economic Development Agency. It has improved access, availability, and quality of the food consumed, and has allowed participants to generate an income from food production. The district now uses the success of this program as a sustainability indicator, and its practice has contributed to reducing vulnerabilities in the food system.

AGRUPAR promotes organic production based on agricultural ecology, small species breeding, direct sale of production surplus, economic and social inclusion of vulnerable sectors, responsible consumption, and an emphasis on a local, fresh, and healthy diet. The project provides training and continuing support for agriculture and food processing for approximately 1,300 gardens (domestic gardens, community centers, schools, and with services for PWD, children, senior citizens, refugees, immigrants, and other vulnerable groups), where 84% of participants are women. AGRUPAR has 17 weekly markets for direct sale of production surplus, where over 105 types of crops are sold, generating a revenue of US$200-300. It has been estimated that participating growers sell 47% of their production and use the remaining 53% for their own consumption. The project operates throughout most of Quito, occupying over 30 hectares of city property. Additionally, ConQuito offers free and low-cost courses on organic urban farming, orchard management, propagation, growing crops in greenhouses, and establishing drip irrigation systems. Quito's local food production programs have been internationally recognized by the United Nations Food and Agriculture Organization and the World Future Council.

Summary of actions

INITIATIVE	ACTION OWNER	TIMEFRAME	STATUS
Pillar 1. A Smart and thriving city			
Goal 1.1. Nourish the ecosystem for innovation and job creation			
1. Enable growth-oriented businesses to thrive	AAJOCEDB	Medium	New
2. Expand the digital jobs program to target youth, women, and PWD	AASTA, AAJOCEDB	Medium	Ongoing
3. Establish an incubator program for start-ups	AASTA	Medium	New
4. Bridge Addis Ababa's skills gap	AAEB	Medium	New
Goal 1.2. Leverage our existing environmental, cultural, and human assets to help sustain economic growth			
5. Develop an integrated and sustainable tourism strategy	AACTB	Short	New
6. Launch a study on the informal economy to develop more effective policy interventions	AAPDCo	Short	New
Goal 1.3. Foster an efficient and transparent governance for the city			
7. Leverage technology for citizen-centric public service delivery	MINT, AASTA	Long	Ongoing
8. Undertake a study on locally appropriate public participation mechanisms	AAPSHRDB	Short	New
9. Set up a citywide performance reporting and management dashboard	AAPDCo	Short	New
10. Develop a Smart City strategy and roadmap	AASTA	Short	New
11. Build a centralized data center	AASTA	Short	Ongoing
Pillar 2. Connected, inclusive, and safe communities			
Goal 2.1. Improve quality, access and distribution of affordable housing			
12. Apply a resilience lens to the city's affordable housing program	AAHDAB	Medium	Ongoing
13. Enable the use of resilient and affordable building materials and methods	AACB	Medium	Scale-up
14. Improve construction control and supervision	AACB	Medium	Scale-up
Goal 2.2. Promote human-centered, efficient, and integrated mobility			
15. Redesign and optimize the city's bus network	AATB	Medium	Existing
16. Enhance accessibility, safety, and urban integration along the LRT corridors	ERC	Long	Ongoing
17. Manage peak-hour travel demand	AATB	Long	New
18. Explore the future of Addis Ababa's ring road	AACRA	Long	Ongoing
19. Improve road users' awareness and behavior	AARTMA	Long	Scale up
Goal 2.3. Develop our capacity to manage risks			
20. Conduct a comprehensive citywide disaster risk assessment	AAFDRMC	Short	New
21. Establish a policy, strategy, and legal framework for citywide disaster risk management	AAFDRMC	Short	New
22. Prepare Disaster Mitigation and Contingency Plans	AAFDRMC	Short	New
23. Establish an Emergency Operation Centre (EOC)	AAFDRMC	Long	New
Goal 2.4. Foster a culture of resilience			
24. Collaborate to launch a Resilience Academy	AAPDCo , AARPO	Medium	New
25. Pilot the Addis Ababa City Currency	AASTA	Short	New

INITIATIVE	ACTION OWNER	TIMEFRAME	STATUS
Goal 2.5. Empower and protect youth, women, and vulnerable groups			
26. Shape the next generation of resilience champions through education and volunteerism	MoE, MSHE, AAEB	Long	Ongoing
27. Develop a youth empowerment program	Youth and Volunteers Coordination Bureau; AALSAB	Short	Ongoing
28. Create safer public spaces for women and girls	AAWCAB	Short	New
29. Ensure universal accessibility across the city	AALSAB; Addis Ababa Persons with Disabilities Association	Medium	Ongoing
30. Build community-based resilience in collaboration with Community Care Coalitions (CCCs)	AALSAB & CCC group	Medium	New
31. Strengthen social protection schemes and maximize their integration to enhance the resilience of the urban poor	AALSAB	Medium	Ongoing
Pillar 3. Healthy and livable places			
Goal 3.1. Provide adequate, safe, and reliable water and sanitation services for all			
32. Build a Water Resilient City	AAWSA	Medium	New
33. Establish a Water Fund	AAWSA	Medium	New
34. Enhance water security through improved groundwater abstraction monitoring and regulation	AAWSA	Short	New
35. Promote decentralized waste treatment and water-sensitive design	AAWSA	Medium	New
36. Improve sanitation service provision	AAWSA	Medium	Ongoing
Goal 3.2. Manage our resources sustainably			
37. Develop a sustainable public procurement policy	AAEPGDC	Short	New
38. Scale up adoption of clean cookstoves and fuels	AAEPGDC	Medium	Scale up
39. Design and implement energy-saving measures	AAEPGDC	Medium	Ongoing
40. Establish a recycling park	AAEPGDC	Medium	New
41. Develop a participatory mountain range rehabilitation program	AAEPGDC	Long	Scale up
Goal 3.3. Improve the quality of our environment			
42. Modernize solid waste management	AASWAA	Medium	New
43. Build institutional capacity and partnerships to reduce air pollution	AAEPGDC	Medium	Ongoing
44. Establish an accredited environmental pollution monitoring laboratory and data management system	AAEPGDC	Medium	New
Goal 3.4. Embrace risk-aware and participatory urban design practices			
45. Design and build green and multifunctional streets	AACRA	Long	New
46. Improve participatory design in resilient public spaces	AAEPGDC, AARPO	Medium	Ongoing
47. Launch a tactical urbanism program	AAEPGDC, AARPO	Medium	Scale up
Goal 3.5. Ensure the provision of healthy, affordable, and reliable food for all			
48. Build a sustainable and resilient city-region food system	AARPO	Short	New

Way forward

The Addis Ababa Resilience Strategy is the result of nearly two years' extensive research and engagement with different stakeholders from across the city who are impacted by and committed to building the city's resilience.

Following the release of the Resilience Strategy, the next step will be the implementation of the identified resilience-building initiatives, further institutionalizing and embedding resilience into city systems, monitoring progress, and communicating and amplifying our results and impacts.

An action plan will be prepared to guide the implementation of the 48 actions of the Resilience Strategy, and will be launched within two to three months following the Resilience Strategy release event.

The COVID-19 pandemic has reinforced the need for holistic urban resilience planning. The Addis Ababa Resilience Strategy has served as a useful roadmap for the City's COVID-19 emergency response. It will continue to play a key role in ensuring that resilience is embedded in recovery planning. Of the 48 actions discussed in this Strategy, 13 actions will have a key role in supporting current emergency efforts and advancing a resilient recovery,[41] and the implementation of these actions will be prioritized.

The role of the AARPO in the implementation phase will primarily be that of a coordinator, integrator, and resource mobilizer. We will continue to engage with stakeholders from across the city to build a broad and diverse coalition for successful implementation of this strategy.

41 Actions 6, 7, 15, 17, 20, 22, 23, 27, 30, 31, 32, 42, and 48

Call for action

We call on all stakeholders in Addis Ababa – residents, government agencies, private sector and civil society organizations, academic and research institutions – to join us in building a more resilient Addis Ababa.

If you are a resident, here are some ways you can start contributing to a more resilient Addis Ababa:

- Practice proper hygiene and physical distancing

- Obey traffic laws and respect all road users.

- Choose to walk for your health and to protect our city's environment.

- Replace plastic bags with reusable materials such as *zembil* for shopping.

- Separate waste materials by type and dispose them only in dedicated places.

- Use water efficiently and report leaks immediately to local authorities.

- Plant a tree and ensure that it is regularly maintained.

- Take part in the monthly street cleaning campaign, mass sports event, and car-free day.

- Save emergency contact numbers to your phone and report any emergency promptly.

- Say no to any form of abuse, harassment, or exploitation.

- Actively support the community policing program to minimize the risk of crime and violence.

- Get involved in your community and volunteer for a cause you are passionate about.

Organizations can help make Addis Ababa a more resilient city by taking the following steps:

- Switch to energy-efficient light bulbs, and turn off lights and unplug electronics when not in use.

- Reduce paper use with double-sided printing and by holding paperless meetings.

- Properly manage waste materials.

- Look into collecting rainwater or installing greywater systems.

- Adopt sustainable procurement processes.

- Engage with citizens on a routine basis and integrate their feedback into your decisions.

- Incorporate universal design in all your projects and invest in making your facility accessible to all.

- For government organisations, break silos within your own institutions, and involve other agencies in joint planning and implementation activities.

- Reach out to the Addis Ababa Resilience Project Office and learn how you can join our coalition of partners working to implement this Strategy.

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