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Long Way Ahead

Applying the Sustainable Cities Implementation Framework in Azerbaijan

Anar Valiyev and Fidan Namazova

In the past 30 years, Azerbaijan has transformed from a majority rural society to a majority urban one. The urban population rate grew from 45 percent in 1993 to 57 percent in 2024. Of the total country's population, around 24.3 percent is concentrated in the city of Baku. But the Greater Baku Area, which consists of the urbanized region encompassing the nearby cities of Sumgayit and Khirdalan (both of these are located, as is Baku, on the Absheron Peninsula), is estimated to host around 40 percent of country's population—that is to say, around 4 million people. Ganja, the country's second-largest city, has a population of a little less than 400,000, making the urban primacy index in

the country around 7 (unofficially, the number is closer to 10).

Urbanization in the country has been driven by a few main factors. One of the most important is rural-urban migration. During the Soviet period, rural areas had a disproportionately high share of Azerbaijan's population, while agricultural productivity was extremely low. Currently, 35 percent of the labor force, or around 1.5 million people, continue to live in rural areas. Meanwhile, sustainable agriculture in the country may need a much smaller number of people. For the past decades, with the introduction of new agricultural technologies, the number of people migrating from rural areas to cities

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increased. It is expected that due to increased technological innovation in agriculture, coupled with reliance on large agricultural enterprises, the rural population will continue to migrate to urban areas—and especially to Baku.

Scene Setting

Azerbaijan has 79 urban areas officially designated as cities, with various levels of population and density. Thus, out of all the country's cities, only one (Baku) has a population of more than 500,000 people; only four cities have a population between 100,000 to 500,000 people. Around 68 cities in Azerbaijan have populations of up to 50,000 people.

Beyond the 70 urban areas, there are 269 official urbanized settlements, which consist of towns or villages whose population does not (for the most part) exceed 3,000 people. Population density varies depending on the region while the average density is 117 people per square kilometer of land area. The density in the top cities varies from almost 7,000 people per square kilometer to 500, while the average

density in the country is around 117. Baku, despite being the most populous city, has a density of around 1,075. Azerbaijan has a total of 1,698 sub-national governments. The country has 1,607 municipalities, the average size of which is 3,700 inhabitants.

Azerbaijan's economy is skewed toward the urban areas, and specifically toward Baku. More than 75 percent of the country's GDP and 90 percent of exports are formed thanks to the oil and gas sector located offshore in the Caspian Sea or in and around Baku. Meanwhile, agriculture or rural areas produce less than 10 percent of GDP and around 4 percent of the country's exports. The urban areas are the main drivers of economic development, and Baku's role cannot be overestimated in this regard.

Most of the investments of the country is directed to Baku, and the city is the largest financial hub in the Caucasus. Another trend in the country that will affect urbanization trends is the positive demographic situation in Azerbaijan for the past 20 years. The share of the able-bodied population will increase. Most of the new jobs (i.e.,

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200,000 or so) will be created in Baku and other urban areas.

Urbanization along the shorelines of the Caspian Sea in Azerbaijan has also amplified in recent years, with ever-increasing pressure on the land-based and marine environment. Population densities along the Caspian Sea shorelines are uneven, and most of the population is concentrated in major urban centers in Baku, Lankaran, Neftchala, and others.

While the Baku metropolitan area represents the largest urban agglomeration, other cities on the coastline have seen rapid and, in some circumstances, unplanned urban sprawl. Climate change also poses challenges to local economic development linked to tourism and recreational activities being disrupted by precipitation and temperature variation. Moreover, the generation of both solid and water waste (both industrial and municipal) affects the quality of seawater.

In 2021, Azerbaijan launched a process of building smart cities and villages in the Karabakh Economic Region and East

Zangezur. This part of the country was liberated in 2020 during the Second Karabakh War, with full administrative control being completed in September 2023. The 30-year-occupation by Armenian forces was characterized by wholesale destruction (entire cities had been leveled and infrastructure destroyed) and the complete ethnic cleansing of the Azerbaijani

population. Both regions were under occupation during the land reforms in Azerbaijan, and thus, the land is still under the government's ownership. That fact allows the state to merge or centralize many villages, as well as plan cities much more rapidly and build them from scratch. Yet, it brings additional responsibility to the government in the process of relocating displaced people back to their lands of origin.

The foregoing is part of Azerbaijan's Great Return program, which envisages systematic measures for the return of IDPs back to their hometowns in the liberated areas. The First State Program on the Great Return calls for the return of 10,270 families by 2025 and 34,500 families by 2026. Yet, there must be some idea or concept that

would incentivize IDPs to return to these territories and live in better conditions—hence the introduction of the concept of smart city/village. In September 2022, the first smart village (Aghali) was completed, and around 300 people were resettled there. The village is being developed based on five “smart: pillars, i.e., housing, production, social services, agriculture, and sustainable energy. The village envisions the use of modern technologies and practices brought in by specialists from China, Turkey, Italy, and Israel.

Over the next decade, Azerbaijan will build numerous other smart villages in Karabakh, which are intended to spur migration back to rural locales and slow down urbanization.

Strategic Framework

Led by the World Bank, the Global Platform for Sustainable Cities (GPSC) developed what is called the Urban Sustainability Framework. This

The Global Platform for Sustainable Cities (GPSC) developed what is called the Urban Sustainability Framework, which is designed to achieve four main objectives. On this basis, the World Bank conducted a diagnosis of Baku's urban governance structure in 2023.

Framework is designed to achieve four main objectives. *First*, to help build a common understanding of sustainability within an urban context. *Second*, to provide practical guidance to cities on how to pursue urban sustainability through integrated ap-

proaches. *Third*, to serve as a policy tool to support cities in collecting and integrating data, and using those data sets to define a vision, set targets, monitor progress, and forecast trends—all while being able to compare themselves with peer cities. And *fourth*, to establish a common framework to measure urban sustainability so that cities can diagnose and benchmark their current performance, monitor the impacts of their policy and planning interventions, and share data and knowledge with other cities in the GPSC network and beyond.

It is against this background that the World Bank conducted in 2023 a diagnosis of Baku's urban governance structure in the four dimensions of the Urban Sustainability Framework: *Well-Planned System, Basic Services, Smart*

Participatory, and Financial Soundness. Although most fully applicable to Baku, the results are also applicable to other Azerbaijani cities.

The first-dimension outcome of the Urban Sustainability

Framework was labeled *Well-Planned System*. For the past 15 years, the Azerbaijani government has focused on the development process of relevant legislative frameworks and state programs. Thus, urban development policies and strategies have been prepared and

Figure 1: Azerbaijan’s Main Strategic Documents Affecting Sustainable Development

Document	Status	Time horizon	Sectoral Coverage
First Nationally Determined Contribution (NDC)	Submitted in 2017	2017-2030	Economy-wide
Azerbaijan – 2020: A Look to the Future	Adopted in 2012	2011-2020	Governance, transport, energy, water, industry
Strategic Roadmap on the National Economy	Adopted in 2016	2016-2025	Governance, energy, industry, transport
Strategic Roadmap for Development of Logistics and Trade in the Republic of Azerbaijan	Adopted in 2016	2015-2020	Governance, energy, industry, transport
National Strategy of Azerbaijan on the Use of Alternative and Renewable Energy Sources (2015-2020)	Adopted in 2015	2015-2020	Governance, energy
Strategic Roadmap on Oil and Gas Development	Adopted in 2016	2016-2025	Energy, industry
Strategic Roadmap on Development of Utilities	Adopted in 2016	2016-2025	Energy, water
Strategic Roadmap on Development of Heavy Industry and Machinery	Adopted in 2016	2016-2025	Industry

enforced. Nevertheless, Azerbaijan has no national urban strategy or document as such, though several strategies have relevance in the sustainable development space.

Several core national economic strategies and program priorities provide the national direction for urban development, as laid out in Figure 1.

Previously, the State Program on Poverty Reduction and Sustainable Development for 2008-2015 and its predecessor, the Poverty Reduction and Sustainable Development Program (2004-2008), were the core programs driving urban and economic development. Back in 2016-2017, Azerbaijan adopted a Road Map containing key directions for development. One of these regarded social housing, which included the development of urban spaces. Thus, these documents envisioned the redevelopment of certain areas as well as the construction of social housing in areas suitable for the city. Other documents, though not addressing specifically urban spaces, were directed at the development of urban and semi-urban areas. Such initiatives included mostly infrastructural projects such as road construction, water pipeline building, and public works investments.

In the dimension of *Well-Planned System*, Baku’s stance is comparatively satisfactory due to the active work of the State Committee on Urban Planning and Architecture (the country’s main regulator of urban planning and management). In 2018, the Committee was given additional powers for regulating the construction in Baku and other areas, and the agency had developed and adopted master plans for Baku and dozens of other cities. Strict regulations were implemented for zoning and planning all across Azerbaijan, which brought about transparency and accountability in construction planning. It is important to mention that the Committee began to champion a holistic approach to urban planning, strictly enforcing floor ratio area. Such new policies, coupled with other actions, would allow the city to properly manage remaining territories as well as move closer to contemporary best-practice construction standards.

The second dimension outcome of the Urban Sustainability Framework was labeled *Basic Services*. In general, central and local governments adequately provide basic services to the relevant population. Thus, urban areas have constant electricity (almost 100 percent of coverage), waste collection, water supply (with

limited time in certain areas and frequent interruptions), and gas supply.

Nevertheless, the main shortage in basic service delivery is the absence of a harmonized approach to the provision of services, price regulation, and the need to address the social needs of the population rather than efficiency and effectiveness. Thus, the waste collection fees are low in the country, and local authorities need dotation from the state to properly collect waste and deliver it to waste facilities. A Waste Management System (WMS) is effective only in some districts of Baku. However, the situation slowly improving, as the closure and rehabilitation of dump sites in some districts has led to higher processing rates.

Yet, the situation is not optimal. In 2020, around 3.4 million tons of waste were produced in Azerbaijan, including one-third in Baku. Taking into consideration the current capacity of the country's sole garbage facility (0.5 million tons per year), one can assume that around 3 million tons of waste are either inadequately dumped or disposed of elsewhere, or simply burned. Another challenge in this dimension is the low level of urban water circularity. Only 50 percent of Baku's wastewater is properly treated.

The third-dimension outcome of the Urban Sustainability Framework was labeled *Smart & Participatory*. The use of digital systems and e-governance is developing, albeit mostly at the central level. Thus, the rate of fixed internet connectivity in rural regions is 20 percent lower than in urban areas, and even though overall mobile broadband adoption and coverage are high, there is a significant digital divide in terms of internet quality/speed, use, and affordability between urban and rural areas.

According to a 2022 World Bank report, with an average fixed broadband speed of 23.5 Mbps, Azerbaijan is ranked 111th out of 175 countries surveyed. Furthermore, in rural regions, the cost of internet connection, as well as PCs and mobile devices, may be a barrier to effective internet usage. In another ranking designed by UK internet company Cable, Azerbaijan ranks 175th globally in terms of broadband internet speed, with its 6.61 bits per second download speed, while neighboring Armenia and Georgia boast three to four times faster speeds.

Moreover, digital public services are lagging, stemming from a need for infrastructure, capacity-building, and interoperability

issues between various public bodies. The challenge is exacerbated by the fact that not all local municipalities have online systems for service delivery. Most of the e-services are delivered by the centralized ASAN-service, which is a one-window system that operates throughout the country.

Another challenge, which is manifested both at the local and country level, is the absence of disaggregated data and needed information. Local municipal government leaders neither have the capacity nor (in some cases) see a need to optimize their data collection. That brings us to the problem of lacking centralized data at the urban settlement level.

Meanwhile, cities lack participatory planning and budgeting governance processes. Plans and budgets are shared on a public website, but the process of creating them is neither transparent nor predictable. That governance gap points to a lack of structured platforms for dialogue with stakeholders, as well as a lack of transparency and predictability for public/stakeholder participation

during the planning process, which limits accountability.

The fourth dimension outcome of the Urban Sustainability Framework was labeled *Financial Soundness*. An analysis of this area found that there are some challenges in the income-generating abilities of the local governments, lack of finances as well as competence to decide on what are or should be understood to be primarily local issues.

Municipalities and local governments in Azerbaijan have comparatively large tax bases. Despite this last, municipalities have very limited access to financial resources. First, municipalities do not have profit-making enterprises under their jurisdiction. Next, not all municipalities have mineral resources (related to the construction industry). Finally, property tax levied from physical people is very low. Residents of the Baku area tend not to pay municipality property tax, since there is neither an enforcement nor a penalty mechanism in place.

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Data Governance

Implementing the Urban Sustainability Framework in Azerbaijan requires that the government to take several critical steps, with data governance perhaps being the most important one. Azerbaijan has very limited data and, in many instances, the data is not disaggregated by regions, sex, and age groups. Moreover, many institutions, including some state agencies, have raised concerns about the reliability of official data, noting that what is officially provided does not correspond with their own findings; in many areas, data does not accurately portray the current situation. There is thus a need for transparent and up-to-date data collection.

The lack of data makes it difficult to accurately assess the current state of poverty and the enjoyment of the right to food, education, healthcare, and access to adequate housing in the country. Fully accurate figures are necessary to enable the Government to develop a strategic response, as programs and responses are being designed around information that may not reflect the actual situation.

The government will thus need to provide all necessary human, technical, and financial resources for the establishment of a comprehensive system for data collection, analysis, and monitoring. These same resources will also need to ensure that the data collected is disaggregated by age, gender, ethnicity, geographic region, and socio-economic background. The absence of data, or the suboptimal process of data collection, leads to situations in which governmental decisions are not data-driven and evidence-based. Indeed, the government does not always use data to justify its decision, due to the absence of such data or the absence of such a practice.

Beyond the incapacity to properly collect data or an unwillingness to share it publicly, also lacking is the proper capacity to analyze data. Strengthening data collection, monitoring, and reporting at the local level can lead to better identification of priority problems, inform targeted policy planning, and encourage greater accountability and transparency regarding the implementation of proposed policies.

The absence of data, or the suboptimal process of data collection, leads to situations in which governmental decisions are not data-driven and evidence-based.

A shift towards a more results-based approach (rather than the current input-driven approach) is required in municipal financing and management systems, so as to provide subnational governments with not only abilities but also incentives to enhance sustainability.

What Should Be Done?

At the governance/strategic planning level, Azerbaijan should commit to four types of reforms. One, introduce evidence-based policymaking and centralized data collection, supported by adequate tools and processes at the urban settlement level. Two, establish a mechanism for linking budgets to strategic priorities. Three, introduce capital investment prioritization and coordination between donor initiatives. And four, broaden the scope of municipal competencies and attributions.

Regarding land-use planning, Azerbaijani state agencies should undertake three types of reforms. One, improve

land-use data collection and monitoring and ensure that the cadaster provides transparent, legally validated, and reliable data to landowners, government services, and private investors. Two, build capacity on spatial and integrated urban planning and develop guidelines and tools, namely GIS tools, which can increase access to vital information for planning and create informed strategies more effectively and enable assessment of quality and efficiency of public services. And three, adopt integrated approaches to urban planning, with the role of spatial planning as an umbrella framework for sectoral policy integration and coordination.

It is encouraging that the Azerbaijani government has seriously begun to improve the transportation management system in the past year. The introduction of the AzParking system as well as bicycle and bus lanes have had a significant impact on traffic in Baku.

Yet, further steps should be undertaken. Regarding this aspect, we can enumerate four

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such reforms. One, provide for the better overall management of transport. Two, introduce traffic management systems. Three, improve the availability and monitoring of transport data and the local capacity to make use of these systems. And four, extend and develop data collection infrastructure through the installation of sensors, surveillance cameras, and other devices, together with software used for the interpretation of data; and countering urban sprawl with transit-oriented development and land-use planning.

Implementing the Urban Sustainability Framework can tremendously help Azerbaijan's efforts to establish smart cities in Karabakh, help revitalize economically depressed cities, and further strengthen national economic development.

To do this correctly, the state will need to devise its own country-specific framework strategy and actions, not merely reproduce such best practices from abroad. Azerbaijan has particular challenges that require particular solutions.

The country should prioritize educating, nurturing, and developing its own experts and specialists, which should ensure that the resulting Framework is designed (and implemented) in an optimal manner. To that end, it should focus on governance issues as well as encourage (and value) direct citizen participation in decisionmaking processes. This would go a long way towards ensuring that the resources spent on technologies, foreign consultancies, and construction projects contribute effectively to a results-based approach to Azerbaijan's growing urbanization challenges. **BD**

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