Armenia’s Transformative Urban Future
National Urban Assessment

The National Urban Assessment for Armenia provides a snapshot of the country’s urban sector and offers insights to achieving prosperous and sustainable cities. Armenia is highly urbanized, with the population concentrated in Yerevan and its surrounding areas given the capital’s geopolitical, economic, and cultural legacy. This report identifies future urban development scenarios, which rely on strong political commitment to establish a territorial strategy that ensures balanced regional development and inclusive economic growth. Opportunities exist to develop well-planned infrastructure along with balanced resource distribution among Yerevan and other cities, while leveraging Armenia’s cultural and environmental assets. Designing, planning, and budgeting long-term territorial and urban policies could potentially act as an economic engine for the country.

About the Asian Development Bank

ADB is committed to achieving a prosperous, inclusive, resilient, and sustainable Asia and the Pacific, while sustaining its efforts to eradicate extreme poverty. Established in 1966, it is owned by 68 members—49 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.
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Abbreviations

ADB – Asian Development Bank
EU – European Union
GDP – gross domestic product
GII – Gender Inequality Index
HPP – hydropower plant
ICT – information and communication technology
MAB – multi-apartment building
MSW – municipal solid waste
MTAI – Ministry of Territorial Administration and Infrastructure
PSRC – Public Services Regulatory Commission
PV – photovoltaic
SWM – solid waste management
UDC – Urban Development Committee
UNDP – United Nations Development Programme

Currency Equivalents
(as of 12 December 2019)

Currency unit – Armenian dram (AMD)
AMD1.00 = $0.0020917
$.1.00 = AMD478.09
€1.00 = $1.113

Weights and Measures

km³ – cubic kilometer
km – kilometer
kWh – kilowatt-hour
MW – megawatt
km² – square kilometer
m² – square meter
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Country Context

Armenia has made considerable progress in poverty reduction since independence in 1991 but still faces development challenges, including gender mainstreaming. Armenia has moved from a centrally planned economy to a market economy, with new economic, social, and territorial priorities. The country faces constraints on regional and global integration, economic risks, and governance problems. It needs to strengthen infrastructure and make growth more inclusive. Both rural and urban areas registered a recent improvement (2008–2017) of poverty incidence, as well as extreme poverty incidence, from 2016. The poverty rate is the lowest in the capital city Yerevan (22.4%), whereas in other urban communities outside Yerevan it reaches almost 27%. As of 2017, the gender gap in labor force participation rates stood at about 18 percentage points, suggesting that there is significant untapped potential for women to contribute to Armenia’s economy.¹

Despite the increasing trend in labor earnings for women, the gender pay gap in Armenia remains strikingly large.

Armenia’s population is aging and shrinking. The total population has declined from around 3.5 million people in 1990 to just under 3.0 million today due to low birth rates and, even more, to emigration.² It is projected to fall to 2.7 million by 2050.³ With increasing life expectancy, the elderly make up a rising share of the population, leading to an eventual shrinkage of the working-age population,⁴ which is projected to decrease by 8% in 2030 and 19% in 2050 from its current level.⁵

There is high urbanization characterized by the dominance of Yerevan, which hosts over a third of the national population. Despite the shrinking population, the urbanization level in Armenia is still very high: more than 63% of the population lives in cities, and nearly 57% of the urban population is concentrated in Yerevan. Armenia has only one secondary city with more than 100,000 inhabitants, i.e., Gyumri. Yerevan was the only area of Armenia to see an increase in population during 2008–2018, mainly due to rural migration. All the other marzes (regions) of Armenia experienced depopulation, with significant differences among the regions.

² Footnote 1. The fertility rate has declined significantly in Armenia from about 4.5 children per woman in the 1950s to the present level of 1.7.
⁴ Working age in Armenia is 15–63 years, and 63 is the pensionable age. However, for data calculation purposes, working age includes 64.
Deep and persistent economic disparities characterize the regions of Armenia. Yerevan’s gross domestic product (GDP) accounted for 57.7% of Armenia’s GDP, followed by the Ararat region with only 7.0%. Armenia’s single-center national economic model allows for agglomeration effects but limits development opportunities of secondary cities. Regional markets are too small to be significant at the national and international scale.

There is high employment and wage disparity with a high informal sector. At the national level, over 45% of total employment is estimated to be informal. The occupation groups with the largest number of employed in 2017 were (i) agriculture (31%); (ii) public administration, compulsory social security, education, human health, and social work activities (24%); and (iii) trade, repair, transport and storage, accommodation, and food service activities (17%). Agriculture has among the lowest monthly wage rates (63% of the average monthly nominal wage), while financial and insurance activities are the highest and mining the second highest, both of which are more than two times the average.

Key issues hindering Armenia’s urbanization. Key constraints include (i) limited fiscal space and borrowing capacity; (ii) insufficient road and railway connectivity and indirect access to export markets; (iii) low value-added exports; (iv) energy dependence on other countries, and on an obsolete nuclear power plant; and (v) increasing climate change impacts.

Opportunities exist for transforming Armenia’s urbanization. These opportunities include (i) strong government support for urban development; (ii) expanding GDP and exports; (iii) growing information and communication technology sector with the potential for a more diversified, modern economy; (iv) good ties with Georgia, Iran, and the Russian Federation; (v) membership in the Eurasian Economic Union; (vi) Comprehensive and Enhanced Partnership Agreement with the European Union (EU) and European Atomic Energy Community; (vii) significant aid from the International Monetary Fund, World Bank, Asian Development Bank (ADB), European Bank for Reconstruction and Development, European Investment Bank, EU, and various bilateral agencies; and (viii) strong ties with the Armenian diaspora in the Russian Federation, the United States, the Middle East, and the EU.

The purpose of this National Urban Assessment is twofold: (i) to provide a baseline of the state of the urban sector in Armenia in its multiple components and aspects, as it interfaces with the national economy and the state of the environment; and (ii) to define possible urban futures for the country, providing alternative road maps that may facilitate ADB’s dialogue with the government in addressing future technical and financial support to the sector.

Urban Sector and Institutional Context

A large share of municipal finances comes from central budget transfers with limited local revenue capacity. The limited financial resources of local authorities are considered one of the main obstacles to regional and local urban development in the country. Many rural communities provide only between a third and a quarter of their budget from local revenues, with urban communities contributing a little more.

While Armenia has made great strides in decentralizing planning processes, a strict hierarchy of central planning remains. At the national level, the Armenian General Settlement Plan (2003) sets out the broad strategic direction of the government’s national urban development policy. The government also produces a medium-term expenditure framework every year, which outlines the main expenditure directions for the next 3 years and lays a basis for drafting the next year’s annual budget. At the local level, 5-year community
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development programs express the needs of each community and serve as the basis for the annual budgets awarded to the local councils.

Armenia lacks an integrated cadastre system, which interlinks sectoral cadastres. A draft government decision “on approval of the concept note of integrated cadastre creation and an action plan derived from the concept” was recently introduced and outlines the government’s intentions to develop a digital cadastre system by 2022.

A gap in housing legislation is creating significant barriers in the maintenance of aging housing stock. Between 1993 and 2000, Armenia privatized 96% of housing stock. However, the privatization reforms neglected any obligation requiring tenants to maintain the common-shared property of multi-apartment buildings. The development of a strategic approach to address this gap adequately is essential.

Transport challenges result in a high cost of transport, particularly for traded goods, and expensive infrastructure maintenance and development. As a landlocked country, Armenia depends heavily on transport and cross-border access. The country’s geopolitics and geographical location present transport challenges. Faced with competing opportunities across the Caucasus for regional transport, Armenia is determined to develop transit routes across its territory to provide shorter links and faster service. Road transport absorbs the largest share of financial and technical support provided by international donors and international financial institutions.

Armenia’s urban transport is not well integrated and is also a key cause of air pollution. Challenges in the sector include (i) poor public or alternative transport infrastructure; (ii) unfriendly urban environment, particularly for pedestrians and two-wheelers; (iii) old public transportation fleet; and (iv) inefficient traffic management. Moreover, the transport sector is the leading source of outdoor air pollution in Armenia, contributing 51.5% of the total, with emissions from energy production, mining, and quarrying providing much of the remaining 48.5%.

Water in Armenia is generally not scarce, but the distribution of water throughout the country is uneven. In 2017, the government contracted Veolia Water closed joint-stock company (Veolia Djur) to operate Armenia’s centralized water systems for urban water supply. There are approximately 560–600 villages (off-grid communities) outside the service area of Veolia Djur, served by their own water resources and operated under various public organization models managed by the municipality or community. In Armenia, there are only eight wastewater treatment plants, for the largest urban areas, with just mechanical treatment and without biological treatment. Wastewater from a small percentage of rural communities is collected and treated, which otherwise contributes to degrading natural resources. All drainage and wastewater systems were constructed during the Soviet era and are in poor condition.

Only a small percentage of communities are provided with functioning solid waste systems. These solid waste systems were constructed during the Soviet era and are in poor condition. Since independence, the government has taken incremental steps to improve the laws governing waste management. However, the legal framework for solid waste management (SWM) is incomplete, and Armenia still lacks a unified and coherent SWM strategy. The rights and obligations of waste generators, dump managers, haulers, and agencies responsible for SWM are scattered under various laws and regulations.

Armenia has successfully implemented energy sector reforms, and energy is considered the most efficient sector in the region. Armenia is one of the global leaders in household gasification with 94.6% rate. However, manure and firewood are still widely used as fuel in rural areas. Large-scale use of renewable energy
sources and the implementation of energy-saving measures have become imperative components of energy supply. Armenia provides procurement guarantees and preferential tariffs for small hydropower plants, wind turbines, solar photovoltaic, and biogas stations.

Armenia aims for a high-tech, industrial future and aspires to become a regional energy-exporting hub, and its urban sector ought to support such a vision and reap its benefits. The country has in place a forward-looking strategy that addresses the need for a significant growth of renewable energy production, mainstreaming energy efficiency, environmental management, and greenhouse gas reductions. Such energy and environment policies should be woven into the future of the urban sector.

In the realm of regional planning, proportional territorial development is the overarching government policy for midterm implementation. The Ministry of Territorial Administration and Infrastructure is working on a strategy to identify growth poles to support regional economic development and equal access to welfare services. The Urban Development Committee intends to expand its support to the housing sector, including the rehabilitation of multi-apartment buildings, and the introduction of better and seismic-resistant building codes and systems of control over building design, construction, and management.

Natural hazards and climate change have quadrupled economic losses over the last few decades, putting the country’s sustainable socioeconomic progress at risk. Between 1994 and 2014 Armenia lost $1.5 billion to floods, earthquakes, and droughts. As of 2019, more than 80% of Armenians are at risk of exposure to catastrophic events. Rising temperatures by 1.03°C and a decrease in annual precipitation of nearly 10% from 1935 to 2012 have led to longer droughts, increased desertification, and more frequent and longer heat waves. By 2040, models suggest that temperatures will rise 1.3°C–1.7°C. Already hot and dry summers are projected to worsen and cause negative impacts especially on water resources and agriculture.

The concept of ecosystem services and green space is still in its infancy in Armenia. Urban green space is considered the responsibility of local governments, namely the municipalities. Overlapping or unclear responsibilities of local authorities at subnational levels and a lack of experienced professional and technical staff are the major challenges to managing, monitoring, and developing urban green spaces.

The tourism sector in Armenia has unrealized potential as a tool both for supporting regional economic development and fostering economic growth. Armenian religious architecture stands out for its historic role, and the country hosts three United Nations Educational, Scientific and Cultural Organization World Heritage sites. Armenia’s rich cultural heritage provides an opportunity for conservation and tourism; however, despite the national underwriting of relevant conventions, issues of heritage conservation and planning have neither been discussed nor introduced in urban planning or legislation. The government has declared selected towns as tourist centers, including Tsaghkadzor, Jermuk, Tatev (and its eight nearest villages), Dilijan, and Goris, for which action plans have been developed to promote tourism. Opportunities exist to foster area-based development at these important sites to enhance urban and tourist services.

A schematic representation of issues discussed above is presented as a “problem tree” in Appendix 2.

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Looking Forward

In the short term, there is interest to develop Yerevan into a sustainable capital city. Yerevan Municipality seems ready to make a radical shift toward green growth and urban sustainability. Yerevan Green City Action Plan and Yerevan City Sustainable Energy Action Plan are already well in place, resulting from technical studies and consultations, and constitute the basis for further progress. However, a significant capital investment program is required to be supported by effective institutions and technical departments. The program would be targeting the following areas: sustainable urban transit, street lighting, SWM, housing stock rehabilitation, public green spaces, brownfield redevelopment, air quality and public health, and urban livability improvements.

In the medium term, there is interest to develop secondary cities such as Gyumri and Vanadzor. There are some economic, cultural, and natural tourism sites and circuits to be anchored by Yerevan and these and other secondary cities. Local economic development strategies could be promoted to maximize firm and job creation, starting within the broader Yerevan region, which has a high density of economic activities.

In the long term, regional integration should be a priority. This is an aspirational rather than operational vision of a pacified South Caucasus region, with mostly open borders. Regional economic integration would open further opportunities for Armenia’s firms to produce and export. Yerevan and secondary cities would play a key role as part of a regional urban network. Armenia’s urban sector would be contributing fully to national and regional economic growth.
1. Demographics and Urbanization

Armenia is divided into 10 marzes (regions)—Aragatsotn, Ararat, Armavir, Gegharkunik, Kotayk, Lori, Shirak, Syunik, Tavush, Vayots Dzor—and 502 community areas. Yerevan, as the capital of Armenia, has a special administrative status. Regions are governed by governors appointed by the Government of Armenia. Yerevan is governed by a mayor appointed by the Council of Elders, which comprised 65 members.

There are pronounced and continued disparities and inequalities among the regions in demographic, economic, and social terms that worsened as the country moved from a centrally planned economy to a market economy after independence from the Soviet Union in September 1991. Since then, the country’s demographic and urban profile has seen population aging; a regular decline of the number of inhabitants due to external migration; and internal migration of rural population to the bigger cities, which fosters depopulation of villages and smaller towns.

1.1 Population Change

Armenia’s population is aging and shrinking. According to national statistical data, the decrease in population has been most pronounced in urban areas compared with rural areas, except for Yerevan.

The only area of Armenia to see a marginal increase in population between 2008 and 2018 was Yerevan. Much of this is driven by internal migration from secondary cities to the capital. All of the other regions of Armenia experienced depopulation, albeit at varying rates. In three regions (Gegharkunik, Tavush, and Yerevan), the population loss was less than the national average. The population numbers of Shirak, Lori, Armavir, and Ararat reduced more than the national average, but by less than 8% only. The most affected regions were Vayots Dzor, Aragatsotn, Kotayk, and Syunik, as they lost 9%–11% of their populations over the decade. Despite this decline, the urbanization level in Armenia is still very high: more than 63% of the population lives in cities, and nearly 57% of the urban population is concentrated in Yerevan.1

1.2 Age Structure

The age structure of the population underwent significant changes during 1996–2016 due to decreased birth rates (13.5 crude birth rate per 1,000 people),2 relatively high life expectancy at birth for both males and females (74.6 years life expectancy at birth), and the marked dominance of male out-migration typical for...

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Map: Largest Urban Population Centers in Armenia, 2018

While the population has increased for those aged 0–15 between 2010 and 2018, the number of Armenians over the age of 62 has increased by nearly 45% over the same period.

### 1.3 Population Density

Armenia has an average population density of 100 persons per square kilometer (km²) according to national statistical data from 2018. Naturally, Yerevan has the highest value at 4,832 persons per km². Armavir, Ararat, and Kotayk (central regions) are also above the national average. These central regions are in fertile land of the Ararat Valley, which explains their higher than average density due to intensive agriculture activity. The least densely populated regions are Syunik and Vayots Dzor, where population density does not exceed one-third of the national average. Armenia’s largest cities, with a population above 10,000 in 2018, are illustrated in the map.

![Picturesque settlements with a view of the mountains. Opportunities for the dispersed rural population include tapping into tourism development (photo by ADB).](image)

### 2. Economic Activities

#### 2.1 Economic Performance

From the mid-1990s to 2008, Armenia’s economy prospered despite limited trade access due to its closed eastern and western borders. After 2005, growth was driven mainly by non-tradable sectors, especially construction, fueled by remittances and foreign direct investments. The economic crisis of 2008–2009 exposed the vulnerabilities of Armenia’s economy when foreign inflows fell sharply. Construction fell by more

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4 Population data are from the Statistical Committee of the Republic of Armenia. The vector format data were obtained from the geographic information systems portal at the Acopian Center for the Environment. GIS Data. https://ace.aua.am/gis-and-remote-sensing/vector-data/ The data for these files come from various sources, including the author’s research and editing (mostly from Soviet time topographic maps), online portals, state and governmental agencies, international organizations, nongovernment organizations, and private companies in Armenia.

5 Construction grew by 28% annually in real terms and contributed about one-third of gross domestic product (GDP) growth in 2002–2008.
than 40% in 2009, accounting for most of the 14.1% collapse in the gross domestic product (GDP) that year. The economy rebounded after the 2008–2009 crisis, from 2.2% GDP growth in 2010 to 7.2% in 2012, but it slowed in subsequent years to 0.2% in 2016. The 7.5% growth recorded in 2017 was the highest since 2007, driven by a combination of strong demand from major trading partners and recovery in internal consumption and investment. Growth slowed to 5.2% in 2018, driven by services and industry growth as agriculture contracted on the supply side. Economic indicators for Armenia for 2018 are provided in Appendix 1.

2.2 Sector Analysis

Data available from 2017 allow for a closer analysis of Armenia’s production structure. Agriculture, hunting, forestry, and fishing made up 15% of the production share. While mining made up more than one-quarter of exports from Armenia, its production share was only 3%. Of course, this does not take into account the associated economic activities connected with mining.

One of the government's priority sectors for development is the information and communication technology (ICT) sector. According to data from the Enterprise Incubator Foundation 2018 report, the number of actively operating ICT companies reached 800 in Armenia, a 25% increase from 2017. Based on the report, 19,552 people currently work in the information technology sector, with customized software and web design and development as the most dominant specialization. Armenia has also made significant gains in semiconductor design, which is registered as intellectual property.

At 45%, the United States and Canada represented the largest share of exports. Europe came next at 25%, then Asia at 11%, and the Russian Federation and Commonwealth of Independent States countries at 10%. Cyprus, India, and South American countries are at 9%. Since 2017, the distribution of export destinations has changed significantly; particularly, it has become more homogeneous since Armenia entered into the Eurasian Economic Union. Notable ICT hubs are Yerevan and Gyumri.

2.3 Enabling Environment for Urban Competitiveness

Armenia’s position in the Global Competitiveness Index generated by the World Economic Forum has improved, having risen two places to 70th in 2018. Armenia’s best ranking was in the “labor market” category, where it is ranked 33rd. In the category “health,” Armenia scored 83 points out of 100. Its worst ranking is in the category “market size” at 118th, which can be attributed primarily to the geographical size of the country and population. In terms of ICT adoption, Armenia finds itself ranked 56th, which includes fixed broadband internet subscriptions, fiber internet subscriptions, and internet users as a percent of the overall population.

According to Arka, Armenia’s competitive advantages include the ratio of the number of students per teacher (5th); the ease of hiring foreign labor (8th); the number of procedures, conditions, and costs for starting a business (17th–20th); and flexibility of hiring and dismissing of employees (27th). The country’s competitive disadvantages are identified as the level of social capital (122nd), the level of development of

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transport infrastructures (112th) and the capital market (110th), labor mobility within the country (110th), and difficulties with customs tariffs (106th).\textsuperscript{10}

Notwithstanding a continued improvement in the ease of doing business in 2019 with a ranking of 41st out of 190 economies, Armenia slipped back to the 47th position in 2020, according to the 2020 World Bank Doing Business report.\textsuperscript{11}

2.4 Spatial Distribution of Economic Activity

Deep and persistent disparities characterize the regions of Armenia in terms of their development assets and outcomes. When talking about the economic development level of an area, GDP and GDP per capita are among the most commonly used indicators. Based on an independent estimation provided in the Armenian Regional Development Strategy 2016–2025—which uses available statistical data on GDP sector structure, regional shares of main branches of economy, and de facto population in regions in line with 2011 census and long-term trends—the inequalities among all the 10 regions and Yerevan city slightly reduced in 2009–2012.\textsuperscript{12} While GDP per capita of the country increased by 28% in 2009–2012, the differences between the highest and lowest regional values reduced from 4.0 times to 2.8 times. This reduction is partially attributable to a sharp increase of GDP in Syunik (associated with economic gains from ore mining).

In 2018, the first-ever regional GDP data for Armenia were published by the Statistical Committee of the Republic of Armenia, covering preliminary data for both 2015 and 2016.\textsuperscript{13} According to data for 2016, the domestic product of Yerevan dominates the overall GDP structure, accounting for 57.7% of Armenia’s GDP, as the industrial, construction, service, and retail trade center of the country.

3. Employment and Social Disparities

3.1 Employment

Agriculture still provides more than 30% of the total employment in Armenia, though its share has declined by 8% since 2011. Despite its 8% sector share of gross value added, real estate activities employed only 3,200 people in 2017. Meanwhile, public administration and human health and social work activities contributed a combined 9% share of gross value added while employing nearly one-quarter of workers.

There is a high degree of informality in the employment sector. Based on data from the Statistical Committee of the Republic of Armenia, informal employment at the national level could be over 45% of total employment. In eight regions, the proportion of informal employment is even higher than the average, and it is only in Yerevan where the proportion of informal employment is below 25%.\textsuperscript{14}

\textsuperscript{10} This indicator measures national performance in three areas: social cohesion and engagement (bridging social capital), community and family networks (bonding social capital), and political participation and institutional trust (linking social capital). Legatum Institute. The Legatum Prosperity Index 2018. Methodology. http://www.prosperity.com/about/methodology.


\textsuperscript{12} Armenia language version can be found here: https://www.egov.am/u_files/file/decrees/arc_voroshum/2016/07/arzakanagyinNrq064.pdf. The European Union provided financial support to the Ministry of Territorial Administration for Preparation of Actions in Regional Development.


\textsuperscript{14} Formal employment has increased by as much as 10% since 2017 when the last statistical data were available for analysis. From Vache Terteryan (Deputy Minister of Territorial Administration and Infrastructure) in discussion with the author, 18 June 2019.
Informal employment includes (i) employees holding informal jobs (including paid domestic workers such as gardener, house cleaner, security guard, driver); (ii) employers and own-account workers having informal sector enterprises; (iii) all contributing (unpaid) family workers; (iv) members of informal producers’ cooperatives; and (v) self-employed and own-account workers who produced goods or services (e.g., do-it-yourself construction of own dwellings) exclusively for personal use by their household.15

### 3.2 Wages

Significantly, agriculture has among the lowest monthly wage rates (63% of the average monthly nominal wage), while mining is the second highest (more than two times the average). In Armenia, those in the financial and insurance activities sector earn the highest wages, while the ICT sector earns the third highest but both sectors make up only 2% of employed people.

### 3.3 Gender Status and Policy

According to the United Nations Development Programme (UNDP), “Gender inequality remains a major barrier to human development.”16 Based on data from the World Bank, Armenia’s female labor force participation stands at approximately 50% and is broadly in line with the average indicators globally. As of 2017, the gender gap in labor force participation rates stood at about 18 percentage points,17 suggesting that there is significant untapped potential for women to contribute to Armenia’s economy.18

In 2017, Armenia ranked 55th out of 160 countries in the Gender Inequality Index (GII) developed by the UNDP, which reflects gender-based inequalities in three dimensions—reproductive health, empowerment, and economic activity.19 The GII, according to UNDP, can be interpreted as the loss in human development due to inequality between female and male achievements in the three GII dimensions; therefore, the lower the score, the higher the level of gender equality.

Armenia has a GII value of 0.262.20 Armenia’s GII was lower than the average GII value of the countries of Europe and Central Asia (0.262 in Armenia, 0.270 in Europe and Central Asia) and the average GII for the group of countries with high human development (0.289). Compared to Georgia (ranked 71st) Armenia’s GII in 2016 was much lower due primarily to higher levels of the population with at least some secondary education and the number of female seats in parliament.

According to International Labour Organization estimates, Armenia’s raw gender pay gap21 stands at 20.3%, while the factor-weighted gender pay gap is even higher at 26.3%, exceeding the averages for all the country

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17 This applies to population ages above 15.
19 “Reproductive health is measured by maternal mortality and adolescent birth rates; empowerment is measured by the share of parliamentary seats held by women and attainment in secondary and higher education by each gender; and economic activity is measured by the labor market participation rate for women and men.” UNDP. Armenia. http://www.am.undp.org/content/armenia/en/home/ourwork/gender-equality/in-depth.html.
21 The raw gender pay gap refers simply to the difference in pay between women and men at a specific point in time and is usually calculated as the margin by which women’s pay falls short of men’s.
3.4 Poverty Status

In Armenia, the poor are defined as those whose consumption per adult equivalent is below the upper national poverty line, whereas the extreme poor or the undernourished are defined as those whose consumption per adult equivalent is below the food (extreme) poverty line.

Armenia has made significant progress in poverty reduction since 2004 and before the economic crisis. In 2004, 53.5% of the population was poor. The share of the poor population reduced to 26.4% in 2007 and 25.7% in 2017.

As per community type, both rural and urban areas registered an improvement of poverty incidence, as well as extreme poverty incidence, from 2016. According to a government report for 2008–2017, the poverty rate in urban communities decreased by 2.6 percentage points. The poverty rate is the lowest in Yerevan at 22.4%, whereas it reaches 27% in other urban communities. In 2017, as compared to 2008, the poverty in

22 The International Labour Organization factor-weighted gender pay gap considers a set of indicators (factors), which are important determinants of wage structures, to cluster women and men in comparable subgroups. This includes education, age, working-time status, and public sector versus private sector employment as the four indicators that together are designed to pick up the major composition effects in most, if not all, economic contexts.

Yerevan increased by 2.3 percentage points, while in other urban communities, it dropped by 7.9 percentage points. The majority of the poor (59.7%) are urban residents.\textsuperscript{24}

The highest poverty rate in the country has been recorded in Shirak province, where 44% of the population is below the poverty line.

### 4. Institutional Governance and Municipal Finances

The urban sector of Armenia is managed by various national, subnational, and nongovernment institutions. Their activities and interactions are mainly regulated by legislation, starting with the Law on Urban Development, which sets out the rules and regulations governing both the development process and the spatial planning documents prepared at different levels—national, regional, and local.

Another crucial legislative document determining the territorial administrative policies being implemented is the Law on Local Self-Government, which was approved in 2002. It establishes the structure and authorities of local self-governing bodies.

#### 4.1 Institutional Framework

**National level.** Until 30 May 2019—the date of the latest reorganization of government departments—four ministries and a subcommittee to the government were directly responsible for issues concerning spatial planning and urban development: (i) Ministry of Territorial Administration and Development for the development and implementation of territorial policy; (ii) Urban Development Committee (UDC) for spatial planning and urban development, construction, and housing; (iii) Ministry of Environment for the elaboration and implementation of the policies in the areas of environmental protection and sustainable use of natural resources; (iv) Ministry of Culture for cultural activities including the preservation of historical and cultural monuments; and (v) Ministry of Economic Development and Investments for tourism.

As of 1 June 2019, the reorganization of government departments has officially taken effect. Among other changes, the Ministry of Territorial Administration and Development unites with the Ministry of Energy, Infrastructures and Transport into a single structure, the Ministry of Territorial Administration and Infrastructure (MTAI). The functions of this department will also include all transport-related issues. It will consist of the water management committee, the civil aviation committee, and the state property management committee. The Ministry of Sport and Youth Affairs, the Ministry of Culture, and the Ministry of Education and Science are also consolidated into a single structure, the Ministry of Education, Science, Culture and Sport.

The MTAI and UDC have played particularly important roles in carrying out government policies in the urban sector. Additional analysis of these institutions is provided below.

**Ministry of Territorial Administration and Infrastructure**

The delivery of regional development policy, programming, and project development in Armenia has primarily been the responsibility of the MTAI. The MTAI has covered the following functions:

- elaborating territorial development strategy and its implementation programs;
- organizing territorial social development programs;

\textsuperscript{24} Based on Integrated Living Condition Surveys conducted by the National Statistical Service of the Republic of Armenia in 2008–2017.
submitting regional socioeconomic development programs to the government for discussion and approval;
• supporting regional planning, including coordinating solid waste management and sanitary cleaning; and
• analyzing the state of infrastructure development, identifying issues, and proposing solutions.

Urban Development Committee
The UDC is a subcommittee to the government and directly reports to the Prime Minister’s office. Before September 2016, it had a status of ministry (Ministry of Urban Development), which provided it more flexibility and authority to perform the tasks assigned to it by statute (most recently updated in June 2018 by Prime Minister’s Decree N 748-L).

The UDC covers the following functions:

• implements the government’s policy in the urban development sector;
• elaborates and submits to the Prime Minister draft state programs and supervises their implementation after approval;
• elaborates and submits to the Prime Minister draft laws and other legal acts ensuring the development of the urban sector and activity regulation;
• generates urban development programmatic documents at a national scale and for separate administrative territorial units or their groups with regard to landscapes, health care facilities, recreation, industry, engineering, transportation, and communal and social infrastructure containing culture-historical and specially protected natural territories;
• organizes and coordinates the preparation of urban development normative documents by legislative procedure;
• ensures the elaboration of urban development programmatic (spatial planning) documents defined by a-b clauses of section four of the law’s article 17 and their implementation supervision after the approval of those drafts;
• coordinates by ensuring requirements defined by sections 7, 8, and 8.1 of this law’s article 14.3 (preparation of micro-regional and local level spatial planning documents) and ensures their implementation supervision after the approval of those documents;
• elaborates sustainable urban development strategy of territories and settlements;
• maintains urban development cadastres including cadastre data and monitoring of urban development activity;
• provides licensing functions for urban development activities;
• implements state management of land resources;
• ensures implementation of scientific and technical state targeted programs in the urban sector, including carrying out of technical policy and coordination of those works; and
• elaborates and submits to the Prime Minister recommendations on maintenance and safe use of buildings and structures, including multi-apartment buildings, as well as their modernization, including energy saving and improvement of energy efficiency.

The UDC supports development of urban planning documentation at three levels:

a. Local level—master plans and zoning plans, which are ordered by the heads of community using community budgets. Draft master plans are subject to clearance or review by the UDC-headed
interagency commission. The Council of Elders, which is the decision-making local authority, approves the draft master plan.

b. **Regional level**—regional territorial planning documents, which are ordered by the governorate or by the UDC. They are approved by the government after the UDC-headed interagency commission’s review and clearance.

c. **Micro-regional level**—starting in 2016 the UDC has started developing micro-regional planning documents, which are between the local and regional scales. In 2017, micro-regional planning documents were prepared for the Tavush, Syunik, and Ararat regions. By 2023, the other regions should have similar documents in place.

The MTAI and the UDC work together in the following areas:

- reviewing draft decrees, laws, regulations, programs, concepts, and other documents (e.g., community or regional planning documents, infrastructure development issues);
- participating in interministerial discussions and working committees or groups; and
- expressing views during the Prime Minister’s weekly government sessions.

Given the institutional reform has just been approved, the respective responsibilities of the MTAI and UDC will need to be further clarified and harmonized in their institutional mandates and internal organizations and administrative structures.

**Regional level.** Regional governors carry out the government’s regional policy in the following areas: finance, urban development, housing and utilities, transport and road construction, agriculture and land use, education, health care, social security, culture and sports, nature and environmental protection, commerce, public catering, and services. Regional policy for various sectors is carried on through regional administrations, as well as subordinate organizations such as hospitals, cultural institutes, and schools.26

Regional governors coordinate the activities of regional services in the areas of internal affairs and national security, defense, communication, energy, taxes, emergencies, civil defense, and others. Regional governors are appointed and dismissed by government decrees (footnote 26). Almost all governorates have urban development departments as well as land use or land management divisions.

At the regional level, area planning designs have been prepared for selected areas, including water catchment basin of Lake Sevan (2004), the Shirak region (2005), and the Vayots Dzor region (2010). The state budget funds this work.

**Municipal level.** The Council of Elders is the legislative body of the communities and is in charge of changes in urban planning documents, growth strategies, and annual budgets. The number of members differs with the size of the community. The head of the community and the Council of Elders are elected individually for a 5-year term. Since 2008, when Yerevan gained its special status, its mayor has been elected by the Council of Elders, which consists of 65 people elected through a proportional system.27

The main responsibilities of local governments include water supply, renovation and maintenance of intercommunity roads, public lighting, schools, social issues, supervision and maintenance of common shared

property of multi-apartment buildings, promoting social housing by adopting a local housing strategy, and other communal services. Local government bodies have minimal tax collection rights; they receive property and land taxes only. The central government defines tax rates.28

The responsibility for preparing local master plans and zoning plans rests with local authorities as indicated in the 2002 Law on Local Self-Government, which sets out all of the rights and responsibilities of local authorities, including local planning and development. Urban development activities within the administrative boundaries of communities are regulated by both the master plan of the community (settlement) and the urban development zoning plan, which constitute urban development project documents.29 The technical and administrative units in support to municipal urban development vary, based on the characteristics and needs of the community.

4.2 Municipal Financing

The urban development sector is financed through state and community budgets. The state budget directly finances works related to urban development plans, as well as construction, reconstruction, and rehabilitation of social and physical infrastructure throughout the country. The government budget is an annual document from January to December. It is drafted by the government and submitted to the National Assembly, which adopts it into law. An annual budget implementation report by the government is subject to the approval of the National Assembly not later than the 40th day after the end of the first quarter of the following fiscal year.30

The UDC organizes urban development activity via the state procurement system. Construction is carried out by different project implementation units, which are financed by the state budget, often with support from international financial institutions. Most rural communities contribute only between a third and a quarter of their budgetary requirements from local revenues, with urban communities contributing a little more. The state provides the remaining budget. The limited financial resources of local authorities are considered one of the main obstacles to regional and local development in the country (footnote 28).

A significant part of local budgets is received from state budget via the financial equalization mechanism and subsidies. Typically, 70%, and sometimes an even higher percentage of these funds, are spent for administrative purposes (current expenditures), leaving limited resources to finance development investments.31

Municipalities are entitled to raise local taxes from the resident population and businesses in the form of (i) property and land taxes; (ii) levies on commercial activities (such as shops, markets, and other types of local business); and (iii) duties on cars and other vehicles.

Since local revenues are insufficient for maintaining infrastructure, implementing public administration functions, and investing in social and economic development projects, the intergovernmental transfers (funds shared by the central government) are critical to support the effective functioning of the local government system (footnote 28). Community budgets receive two types of financial flows from the state

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31 ECORYS Nederland BV. 2017. Regional Development Funding Mechanism Proposal: Support to the Ministry of Territorial Administration for Preparation of Actions in Regional Development.
budget. The first comes from the financial equalization subsidies, which are allocated to every community and are calculated via a formula based on two factors: per capita land and property taxes in the community, and population in the community. A minimum of 4% of total state budget revenues is devoted to such transfers. The communities may apply for subsidies as needed, which are allocated to them according to their proposals and availability of funding (footnote 28).

The second type of transfer is for special projects and has no fixed level as defined through negotiations between central and local governments. The financial flows are allocated through the MTAI-led interagency committee and directed toward targeted assistance for reconstruction or rehabilitation of communal social and physical infrastructure. The share of annual transfers constitutes about 50% of municipal budgets (footnote 31). Transfers for special projects are conditional in nature, as government orders regulate them. They are intended to reduce economic and social imbalances among communities and are mostly devoted to municipal property maintenance and repairs, and basic infrastructure investments.

One of the major documents that direct local government activities is the 5-year community development program. This document contains the strategy of the local council for the duration of its term of office as specified in the 2002 Law on Local Self-Government. Following his or her election, the community leader or mayor sets out a 5-year program and submits it for the approval of the newly elected community council. The community development programs are intended to express the needs of the community and serve as the basis for the annual budgets awarded to the local council. However, an analysis of development programs...
undertaken in 2012 suggests several key shortcomings, which reduce their effectiveness as planning instruments:

- Programs are often simply a repetition of a mayor’s or community leader’s election campaign program or “wish list” and do not provide the strategic direction required for effective community and spatial planning. They also often lack project feasibility analyses and a realistic assessment of the funds needed to implement them.
- Programs are often repeated year after year without any revision and have no role in the actual formulation of municipal budgets.
- The formal budget process, which the program is meant to influence, is not always respected, and community leaders sometimes take decisions without consulting the community council.

5. Regional and Urban Planning

Armenia’s spatial planning system has been influenced by the command and control economy and administrative arrangements established during the Soviet period. Since 1991, with new economic, social, and territorial priorities, including the creation of more effective conditions for decentralization and multipolar development, the master plans take into account market conditions and the fact that residential, commercial, and most productive lands are in private ownership.

Armenia has made great strides in decentralizing planning processes, including growing responsibilities allocated to local community councils and the direct election of councils and mayors. However, the Soviet Union public administrative legacy—whereby vertical and centralized decision-making is the pivot of governance—a weak regulatory framework, and low local capacities have perpetuated a strict hierarchy of planning (footnote 27).

5.1 Legislative Framework Governing Urban and Spatial Planning

The Law on Urban Development is the primary piece of legislation in the planning field, covering the following three aspects: spatial planning, architectural construction (design and building), and maintenance of buildings (footnote 27).

“Spatial planning, although considered a new concept added to the law by way of a 2005 amendment, is a continuation of central planning instruments from the Soviet era. In the Soviet era, the state acted as landowner, planner, client, supervisor, and builder” (footnote 27). While the centralized planning system provided a unique opportunity to promote the public interest, it also decreased the role of the private sector in asset ownership and entrepreneurship. Strategic development plans for all territorial levels were the basis for all long- and short-term development. Spatial planning in independent Armenia has built on this specific planning tradition.

Architectural construction refers specifically to building permits, which are the main instrument used in trying to balance open market private sector activities with public goals (footnote 27). Nevertheless, issuing permits continues to be a challenging aspect of the planning field as evidenced by the prevalence of illegal

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construction activities and as highlighted by the World Bank’s Doing Business reports. Although Armenia has improved its ranking in the 2019 Doing Business Report, building permits remain one of the weakest components of the business environment.

Meanwhile, the Law on Urban Development and other legislative documents have not provided the legislative environment necessary to support the maintenance of many urban buildings. Despite the privatization of most social housing blocks in the early 1990s, originally built and owned by Soviet authorities, several communal spaces (e.g., staircases, elevators, roofs, courtyards, etc.) remain under the ownership of local authorities or entities established and supported by them (footnote 27). The resulting confusion around the rights and responsibilities over these spaces has led to a deterioration of buildings and provided little incentive on anyone’s part to take responsibility for their maintenance.

Master plans have been considered the main planning document in Armenia, which has its roots in Soviet planning tradition and background. The master plan provides the strategic spatial planning document for communities and sets out the following:

- main direction of the spatial development of communities;
- requirements for, and the limitations on, the use of land for urban development activity in a community;
- primary (up to 5 years), medium-term (5–10 years), and long-term (10–15 years) stages for land use development; and
- designated use of land parcels within the administrative borders of communities and/or the land use changes permitted by the law.

Information received during a national urban assessment meeting with UDC management, March 2019.
The government also produces a medium-term expenditure framework every year, which outlines the main expenditure directions during the next 3 years and lays a basis for drafting the following year’s annual budget. The document covers expenditure strategies for some sectors, including environmental protection, water economy, transport and communications, and energy. While the document offers valuable information on trends, priorities, and objectives, it is not clear whether these are firmly connected with the existing sector strategies to provide a continuity of vision for planning and development.

At the national level, the Armenian General Settlement Plan, approved in 2003, sets out the broad strategic direction of the government’s national urban development policy. Although it was developed based on previous plans from the Soviet period, it was the first document prepared under open market economy conditions (footnote 27). It is an analytical document that draws on other legislation affecting urban development and the settlement system, and on relevant social, economic, and territorial development programs. It aims to create a safe and healthy living environment; sustainable development; and the conservation of natural, historic, and cultural heritage. The main provisions of the plan have to be taken into account in the preparation of plans at other spatial levels, and in designing other social, economic, and territorial development programs in urban and rural areas.

Land use zoning is the responsibility of local authorities. There is no separate law in Armenia governing this aspect of spatial planning. The basic provisions governing this sphere are contained in the Law on Urban Development. The lack of financial resources has hampered the development of master plans and the drafting of zoning plans in many communities, and, thus, zoning has often been a response to land development proposals, rather than being based on a plan (footnote 32, United Nations Country Profiles). Currently, the development of land use plans is included in master plans.

5.2 Regional Development

The government has developed some regional development strategies and initiatives over the years that are worth highlighting:

Armenian Regional Development Strategy 2016–2025. The strategy provides a comprehensive assessment of the current situation and trends of regional development in Armenia and related national strategies and donor programs. An overview of regional development strategies for other countries is provided as well. The strategy comprises an action plan for regional development reforms.


Regional Development Funding Mechanism Proposal 2017 (footnote 31). This document was developed with financial support from the European Union (EU) and consists of two parts:

(i) recommendations on how to improve regional development funding mechanism; and
(ii) selection criteria for different projects eligible for financing.

34 According to the UDC, there are plans to revise it in 2024.
**Regional Development Operational Program 2018–2020.** This program provides measures for different investment projects to support regional development in the country. The projects are related to (i) construction of irrigation networks, roads to agricultural lands, farms, and enterprises; (ii) development of regional employment, enterprises, and entrepreneurs; (iii) individual support of microenterprises; (iv) development of urban centers; and (v) improvement of regional development governance, financial incentives, and special assistance.

The government has made efforts to encourage greater intermunicipal cooperation and consolidation of 465 communities into 52 larger community areas. The Law on Local Self-Government has been revised in 2002 to encourage intermunicipal associations to reduce costs and improve the effectiveness and quality of delivery of services such as drinking water and irrigation water supply; the repair of school buildings, kindergartens, and hospitals; and the construction of intercommunity roads.

Up to 2014, only two regional spatial plans were developed. The first one was for Shirak region with the master plan of Gyumri, the second-largest city of Armenia, which suffered a significant earthquake in 1988. The second regional plan was for the improvement of the Lake Sevan area, which had undergone chaotic private development in the early 2000s.

### 6. Urban Property Rights

According to the Constitution of Armenia (particularly articles 10 and 60), private property is protected by the state, and each person has a right to possess, use, and manage properties legally acquired. No one can be deprived of property except in the cases prescribed by the law under a judicial procedure (e.g., eminent domain). The taking-over of private property for public purposes may be carried out only in exceptional cases, pursuant to the law and procedure with prior and equivalent compensation. The constitution restricts land ownership only in the following cases: “Foreign citizens and stateless persons cannot own land, except in cases provided by the law.”

There are plans for a paper-free, online, and automatic cadastre, which will support economic development through the use of high technology, to be completed by 2022. The automatic cadastre is meant to substantially reduce corruption risks while saving people time and money. The integrated cadastre will interlink the cadastres for the following sectors: national water resources, national forests, special protected natural areas, solid waste, flora, natural resources, historical and cultural monuments, national urban cadastre, and fauna. It is envisaged that the sectoral cadastres will be continuously updated by responsible parties, and their usage will promote an increase of investments in Armenia, effective use of agricultural lands, and tourism development.

### 7. Housing

As of 1 January 2018, the housing stock of Armenia consisted of 94.9 million square meters (m²), including multi-apartment housing stock (28.3 million m²), individual houses (66.3 million m²), and dormitories and temporary housing stock (0.3 million m²). Multi-apartment housing stock consists of 19,195 multi-
apartment buildings (MABs) and 443,023 apartments. About 94% of that housing stock, or 27.6 million m$^2$, are in urban communities. Individual housing stock includes 396,948 houses. The multi-apartment housing stock of Yerevan consists of 15.503 million m$^2$ or 54.8% of the total. It includes about 4,848 MABs and 233,053 apartments.

According to available statistics, the housing floor area per person in Armenia is quite high and close to that of European countries—31.6 m$^2$ per person. The floor area per person in housing in rural areas is 50% higher than in urban areas. However, these statistics are misleading, as the distribution of housing and living space is uneven across Armenia’s population. Based on the 2011 census, 30,000 families are homeless, while 16,000 households (or 2% of the total number of households in Armenia) live in inadequate housing (8,500 of these households are in urban areas).\(^{38}\)

Radical measures in the housing sector were taken after Armenia’s independence in 1991. In 1993, a new Law on the Privatization of State and Public Housing came into effect. Upon enactment of this law, 96% of the country’s housing stock was privatized by 2000.\(^{39}\) The missing factor of the privatization reforms was the absence of any obligation for former tenants coming into ownership of their apartments to take responsibility for maintaining the communal areas and systems of MABs. This unresolved issue has been worsening over the last decades and creating massive barriers in the housing sector. The development of a strategic approach to address this issue adequately is required.

In its new program, the government mentions that one of the primary objectives is the inventory of housing for those living in temporary shelters as a result of the disastrous 1988 earthquake to provide housing solutions to those in need. Since 2008, the government has addressed the issue of housing for 4,839 families through construction and financial assistance provisions (by direct means and housing certificates). At present, the Republic of Armenia legislation does not regulate the construction, provision, and use of social and affordable housing. Despite the government’s adoption of the National Strategy on Developing Social Housing Stock in 2005, it has not played a significant role in promoting the development of this subsector. Even with modest interventions by a few donors (e.g., Strategic Development Agency, the Netherlands), the social housing concept does not have a wide application in the country.

The Ministry of Labor and Social Affairs manages a limited housing stock for special categories of households (e.g., orphanage graduates, children without parental care, socially vulnerable people). At present, 167 apartments are in MABs in Yerevan and nearly every region. Also, there are social housing buildings or houses in Maralik, Yerevan, and Spitak, which are managed by Children’s Care and Protection Boarding School (a state noncommercial organization).

8. **Urban Transport**

As a landlocked country, Armenia depends heavily on transport and cross-border access. The country’s geopolitics and geographic location present some transport challenges. Armenia’s urban transport networks are not well integrated. They penalize transfers from one mode of transport to another and do not have efficient fare structures or ticketing systems, resulting in service inefficiencies. Since 2002, most bus lines in Armenia’s major cities have been franchised to private operators on a per route basis under 3–4-year

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concessions. “In most cases, there is a high level of competition with operators focusing on reducing cost by deviating from minimally accepted service quality standard. In addition, the tenders for minibus routes are not transparent, which does not entice operators to invest in safety, quality, or availability of services. Municipally owned companies experience financial, technical, and operational challenges. Long-term financing is severely constrained by the lack of robust service contracts defining roles and responsibilities in exchange for contractual rights to public transit routes. The challenges in the sector also include decentralization of some core regulatory aspects, including the responsibility of tariff setting and service provision organization, along with the strengthening of institutional and legal capacity for the municipalities to regulate and monitor public transport service provision.”

Yerevan. Yerevan’s road system relies primarily on streets that interconnect the adjacent suburban residential areas and radial roads that start from the central part of the city. Due to the unequal distribution of traffic for public and private transport, the main traffic load falls on the central part of the city. Walking infrastructure is of poor quality, and pedestrian footpaths, underground walkways, and road crossings need repairs and improvements.

Transport services for residents of the capital are provided by buses, trolleybuses, minibuses, and the underground metro system. Yerevan Electric Transport closed joint-stock company has 79 trolleybuses (9 Renault, 34 Škoda, and 36 LiAZ models). The company operates 5 trolleybus routes; on average, 40–45 vehicles are used daily for running the route. The Yerevan underground metro system has 10 stations and 45 wagons in operation; the length of the railway is 12.1 km. However, it has limited coverage and has lost some of its market share to minibuses.

Yerevan Municipality regularly develops planning documents (referred to as development programs), which analyze and forecast the city’s spatial planning and infrastructure needs, including in the transport sector. The Yerevan development program for 2018–2022 identifies the following priority issues: (i) lack of unified ticketing system, (ii) inadequate service and quality standards, (iii) inefficient operating network, (iv) lack of coordination of public transport services, (v) poor technical standards of vehicle rolling stock, (vi) transparency of turnover charges for service absence, (vii) absence of an effective management model, (viii) optimization of bus stop locations, (ix) increase in the number of minibuses, and (x) impacts of transportation on the environment.

Other towns. While urban transport issues are less prominent in Armenia’s other cities compared with Yerevan, these still require assistance to improve their municipal infrastructure and urban transport networks. Based on an assessment by the Sustainable Urban Development Investment Program of the Asian Development Bank (ADB), “four common features can be found in all: (i) a deteriorated urban road network; (ii) inefficient traffic management; (iii) inappropriate public transport that usually relies on an old bus fleet or unregulated minibuses; and (iv) an unfriendly urban environment, particularly for pedestrians and two-wheelers” (footnote 42).

According to the ADB’s assessment, “municipal capacity to plan, monitor, and operate urban transport is generally limited, and a strategic master plan does not exist to prioritize urban transport projects, identify

solutions to emerging congestion, or improve road safety. As such, investment is needed to (i) upgrade road network, including some missing links; (ii) improve bus facilities and integrate interchanges between city and intercity buses, and develop regional ticketing and passenger information; and (iii) develop urban-renewal projects on major corridors and avenues that favor nonmotorized transport (footnote 42).

The ADB also concluded that in cities with tourism potential, urban transport infrastructure needs to be upgraded to cope with growing demand and flows of tourists during peak seasons. “The focus should be mainly on accessibility, road improvements, street lighting, sidewalks, and parking. Seasonal bus shuttles should be provided, linking the main tourist locations. Parking for coaches and cars should be developed near the city centers to avoid road congestion” (footnote 42).

9. Water and Sanitation

Water resources. Taking into account all water resources in the country, Armenia is generally not considered short of water. “The internal renewable surface water resources are estimated at 3.948 cubic kilometers (km³)/year and the internal renewable groundwater resources at 4.311 km³/year. The overlap between surface water and groundwater is estimated at 1.400 km³/year. This gives a total of 6.859 km³ of annual internal renewable water resources.”

These water resources are, however, not evenly divided in space and time. Despite the availability of water, resources are stressed, particularly in the densely populated Hrazdan river basin in the central part of the country. Significant seasonal and annual variability in river runoff also exists, including frequent droughts and risk of flooding in the spring, when about 55%–70% of total annual runoff occurs during the peak snow melting period. As a way to address temporal variations in river runoff, the country has built 87 dams with a total capacity of 1.4 billion cubic meters (m³).

The rivers in Armenia are tributaries of the main rivers of the southern Caucasus, namely the Araks and the Kura. About 76% of the total territory is part of the Araks basin and 24% of the Kura basin. The 14 sub-basins of the two main river basins (Kura and Araks) have been grouped into 6 basin management areas: Akhuryan, Northern, Sevan, Hrazdan, Ararat, and Southern basins (footnote 45). Surface water in Armenia, in Lake Sevan in particular, is of high quality as compared to international standards.

“The proper management of water resources will continue to play a key role in the socioeconomic development of Armenia. The performance of the irrigation, hydropower, municipal, industrial, and environment sectors depends on the judicious and wise use of the country’s water resources” (footnote 47).

**Urban water supply and sanitation.** The Armenian urban water supply and sanitation sector has been significantly restructured and reformed during the last 2 decades. Beginning in the early 2000s, some public-
private partnership schemes were implemented in the sector, including several management and lease contracts with private water operators.

In January 2017, the government contracted Veolia Water closed joint-stock company (Veolia Djur) to operate Armenia’s centralized water systems. Veolia Djur now operates a water supply system that “includes 184 water production facilities, 563 water supply pumps (without boosters), 791 water transmission lines (totaling 4,061 km), a 7,800 km long water distribution network, 405 daily regulation reservoirs, 116 chlorinating plants, and 10 water treatment plants. Water production in the system is circa 17,000 liters per second.” In 2018, the average weighted water supply duration was 23.6 hours in Yerevan, 18.1 hours in other urban areas, and 16.8 hours in rural areas.

In comparison with Yerevan Djur (during the lease contract Veolia held from 2006–2016) the number of consumers has significantly increased. Today Veolia Djur provides services to Yerevan and other 45 towns and 314 villages, in total 359 settlements. The company also provides wholesale water supply services to 52 settlements. Approximately 770,000 customers are served, or about 73% of the country’s population (footnote 50).

There are approximately 560–600 villages outside the service area of Veolia Djur (off-grid communities), served by their own water resources and operated under various public organization models managed by the municipality or community. The water sector strategy and financing plan (2018) envisages introducing public–private partnership with a specialized (licensed) water supply and sanitation service provider in off-grid communities using a staged approach.

Wastewater treatment. During the Soviet period, all 48 cities and approximately 250 villages in Armenia were connected to the wastewater network, which served 60%–80% of the urban and 50% of the rural population. About 97% of Yerevan population was connected to the wastewater network. Serving only the cities and adjacent villages were 20 wastewater treatment plants. The wastewater removed from the other settlements was directly discharged into surface water basins.

At present, only a small percentage of the communities of Armenia are provided with functioning wastewater systems, which were constructed during the Soviet era and are in poor condition. As such, the implementation of large-scale investments in the sector has become vital.

Veolia Djur operates a drainage and wastewater treatment system, which includes

- 3,700 km drainage network;
- 8 wastewater treatment plants, without biological treatment;
- 8 pump stations of the drainage system; and
- 350 km surface water and rainwater removal system.

By signing the Comprehensive and Enhanced Partnership Agreement with the EU and EURATOM at the end of 2018, Armenia contracted obligations in the area of implementing the provisions of the five EU water-related directives—Water Framework Directive (Directive 2000/60/EC); Urban Wastewater Treatment Directive (Directive 91/271/EEC); Drinking Water Directive (Directive 98/83/EC); Floods Directive (Directive 2007/60/EC); and Nitrates Directive (Directive 91/676/EEC). To meet these obligations, the government has developed a road map, which, if implemented, will boost the water sector significantly. The Urban

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Wastewater Treatment Directive has been, in part, adopted through amendments made to the Water Code (March 2018), but additional changes need to be made.

With the support from ADB, the RA Law AL-126-N on Making Amendments and Supplements to the RA Water Code was elaborated and adopted on 2 March 2018. With its annex, approved by the Prime Minister’s Decision N589-A on 29 May 2018, the law proscribes binding provisions regulating wastewater treatment and disposal.

**Water and sanitation sector institutions.** Since 1 January 2017, the water sector institutional setup has remained unchanged in general, except for the transformation of five water utilities into one countrywide entity. Its organizational structure, provided below, will remain unchanged until 2031. Various institutions and organizations or groups intensively interact with each other, especially with the private operator. Key state institutions are the Water Committee, Public Services Regulatory Commission (PSRC), Ministry of Finance, and Water Resources Management Agency (WRMA).

The Water Committee is a state governing authority established under the Ministry of Territorial Administration and Infrastructure and executes the rights of state with respect to the assets operated by the company (i.e., Veolia Djur). Thus, Veolia Djur may not make any strategic decisions related to the water system use without the Water Committee’s consent. The Water Committee also establishes the water policy and strategy in the sector. The Water Committee monitors compliance by the Veolia Djur with the conditions of the lease contract.

The PSRC is the state regulatory authority determining Veolia Djur’s activities in the water sector. The main responsibilities of the PSRC include issuing licenses and setting up both retail and wholesale tariffs for the provision of drinking water supply and wastewater services. In this regard, the PSRC approves standard service contracts setting up minimal service targets (e.g., water supply duration), adjusts them regularly, and monitors the achievements of these targets. In case of any extension to the service area or increase of the established tariffs, the Veolia Djur must obtain the PSRC’s approval. The PSRC also organizes public hearings related to the establishment of tariff rates and handles public grievances related to cost and quality of utility services.

The WRMA, an agency created under the Ministry of Environment (MOE), issues water use permits to water users and ensures compliance with the permit requirements through monitoring. The actual monitoring activities are carried out by water basin management bodies subordinate to the WRMA. In addition, the WRMA manages the state water cadastre, a sophisticated database management system that registers different data on water users, water use permits, and water system use permits.

The Ministry of Finance allocates financing to the drinking water sector, including the provision of subsidies, and initiates investment loan agreements with international financial institutions (IFIs) to improve water services and infrastructure.

IFIs have been highly active in the water sector since the mid-2000s, and previous water operators were involved in capital investment projects financed by the World Bank, ADB, European Bank for Reconstruction and Development, European Investment Bank, and German development cooperation through KfW. According to the 2019–2021 Medium-Term Expenditure Framework, there are plans to spend approximately AMD39.3 billion for the rehabilitation of water supply and sewerage systems through loans provided by IFIs.

During 2017, some initiatives were implemented in the water sector, including repair works of the sewage network, removal of flow obstructions, and construction of new sewerage networks. Several administrative districts in Yerevan, Echmiadzin, Gyumri, and Vardenis were targeted for investments in water infrastructure.

The total water supply in 2018 was 119,732 million m³, lower than the 2017 output of 122,462 million m³. In response to Veolia Djur’s tariff increase, the PSRC calculated a new tariff rate in 2018 of AMD202.272/m³ from the previous tariff of AMD180/m³. However, the government has decided not to raise the tariffs for the end user and instead will subsidize AMD11.414/m³ from the state budget or in total approximately AMD1.4 billion (65% of the 2018 lease fee). The remaining AMD10.858/m³ portion of the tariff increase and the payment to Veolia Djur for the water supplied will be transferred in 2025. As water sales and service users are expected to decrease over time, fundamental questions arise about the sustainability of this tariff model and future sector performance.52

Current challenges in the drinking water sector include the following:

(i) reduction of nonrevenue water;
(ii) wastewater treatment in Yerevan53 and other regions;
(iii) decrease in losses and unauthorized consumption;
(iv) water quality;
(v) affordability of the existing and future tariffs to be paid by customers;
(vi) rehabilitation and development of the water and wastewater sector, lack of investments in the water sector, and planning for capital investment projects;
(vii) water accessibility in off-grid areas;
(viii) water resources management; and
(ix) asset management.

10. Waste and Pollution Management

The Soviet Union’s abrupt collapse left Armenia struggling with some environmental problems, which remain significant today. Armenia’s environmental condition is hard to evaluate. Official data are inadequate by international standards, and the scientific accuracy of information appearing in numerous press reports is often difficult to corroborate.

While the environmental movement is gaining momentum in Armenia, it is not yet strong enough to have a major impact on policy and development issues. The movement brings together nongovernment organizations, academic institutions, and more organized and aware public and diaspora, with the latter having less and less influence. More recently, combined efforts of some organizations have successfully raised awareness of environmental issues, including in the mining sector (e.g., tailings dams and abandoned mines) and waste management (e.g., single-use plastic bags and recycling).54

52 Base water sales per license are predicted at very optimistic volumes, e.g., 3–5 million m³ of increase per annum.
53 A new facility of Yerevan aeration plant is constructed but has not been transferred yet to Veolia Djur for operation.
10.1 Solid Waste Management

As of 2019, approximately 369,000 tons of municipal solid waste (MSW) is generated in Armenia every year. By 2030, MSW generation is projected to accelerate to over 1 million tons per year, for a total cumulative waste (2011–2030) of over 15 million tons. Organized collection services cover about 60%–80% of the population (footnote 55). Solid waste fees are within the range of AMD50–AMD100 for small communities, AMD100–AMD150 for rural communities, and AMD150–AMD250 for cities. Environmental pollution associated with plastic waste in Armenia is currently estimated at 5,000–6,000 tons annually and growing. There is some recycling taking place, and it is estimated that between 2019 and 2030, over 4 million tons of materials can be recycled from Armenia’s MSW (footnote 56).

Solid waste management (SWM) is poorly organized, with much of MSW being dumped in provisional landfills and dumpsites. Existing landfills are haphazardly created and lack environmental assessments and technical oversight and guidance. Practically all types of waste are transported to and disposed at the same urban and rural landfills without any pretreatment and/or sorting. Waste is frequently burned in the open air, but at low temperatures, which results in significant air pollution. At present, there are 339 dumpsites that do not comply with sanitary norms.

The waste stream in areas of the country without service results in significant pollution of the immediate environment and groundwater resources. In the areas where collection is better organized, the downstream system is yet to be properly structured and modernized. In general, collection is managed through contracts awarded by municipalities to their municipal-owned corporations or private sector companies. Often, the vehicles used for collection are too few and too small to efficiently collect the entire waste stream. Lack of waste containers and poor or inadequate maintenance of many waste storage areas exacerbate the problem. Waste collection and proper disposal are also constrained by the relatively large distances between areas served and particularly during snowy and inclement weather.

Although waste collection and management in Yerevan has improved recently, significant challenges remain. Garbage collection and sanitary cleaning services in the capital are provided by Sanitek, a company that was awarded a 10-year contract in 2014. There have been ongoing disputes between the municipality and Sanitek, resulting in several fines being levied against the collector for improper waste removal service, most recently in May 2019 for AMD26 million. Yerevan’s Nubarashen dumpsite, which is the largest in Armenia and has served the capital since the early 1960s, operates without adequate environmental protection measures. The government has secured more than €25 million from the European Bank for Reconstruction

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60 Narine Avetyan (Head of the Department of Territorial Infrastructure Development), in discussion with author, March 2019
61 Gyumri’s operator is Gyumri Communal Service community budgetary institution, and Vanadzor’s is Vanadzor Cleaning open joint-stock company.
and Development (€8 million loan), European Investment Bank (€8 million loan), and various European institutions (grants) to finance the construction of a new sanitary landfill. The new sanitary landfill would be constructed according to international standards, would occupy approximately 29 hectares, and would have a lifespan of about 28 years.\textsuperscript{64}

In 2004, the government passed the Law on Waste to regulate waste collection, transportation, storage, processing, recycling, removal, and volume reduction. The law also mandates the responsibilities of agencies involved in SWM provision and regulation. To realize these objectives and principles, the law allows for the adoption of sub-legislative legal acts. Approximately 30 sub-legislative acts have been added since the Law on Waste was adopted.\textsuperscript{65}

Another relevant piece of legislation is the Law on Refuse Collection and Sanitary Cleaning adopted in 2011. The law regulates waste collection and sanitary cleaning in addition to establishing the principles of waste collection fees and tariffs, rights and obligations of service recipients, and payment procedures. New rates and regulations for garbage removal and disposal will be established in Armenia. Amendments to the Law on Garbage Cleaning and Sanitary Cleaning, as well as in the Code of Administrative Offenses were made at a meeting of the Armenian parliament on 24 June 2019. The draft law proposes setting a fee for collecting waste for nonresidential premises, including public and industrial buildings and structures, based on the total area of the building.\textsuperscript{66}

The MOE is the primary regulatory agency for SWM and is mandated to develop policies, approve and monitor SWM sites and activities, perform waste inventories, record and control hazardous wastes, maintain a registry, and draft legal acts. The Ministry of Territorial Administration and Infrastructure also plays a vital role, as it is responsible for investment programs in the waste management sector.

Despite these legislative efforts, the legal framework for SWM is incomplete, and Armenia still lacks a unified and coherent waste management strategy. The rights and obligations of waste producers, dump managers, haulers, and agencies responsible for SWM are scattered throughout various laws and regulations.\textsuperscript{67}

While recycling efforts are primarily centered in Yerevan, where most for-profit recycling companies are based, there has been limited success in establishing centers in other areas of the country. The EU has been active in supporting the development of plastic waste sorting and recycling facilities in secondary cities, most recently in Kapan, with plans for involving other communities in Syunik and Vayots Dzor regions.\textsuperscript{68}

In October 2018, an intergovernmental working group was formed by prime ministerial decree, which brings together representatives from the Ministry of Territorial Administration and Infrastructure, MOE, Ministry of Education and Science, the police, and other government institutions to discuss and plan for waste management, including collection, transportation, disposal, waste reuse, and recycling processes.\textsuperscript{69} The American University of Armenia Acopian Center for the Environment, in partnership with the government,

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has also recently launched the Waste Quantity and Composition Study funded by the university’s Manoogian Simone Research Fund.70

10.2  Urban Air Quality

Air quality is variable across regions and seasons and difficult to qualify due to lack of comprehensive studies based on systematic measurements. “The air quality monitoring network was quite extensive” but was significantly impacted by the collapse of the former Soviet Union.71 At present, inspections of atmospheric air pollution in Armenia are carried out through hybrid observation. It consists of 16 main stationary, active sampling, and automatic stations where observations are performed daily, and 211 portable, passive sampling points where weekly observations are made. Atmospheric air quality monitoring is carried out in Yerevan, Gyumri, Vanadzor, Alaverdi, Hrazdan, Ararat, Kapan, Kajaran, Charentsavan, Tsaghkadzor, and Amberd. In 2017, the transport sector was the leading source of outdoor air pollution in Armenia, contributing 51.5% of the total, with emissions from energy production, mining, and quarrying providing much of the remaining 48.5%.72

11.  Energy Supply and Consumption

In 2016, Armenia’s domestic energy production included 20.3% nuclear energy, 6.6% hydro energy, and 5.6% biofuels while the remaining is met through imports of natural gas and oil. Armenia has no domestic fossil fuel resources and imports all of its oil and gas. It has successfully implemented energy sector reforms, and the energy sector is considered the most efficient one in the South Caucasus region. As a result of large-scale gasification, more than 617 settlements use natural gas today, and Armenia is one of the leaders in the world with 94.6% gasification rate. However, manure and firewood are still widely used as fuel in rural areas. The vast majority of natural gas comes from the Russian Federation: 83.4% in 2016. Armenia also imports some natural gas from Iran in return for Armenia’s supply of electricity. Oil is imported from a range of countries, and oil product markets are not regulated. Armenia does not have refineries. There are approximately five private entities that export diesel and gasoline to Armenia. “Gasoline and diesel prices in Armenia are not regulated. However, the State Commission for the Protection of Economic Competition monitors gasoline and diesel prices and ensures sufficient competition in the market.”73 The rejection of fossil fuel subsidies as part of the energy sector reform has contributed to the low-carbon development trend in Armenia. Armenia’s experience in this regard can be used as an example of best practice for the broader regions: Eastern Europe, Caucasus, and Central Asia (footnote 73).

It is noteworthy that the small hydropower sector in Armenia is currently the most developed one in the renewable energy sector and contributes the largest share of renewable energy. The majority of small hydropower plants (HPPs) in Armenia, by design, under construction, or operational, are derivational stations on natural water flows. “As of 1 July 2019, electricity was generated by 187 small HPPs, with about 370 megawatts (MW) installed capacity. In 2018, electricity generation from small HPPs was around 1 billion kilowatt-hours (kWh). As of the same period, and according to the provided licenses, 28 additional small

HPPs are currently under construction, with a total projected capacity of 59 MW and 203 million kWh electricity annual supply.\textsuperscript{74}

Armenia has a great potential for solar energy production, with an average annual intensity of solar energy flow of 1,720 kWh per square meter of horizontal surface. For comparison, the average for European countries is 11,000 kWh per square meter. The solar energy tariff was introduced in 2016, which enabled the autonomous electricity producers using renewable energy resources to join the electricity system and implement the flow of exchange rates using reverse multiplier calculators.

For solar photovoltaic (PV) plants with a capacity of up to 5 MW, the PSRC decided on 24 October 2018 to provide licenses for the construction and operation of solar PV plants until 31 December 2019 (capped at 100 MW combined due to grid limitations). The tariff policy was also clarified, and the electricity tariffs for these solar PV plants will be equal to the tariffs for small HPPs built on natural water flows (the current is AMD23,864 per kWh, excluding value-added tax). However, the final tariff will be determined only on 31 December 2020. The licenses for the construction of 7 solar PV plants with a capacity of up to 5 MW and a total installed capacity of 31.5 MW have already been granted.

The construction of solar PV plants with a capacity of up to 1 MW (capped at 10 MW combined) is also being encouraged. Twelve companies have already been licensed (the 10 MW limit has been reached), and nine of them (approximately 7 MW combined) have been commissioned. As of 1 January 2019, 848 autonomous electricity producers with up to 500 kW capacity (total capacity of about 12 MW) were provided with the technical conditions for the grid connection, while 779 of those (total capacity of about 9 MW) are already connected to the grid.

With the view to increasing the consumption of energy carries of local production, as well as protecting the environment and public health at the local and national levels, Law AL-63-N on making supplement to the tax code of the Republic of Armenia was elaborated and adopted on 7 June 2019, according to which, by 1 January 2022, import and/or alienation of the means of transport operating solely via electric motor will be value-added tax exempt.

12. Climate Change and Disaster Risks

From 1994 to 2013, Armenia lost well over $1.5 billion to natural hazards like floods, earthquakes, and drought.\textsuperscript{75} More than 80% of the county’s population is at risk of exposure to catastrophic events and hard-won development gains are at risk.\textsuperscript{76}

Located on the high activity Alps–Himalaya seismic zone, Armenia lies in one of the most seismically active regions of the world. Over the last 30 years earthquakes have affected large numbers of people and caused significant economic losses.\textsuperscript{77} Most notably, the 1988 Spitak earthquake “killed 25,000 people, injured 15,000, left 517,000 homeless, and caused significant damage to several cities,” resulting in an estimated economic damage of $15 billion–$20 billion, “by some estimates destroying over 40% of the country’s manufacturing


capacity and halting operations of 170 industrial enterprises” (footnote 75). Direct economic damage from the earthquake has been estimated at AMD5,467 billion, equivalent to approximately $14 billion (at the December 2011 exchange rate) (footnote 75).

Earthquakes. “Historically, earthquakes of at least 5.5 magnitude have an average reoccurrence interval of 30 to 40 years” (footnote 75). These events have the potential to cause significant damage. “For example, an earthquake with a 0.4% annual probability of occurrence (a 250-year return period event) could cause nearly 10,000 fatalities and $6 billion in capital loss (about 60% of GDP).”78

Water-related disasters. Despite not having abundant flowing surface water, Armenia’s exposure to flooding risk is significant due to snow melting, which contributes 55%–70% of annual discharge. “This can increase water volume in some river basins tenfold, and can also trigger seasonal flooding, particularly in the Araks, Hrazdan, and Aghstev river basins” (footnote 75). Regular seasonal flooding currently affects the northward-forested slopes of Armenia’s mountain ranges. Other areas, such as the river basin of Meghri and Vedi and near Goris, experience flooding once every 2–3 years. Flash floods and mudslides occur in almost every region when snowmelt is accompanied by rainfall.79 “Historically, April to June has been the most dangerous period for floods. But flooding appears to have increased over the last several decades because of deforestation and urbanization.”80

Droughts are also frequent in Armenia and have caused significant damage. “About 15% of Armenia’s agricultural territory is drought prone. The most severe recent event was a 2000 drought that affected 300,000 people (45% of the population in drought-affected areas), caused an estimated $110 million in damages, reduced the drinking water supply by 35%–40%, triggered a seed shortage the year after and caused a further $43 million in agricultural production losses” (footnote 80). According to the Armenian Rescue Service, half of the country suffers from erosion (footnote 79). “The country is also exposed to hailstorms, with at least 38 experienced every year between 2010 and 2016” (footnote 75).

Landslides. Landslides also affect the country and can be secondary effects of earthquakes or heavy precipitation (footnote 75). “The landslide hazard zone covers one-third of the country, primarily in foothill and mountain areas. Around 15% of the total population is exposed. Average annual damages from landslides amount are $10 million.”81 Typically, landslides are triggered by heavy precipitation, but the United Nations Environment Programme reported that irrigation, water supply, and sewage systems that are poorly built and maintained have contributed to landslide conditions in Yerevan and surrounding towns.82

Heat waves. More frequent and longer heat waves pose health risks, especially to vulnerable populations.83 In Yerevan, for example, the average heat wave duration increased by about 40 days during 1981–2013.84 Landslide-prone zones, where increasing storm events can oversaturate unstable ground, increase risks to buildings and vital infrastructure, including residential areas, roads, highways, and railway (footnote 84).

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Disaster risk reduction. Disaster risk reduction is a priority in Armenia and is regarded as an inherent element of national security and sustainable development. Since the Spitak earthquake, the government has created and updated its “legal and regulatory framework for disaster risk reduction, signed bilateral and multilateral agreements, acceded to the international conventions, allocated significant resources, established structures to coordinate and implement activities in the field, and encouraged participation of civil communities” (footnote 81).


Ecosystem services. The ecosystem services concept is still in its infancy in Armenia, and the use of the term “ecosystem” occurs only a few times in national legislation. Armenia generally lacks green areas and is in danger of losing what little remains of them. At the national level, there are no specific greening programs or tree-planting initiatives in the urban and peri-urban areas and urban green space is considered to be the responsibility of local governments, namely the municipalities. Several programs include, in general, urban and peri-urban forestry and greening components such as the National Forestry Policy and Strategy and the National Forest Program. A major problem identified is the current lack of experienced professional and technical staff in the relevant government institutions. Professional support will be required in urban planning, management, monitoring, and development of the urban green resource. Zoning, which is fundamental for the determination of the allowed, prohibited, and restricted land use, also has to be carried out (footnote 85).

13. Cultural Heritage and Tourism

Armenia hosts rich cultural heritage including monuments, temples, and monasteries; classical music composition and performance; a variety of literary practices; dances; traditions; crafts; and food.

Three cultural sites are included in the United Nations Educational, Scientific and Cultural Organization World Heritage list: (i) the Cathedral and Churches of Echmiatsin and the Archaeological Site of Zvartnots, (ii) the Monasteries of Haghpat and Sanahin, and (iii) the Monastery of Geghard and the Upper Azat Valley. Four more sites are on the tentative list as they are being considered for nomination. “There are only a few urban historical centers, such as Gyumri, Goris, Yerevan, Meghri, Gavar, Dilijan, and some other smaller towns and villages, that have preserved historical parts and are the subject of protection and conservation (footnote 27).

Approximately 27,000 artifacts (including 7,000 monuments) are listed, thus accounting for a density of 1 artifact per 1.1 km². “The listed monuments are considered to be under state protection, and any activity in their area and surroundings must be approved by the Agency for Preservation of Historical and Cultural


Monuments of the Ministry of Culture. Monuments are listed with two statuses based on their importance: national and local” (footnote 27).

The tourism sector in Armenia has unrealized potential, as a tool both for supporting regional economic development and fostering economic growth. The government has taken some decisions in recent years to declare selected towns as tourist centers, including Tsaghkadzor, Jermuk, Tatev (and its eight nearest villages), Dilijan, and Goris. Relevant action plans have been developed to promote tourism in these locations.

14. Government Program for the Urban Sector

On 9 February 2019, the government approved a program document that defines the broad guidelines orienting the executive going forward for 5 years. Currently, detailed sector road maps are being prepared by the relevant line ministries, and these will be integrated into a more detailed comprehensive government program. The timing of this process is not confirmed, although it is expected that the sector road maps will be readied by December 2019. One of the road maps should be addressing the national program for territorial administration and urban development. The timing of the national urban assessment seems favorable in this respect, as it might provide some insights and policy suggestions to the government, which could make their way into the national deliberations.

The government program document devotes a section to territorial administration and local self-government, which directly refers to the broad parameters for urban development. It reiterates the pursuit of “proportional territorial development”; the intention of expanding subsidies to regional administrations and of making them more transparent and participatory; the promotion of private sector investments; and the intention of
implementing the policy of growth poles, which had been deliberated upon under the previous government. It promises the reform of regional governments, proportional election of local governments, community participation, and further decentralization and support for social services. It expresses the intentions of improving SWM, the rehabilitation of road networks and the expansion of public transport systems, the promotion of local PV energy generation, the protection of the local environment and public health, and the introduction of harmonized information management systems across all of Armenia’s regions.87

15. Urban Development Futures

Aided by the Future and Foresight methodology, this National Urban Assessment also identified three possible urban scenarios, which are presented in the following sections.88 Rather than viewing them as alternative to each other, these can be seen as incremental. The pace at which the government will be able to transform its urban future will depend on its policy choices as well on the harnessing of opportunities and the containment of constraints, as illustrated above.

Short-term scenario: “Yerevan the Sustainable Capital City” (1 to 5 years). This scenario does not have any prerequisites, as it is continuity with the current trends of a concentration of investments and economic activity in the capital city. However, it proposes to shift gears from “marginal change”, i.e. a slow pace of urban innovation, to “radical change” by addressing squarely the city’s sustainability challenges as it develops further. This is in line with the aspirational goals of Yerevan’s Municipality and its ongoing projects.

Embracing urban sustainability would also achieve the other main goal of urban development: improving welfare and equitable access to services for the resident population. Sustainable choices in urban mobility, waste management, energy, and housing, would also mean a radical improvement in environmental quality and related public health, starting with abating air pollution from vehicle emissions and deforestation, and managing extreme air temperatures with street canopies of protective vegetation. Retrofitting multi-story apartment buildings with green roofs, solar panels, and other innovations for energy efficiency and water retention would deliver a substantial improvement to living conditions.

However, shifting gears from “marginal” to “radical change” would imply a substantial program of capital investment, supported by the necessary strengthening of institutions and technical capabilities in order to implement such programs, as well as clear plans for the operation and maintenance of the new systems, public uptake of the innovations, and the determination of fee structures and cost-recovery aspects. The government would have to evaluate the costs and benefits of this policy scenario.

Medium-term scenario: “Armenia’s System of Cities” (5 to 10 years). This scenario has as a prerequisite; the improvement of the road and railroad transport connectivity between Yerevan and the other cities, and between Armenia and neighboring Georgia and Iran. Armenia has a number of small cities, some of which have the characteristics to enable them to be part of a “cluster of cities” which could cater to more efficient and equitable regional development. Were such cities to be reinforced in their economic base, infrastructure provision, urban services, and access to welfare, they could likely become attractive centers for the populations of their rural regions, either as service reference centers or as employment destinations, alternatives to migration to the capital city or to moving abroad.

In reflecting upon the criteria that could be used in selecting those secondary centers that could come to create a national “system of cities”, the following four seem the most relevant: (i) significant population size, (ii) significant economic activities with potential for further growth, (iii) location along present or future major road and/or railway line, and (iv) role as institutional center of an administrative region. The results of a selection based on these criteria could be juxtaposed with the selection of small towns with the potential to increase regional tourism by leveraging Armenia’s cultural heritage, some sites of religious importance, and areas of natural beauty and ecological significance. These could attract visitors for cultural tourism and eco-tourism purposes and thus generate opportunities for sustainable development, fostering the creation of small service enterprises and related jobs in the hospitality and site management sectors.

In this approach, the question of accessibility of the sites is paramount, and such a strategy would have to be supported by appropriate transport infrastructure. A closer look at the characteristics and location of the possible cultural and natural destination venues clarifies that they need to be “anchored” by larger urban centers, both for accessibility reasons as well as for service delivery and general connectivity.

**Long-term scenario: “Urban Regional Integration”** (10 to 20 years). This scenario is the most ambitious and far-reaching, but consequently steep in prerequisites: not only would have Armenia developed a green and sustainable capital city, but it would have also achieved national regional transport connectivity, put in place a functional system of cities, and overcome a number of fundamental regional constraints. Prospects for regional integration between Armenia’s economy and its neighbors are supported by various other transnational institutions, such as the EU and the Eurasian Economic Union. Closer ties with Georgia and Iran are already in the making, and the latter may be seeking to deepen its ties with the Trans-Caucasus countries as it is curtailed in its international trading elsewhere. Ties between the Russian Federation and Iran are also strengthening, and the physical links between those two large and powerful nations go through the Caucasus. A region freed from its current nationalistic tensions would also be better placed to export toward the European market and beyond.

In this scenario, Yerevan would become an important node in a regional system of trade flows that would include the other national capitals in the Trans-Caucasus region. Armenia’s secondary cities and their hinterlands would be well placed to have a fair share of economic returns related to their location along the main transport corridors. A further diversification of their economies could benefit from increasing tourism, foreign direct investment, transport logistics, and the unique ties to the global markets that Armenia can aspire to via the network of its diaspora. While this scenario might be for the time being purely aspirational, it is probably based on commonly held hopes across the region. “Back-casting” from this vision to the present times may be helpful in establishing a future road map for Armenia and its cities going forward.

16. **Conclusions**

While there are government policies for territorial development and current and forthcoming initiatives of the two key sector institutions, other complementary sector policies will play a role in shaping the future of urban development in Armenia. The February 2019 government program, in particular, contains sections devoted to energy, transport, tourism, environment, state properties management, high technology, communication, and digitalization.

These policies and programmatic intentions aim at making Armenia a “regional energy hub” that can harness its renewable energy potential, harvest energy efficiency, acquire energy independence, and export energy to neighboring countries. The government also intends to make Armenia a “high-tech, industrial country”
that embraces and expands advanced technologies and creates a niche for itself in global markets. Some of the policies are mutually reinforcing, as digitalization would be applied to public administrations and state properties management. Tourism and environmental policies would also likely be synergistic.

The energy–environment nexus seems to be among the most promising ones and deeply relevant to the urban sector. The following are programmatic directions that the Ministry of Environment is currently pursuing, in collaboration with other line ministries and agencies, and with the support of various international agencies and donors: (i) decentralized renewable energy generation, (ii) combined heat and power plants serving neighborhoods or small towns, (iii) energy efficiency programs targeting building in need of deep renovations, (iv) afforestation programs around cities offering respite from air pollution and stabilization of slopes subject to flooding and mudslides, and (v) investments in public transit with a progressive electrification of the public vehicles fleet. They also address Armenia’s commitments under the Paris Agreement for greenhouse gas emission reduction and contribute to helping Armenia’s cities adapt to negative climate impacts.

In line with the references above, and with the policy approaches of the government, urban development is considered a key facilitator of economic growth, as the urban agglomeration of firms, the presence of labor market, the development of infrastructure and facilities, and connectivity accelerate economic activities and job creation. The positive correlation between urbanization and economic growth has been proven throughout history and regions. At the same time, urban development is considered a key facilitator of public welfare, given that cities generally provide better access to living conditions, health and education opportunities, purchase of consumer goods, as well as amenities and entertainment, compared with rural settlements.

Armenia could be pursuing a program of public spending, be it with budgetary resources or with international financing, to boost economic growth and the competitiveness of its cities, while also improving access to better infrastructure and services for the resident population across its territory. However, the presence of some constraints argues in favor of a policy that would, in a first phase, privilege investments in urban development for the sake of economic growth, and contain public expenditure aimed at purely improving welfare within reasonable limits. If such a policy is successful in the first phase, public expenditure will eventually be able to increase, and the fruits of that growth may be more easily spread across the land to equalize access to welfare.
### Table A1.1: Economic Indicators for Armenia, 2018

| Production Structure, 2018 | GDP Share, %
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>15.0</td>
</tr>
<tr>
<td>Agriculture and Forestry</td>
<td>..</td>
</tr>
<tr>
<td>Fishing</td>
<td>..</td>
</tr>
<tr>
<td>Industry</td>
<td>26.6</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>11.8</td>
</tr>
<tr>
<td>Construction</td>
<td>7.4</td>
</tr>
<tr>
<td>Services</td>
<td>58.5</td>
</tr>
<tr>
<td>Wholesale and Retail Trade</td>
<td>12.0</td>
</tr>
<tr>
<td>Real Estate &amp; Business Activities</td>
<td>15.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Employment Share, % 2017</th>
<th>GDP by Expenditure, 2018</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>31.3</td>
<td>Private consumption</td>
</tr>
<tr>
<td>Agriculture and Forestry</td>
<td>..</td>
<td>Government consumption</td>
</tr>
<tr>
<td>Fishing</td>
<td>..</td>
<td>Investment(c)</td>
</tr>
<tr>
<td>Industry</td>
<td>16.6</td>
<td>Public</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>9.1</td>
<td>Private</td>
</tr>
<tr>
<td>Construction</td>
<td>3.6</td>
<td>Net exports</td>
</tr>
<tr>
<td>Services</td>
<td>52.1</td>
<td>Exports</td>
</tr>
<tr>
<td>Wholesale and Retail Trade</td>
<td>11.1</td>
<td>Imports</td>
</tr>
<tr>
<td>Real Estate &amp; Business Activities</td>
<td>0.3</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Main Destinations of Exports, 2018</th>
<th>% of Total</th>
<th>Main Sources of Imports, 2018</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Russian Federation</td>
<td>27.6</td>
<td>Russian Federation</td>
<td>28.1</td>
</tr>
<tr>
<td>Switzerland</td>
<td>13.9</td>
<td>People’s Republic of China</td>
<td>7.7</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>8.9</td>
<td>Georgia</td>
<td>7.5</td>
</tr>
<tr>
<td>Iraq</td>
<td>6.2</td>
<td>Iran</td>
<td>5.4</td>
</tr>
<tr>
<td>Germany</td>
<td>5.6</td>
<td>Germany</td>
<td>5.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Principal Exports, 2018</th>
<th>% of Total</th>
<th>Principal Imports, 2018</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mineral products</td>
<td>26.7</td>
<td>Machinery and equipment</td>
<td>18.8</td>
</tr>
<tr>
<td>Metallic ores, slag, and ash</td>
<td>..</td>
<td>Mineral products</td>
<td>14.5</td>
</tr>
<tr>
<td>Foodstuffs (final)</td>
<td>22.9</td>
<td>Mineral fuels, mineral oils</td>
<td>..</td>
</tr>
<tr>
<td>Precious stones and metals</td>
<td>12.7</td>
<td>Foodstuffs (final)</td>
<td>8.1</td>
</tr>
<tr>
<td>Base metals and articles thereof</td>
<td>12.3</td>
<td>Chemical products</td>
<td>8.0</td>
</tr>
<tr>
<td>Textile products</td>
<td>9.3</td>
<td>Air, water, and land transport</td>
<td>7.3</td>
</tr>
</tbody>
</table>

\(\ldots\) = data not available, GDP = gross domestic product.

Notes:
- \(a\) At factor cost.
- \(b\) In nominal terms.
- \(c\) Refers to merchandise trade only.

Sources: National Statistical Service of the Republic of Armenia; Central Bank of Armenia.
### Table A1.2: Sector Production Structure, 2017

<table>
<thead>
<tr>
<th>Types of Economic Activity</th>
<th>2017 (million AMD)</th>
<th>% of GDP Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, hunting, forestry, and fishing</td>
<td>831,881</td>
<td>15</td>
</tr>
<tr>
<td>Wholesale and retail trade, repair of motor vehicles, and motorcycles</td>
<td>601,349</td>
<td>11</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>569,836</td>
<td>10</td>
</tr>
<tr>
<td>Real estate activities</td>
<td>462,825</td>
<td>8</td>
</tr>
<tr>
<td>Construction</td>
<td>409,830</td>
<td>7</td>
</tr>
<tr>
<td>Arts, entertainment, and recreation</td>
<td>295,500</td>
<td>5</td>
</tr>
<tr>
<td>Financial and insurance activities</td>
<td>269,560</td>
<td>5</td>
</tr>
<tr>
<td>Public administration</td>
<td>267,820</td>
<td>5</td>
</tr>
<tr>
<td>Human health and social work activities</td>
<td>231,356</td>
<td>4</td>
</tr>
<tr>
<td>Electricity, gas, steam, and air conditioning supply</td>
<td>222,699</td>
<td>4</td>
</tr>
<tr>
<td>Information and communication</td>
<td>188,043</td>
<td>3</td>
</tr>
<tr>
<td>Mining and quarrying</td>
<td>176,989</td>
<td>3</td>
</tr>
<tr>
<td>Transportations and warehouse economy</td>
<td>165,526</td>
<td>3</td>
</tr>
<tr>
<td>Education</td>
<td>145,891</td>
<td>3</td>
</tr>
<tr>
<td>Accommodation and food service activities</td>
<td>80,379</td>
<td>1</td>
</tr>
<tr>
<td>Professional, scientific, and technical activities</td>
<td>62,598</td>
<td>1</td>
</tr>
<tr>
<td>Administrative and support service activities</td>
<td>44,914</td>
<td>1</td>
</tr>
<tr>
<td>Other service activities</td>
<td>39,253</td>
<td>1</td>
</tr>
<tr>
<td>Water supply, sewerage, and waste management and remediation activities</td>
<td>29,094</td>
<td>1</td>
</tr>
<tr>
<td>Activities of private households as employers and undifferentiated production, and services activity</td>
<td>2,835</td>
<td>0.1</td>
</tr>
<tr>
<td>Domestic product (gross, market prices)*</td>
<td>5,098,178</td>
<td>91.1</td>
</tr>
</tbody>
</table>

GDP = gross domestic product.
* Includes taxes on products (minus subsidies) and Financial Intermediation Services Indirectly Measured.

Source: ADB’s elaboration based on data from the Statistical Committee of the Republic of Armenia.
APPENDIX 2

Urban Sector Problem Tree

**Core problem:**
Unbalanced regional growth and inadequate urban infrastructure

**Effects:**
- Declining livability in secondary cities
- Vulnerability to natural disasters and climate change impacts
- Constrained economic growth in regions outside Yerevan

**Causes:**
- High economic disparity between Yerevan and regions
- Inadequate infrastructure and services
- Degradation of natural environment
- Limited strategic planning and policy, and institutional capacity constraints

**Causes:**
- Overall urbanization dominance of Yerevan (57% of urban population and 57.7% of national gross domestic product)
- Skill deficits in population in regions
- Widening gender gaps in economy
- Insufficient operation and maintenance and capital investment in urban infrastructure
- Limited fiscal space and borrowing capacity
- Overreliance on central budget transfers and limited local revenue capacity
- Low, unsustainable tariffs for urban services
- Limited private sector participation in urban infrastructure
- Fiscal imbalance and higher cost of delivering public services
- Inadequate disaster risk reduction measures
- Limited coordinated strategies for climate change resilience
- Lack of building codes and standards for climate change resilience
- Limited consistency among territorial development strategies and master plans at regional and local level
- Lack of modern planning approaches and digitalized tools for master planning and zoning
- Lack of cultural heritage conservation regulations
- Lack of trained staff
- Overlapping or unclear responsibilities of subnational authorities for developing green spaces
Armenia’s Transformative Urban Future
National Urban Assessment

The National Urban Assessment for Armenia provides a snapshot of the country’s urban sector and offers insights to achieving prosperous and sustainable cities. Armenia is highly urbanized, with the population concentrated in Yerevan and its surrounding areas given the capital’s geopolitical, economic, and cultural legacy. This report identifies future urban development scenarios, which rely on strong political commitment to establish a territorial strategy that ensures balanced regional development and inclusive economic growth. Opportunities exist to develop well-planned infrastructure along with balanced resource distribution among Yerevan and other cities, while leveraging Armenia’s cultural and environmental assets. Designing, planning, and budgeting long-term territorial and urban policies could potentially act as an economic engine for the country.

About the Asian Development Bank

ADB is committed to achieving a prosperous, inclusive, resilient, and sustainable Asia and the Pacific, while sustaining its efforts to eradicate extreme poverty. Established in 1966, it is owned by 68 members—49 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.