DEVELOPMENT OPPORUTNINTIES IN THE CIS COUNTRIES

August 2019

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Development Opportunities in the CIS Countries

First Draft

August 2019

SMART INVEST IRAN

Azerbaijan

Location

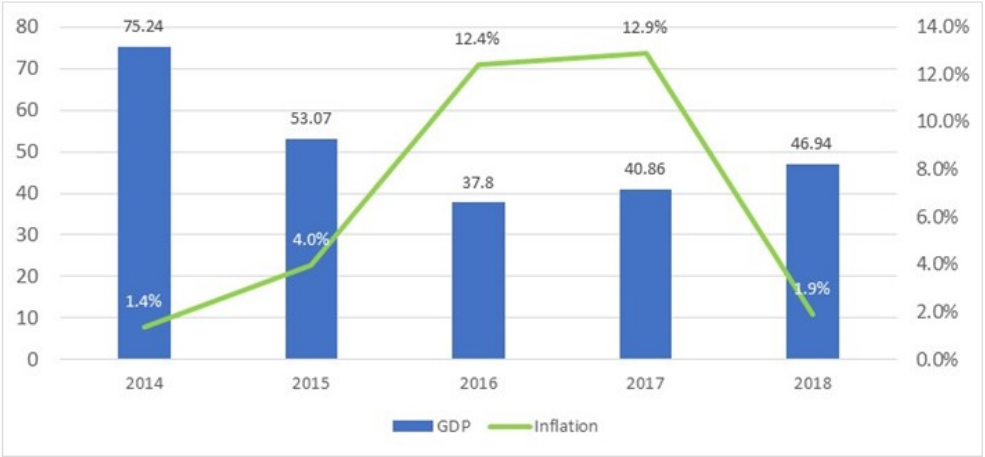
Overview

Population	Area	Currency	Main Language	Main Religion
9.8 million	86,600 sq. km	Azerbaijani manat	Azerbaijani	Islam

GDP	Economic Growth	Inflation	Unemployment Rate	Trade (% of GDP)
46.94 billion $	1.41 %	1.92%	5 %	69.23%

Map

GDP & Inflation Trend



Azerbaijan

Aviation Sector

Air transport to, from and within Azerbaijan creates three distinct types of economic benefit. Economic value created by the industry is more than contribution to GDP. The principal benefits are created for the customer, the passenger or shipper, using the air transport service. In addition, the connections created between cities and markets represent an important infrastructure asset that generates benefits through enabling foreign direct investment, business clusters, specialization and other spill-over impacts on an economy's productive capacity.

Airport

Currently, there are 11 commercial airports in Azerbaijan.

Heydar Aliyev International airport has considered largest airport in the country.

Map 1-1: Connectivity Map-2011

Source: IATA

Table 1-1: Azerbaijan Commercial Airports

Airport	City	ICAO Code
Akstafa	Aghstafa	UBBA
Heydar Aliyev International Airport	Baku	UBBB
Zabrat Airport	Baku	UBTT
Balakan Airport	Balakan	UB0G
Ganja International Airport	Ganja	UBBG
Lankaran International Airport	Lankaran	UBBL
Nakhchivan International Airport	Nakhchivan	UBBN
Qabala International Airport	Qabala	UBBQ
Stepanakert Airport	Stepanakert	UBBS
Yevlakh Airport	Yevlakh	UBEE
Zaqatala International Airport	Zaqatala	UBBY

Airlines

Currently there are 6 airlines active in Azerbaijan which Azal avia cargo and silk way airlines are only cargo airlines.

Azerbaijan airlines with fleet size of 20 aircraft is the biggest airlines in the country.

Passengers

In 2017, more than 2.3 million passengers were conveyed which shows CAGR of 7 percent during years 2013 to 2017.

Table 1-2: Active Airlines in Azerbaijan

Airline	Fleets Size	Number of Destinations
Azerbiajan Airlines	20	36
Buta Airways	8	18
SW Business Aviation	7	-
Azal Avia Cargo	4	-
Silk Way Airlines	24	49

Table 1-3: Passengers Conveyance by Air

	2013	2014	2015	2016	2017	CAGR
Passenger conveyance (000 passenger)	1,664	1,788	1,818	1,980	2,359	7%
International (000 passenger)	1,157	1,236	1,284	1,432	1,770	9%
Local (000 passenger)	507	552	534	548	589	3%
Passenger turnover (million passenger-km)	2,579	2,918	3,338	3,549	5,601	17%
International (million passenger-km)	2,286	2,589	2,986	3,185	5,198	18%
Local (million passenger-km)	293	329	352	364	403	7%

Source: State Statistical Committee of Azerbaijan

Chart 1-1: Passengers Turnover

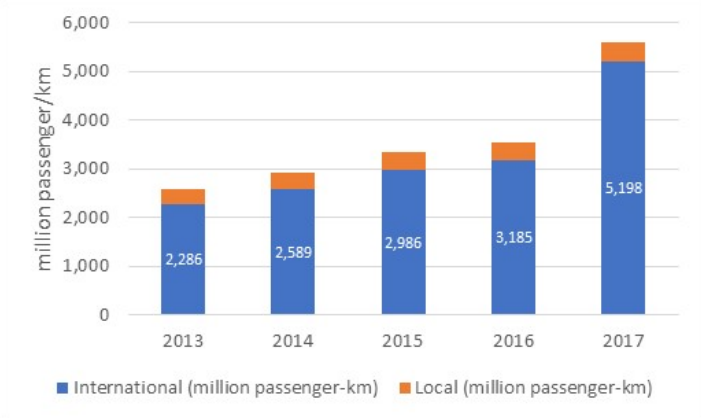


Chart 1-2: Passengers Conveyance by Air

Cargos

in 2017, about 173 thousand ton of cargo transported via air transportation. These statistics show CAGR of 7 percent during years 2013 to 2017.

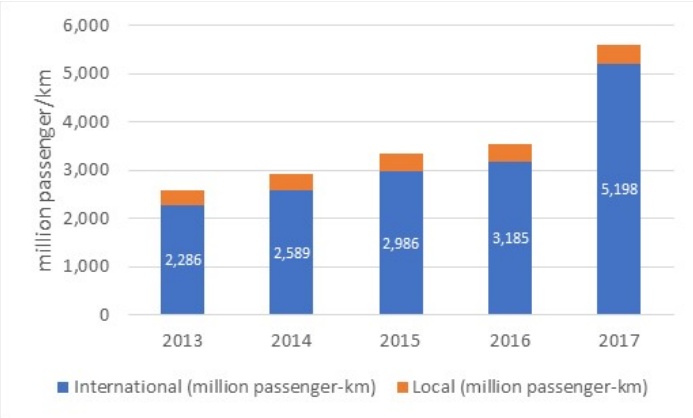
Table 1-4: Goods Transportation by Air

	2013	2014	2015	2016	2017	CAGR
Goods transportation (thousand tonnes)	126	125	129	160	173	7%
international	124	123	127	158	171	7%
local	2	2	2	2	2	0%
Turnover of goods (million tonne-km)	443	481	582	683	738	11%
international	442	480	581	682	737	11%
local	1	1	1	1	1	0%

Source: State Statistical Committee of Azerbaijan

Chart 1-3: Goods Transportation

Chart 1-4: Turnover of Goods Transported via Air



Fleets

Currently, there are 22 active aircraft in the Azerbaijan air transport fleet including Airbus A319, Airbus A320, Airbus A340, Boeing 757, Boeing 767, Boeing 787 and Embraer 190.

Table 1-5: Number of Fleets

Aircraft	Active	Stored	Written off	History	On order	Total
Airbus A319	4			2		6
Airbus A320	7	1				8
Airbus A320-200	7	1				
Airbus A340	3					3
Airbus A340-500	2					
Airbus A340-600	1					
ATR 42/72				6		6
ATR 42				2		
ATR 72				4		
Boeing 757	2	2		2		6
Boeing 757-200	2	2		2		
Boeing 767	2			1		3
Boeing 767-300	2			1		
Boeing 787	2					2
Boeing 787-8	2					
Embraer 170/175				1		1
Embraer 170				1		
Embraer 190/195	2			2		4
Embraer 190	2			2		

Source: Airfleets.net

Workforces in the Aviation sector

In 2017, about 12,409 people worked in the Air transport enterprises. The statistics show CAGR of 2 percent during years 2013 to 2017.

Nominal Wages in the Aviation sector

Average nominal wages of workers in the Air transport enterprises was about 613 US Dollars in 2017 that shows CAGR of 5 percent during years 2013 to 2017.

Table 1-6: Average annual number of workers in the Air transport enterprises

	2013	2014	2015	2016	2017	CAGR
Number of workers	11,029	12,083	12,451	12,150	12,409	2%

Source: State Statistical Committee of Azerbaijan

Table 1-7: Average nominal wages of workers in the Air transport enterprises (US Dollar)

	2013	2014	2015	2016	2017	CAGR
Nominal wages	492	466	483	500	613	5%

Source: State Statistical Committee of Azerbaijan

Chart 1-5: Average annual number of workers

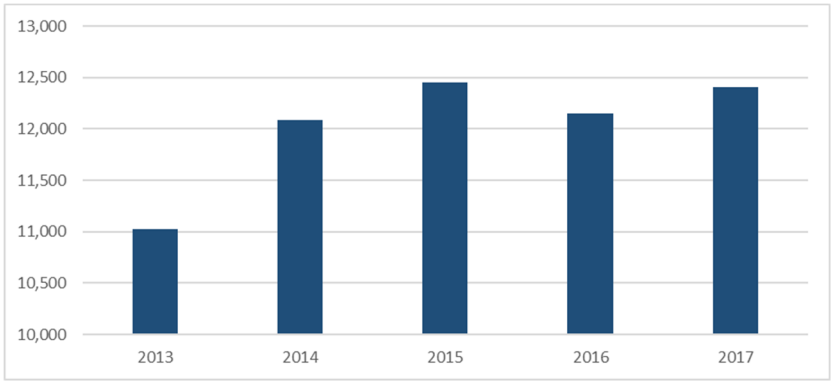
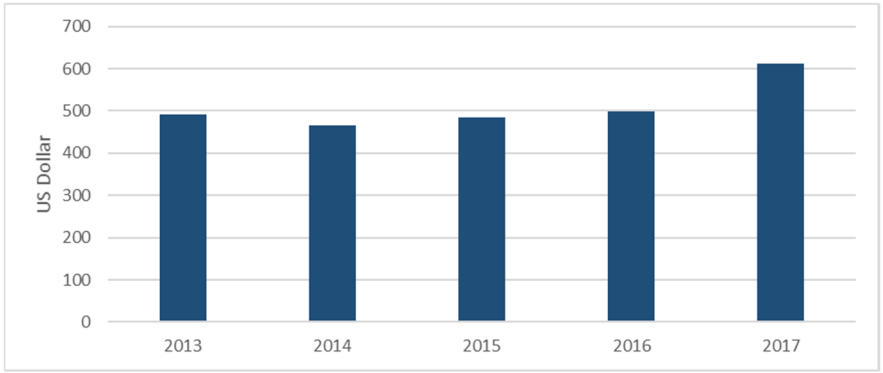


Chart 1-6: Average nominal wages of workers



Development Plans in the Aviation sector

For Azerbaijan to become a regional trade center, the country's strategic geographical location must be effectively used, transit and transport services developed, and logistical centers established in the districts. This will also enhance the country's attractiveness as a reduction and investment center and open new business and employment opportunities.

The management of local and international transport will be improved and the integration of the country's transport into the international system expanded. Accordingly, a new unified strategic approach will be applied to automobile, railway, water, air and underground transport.

In order to enhance the country's competitiveness in the Europe-Caucasus-Asia and North-South international transit corridors, measures will be taken to reduce transit costs via Azerbaijani territory, expedite import and export operations, shorten transit time and simplify transit procedures.

A new airport terminal, a runway and hangars will be commissioned at the Heydar Aliyev international airport and a free economic zone established here. Further measures will be taken to renew the six other international airports and the air fleet.

Azerbaijan's national carrier AZAL (Azerbaijan Airlines) has announced plans to significantly expand its international network by introducing more than 14 new routes from its Baku hub, including Tokyo, Delhi, Shanghai, Zhengzhou, Bangkok, Seoul, Kuala Lumpur, Amsterdam, Vienna, Rome, Amman, Karachi, Cairo, Dushanbe "and other large cities.

The government has also committed to developing a dedicated low-cost carrier as a facilitator in driving up tourist inflows and sector-related revenue by 50% by 2020. As such, Buta Airways (J2, Baku) is expected to launch using a fleet of its own Embraer aircraft.

Prospects of Aviation Sector

with the help of the new routes, passenger traffic through Heydar Aliyev International Airport should exceed seven million passengers a year by the end of 2020.

Azerbaijan is signatory of the Convention of International Civil Aviation; the Chicago Convention. The convention is administrated by International Civil Aviation Organization (ICAO), an entity of the United Nation. ICAO Assembly Resolution A36-23 resolved that each state to develop a national PBN implementation plan. Azerbaijan Republic Performance Based Navigation (PBN) Implementation plan details the framework within which the ICAO PBN concept will be implemented in the Azerbaijan for the foreseeable future. Azerbaijan Republic Performance Based Navigation (PBN) Implementation plan is guided by ICAO Doc.

- INTENT OF THE AZERBAIJAN PBN IMPLEMENTATION PLAN

The PBN Implementation Plan was developed by the Azerbaijan CAA in consultation with the stakeholders concerned and is intended to assist the main stakeholders of the aviation community plan a gradual transition to the RNAV and RNP concepts. The main stakeholders of the aviation community that benefit from this PBN Implementation Plan, and were therefore included in the development process are:

- Airspace operators and users

- Azerbaijan Air navigation service provider - AZANS
- Azerbaijan Civil Aviation Administration
- National and international organizations

The Azerbaijan PBN Implementation Plan is intended to assist the main stakeholders of the aviation community plan the future transition and their investment strategies. For example, airlines and operators can use this Azerbaijan PBN Implementation Plan to plan future equipage and additional navigation capability investments; air navigation service providers can plan a gradual transition from ground infrastructure to space based Navigation.

Azerbaijan Civil Aviation Administration will be able to anticipate and plan for the criteria that will be needed in the future as well as the future regulatory workload and associated training requirements for their work force.

Key players in the Aviation sector

1- The State Civil Aviation Agency under the Ministry of Transport, Communications and High Technologies of the Republic of Azerbaijan was established by Presidential Decree №.1785 dated 12 January 2018 “On certain measures to improve management in the field of transport, communications and high technologies in Azerbaijan”. The total number of Agency’s personnel is 48. The expenses for maintenance and Agency’s activities are funded from the State budget of the Republic of Azerbaijan. The Agency’s activity is headed by a director, who may be appointed and dismissed by the President of the Republic of Azerbaijan. At present the director of the State Civil Aviation Agency is Arif Mammadov Ahmad oglu. The director of the Agency has two deputy directors.

2- Silk Way West is a subsidiary of Silk Way Company, which includes 23 companies operating in the aviation industry and related services.

Water Treatment

In the sewerage sector, Baku wastewater network serves 72% population of the city, but only 50% of the water is treated. 90% of the treated water is biologically processed and only 10% is mechanically processed. Wastewater treatment plants are available in 16 cities and regions; most of them are partially or completely useless. In most cases, the quality of water supplied to the population does not meet the required standards. The state works with donor communities to take the necessary measures to address these problems. The Azerbaijani government has adopted a program on the construction of water supply and sewage systems in more than 60 small towns (regional centers) in the country. The state has already started to implement more than 20 such projects. At the same time, local water supply projects are being implemented.

Water treatment facilities and their capacity

Azerbaijan inherited a relatively extensive water supply system from the Former Soviet Union (FSU). At the time of the appraisal, about 95 percent of the population in Baku and about 83 percent of those living in secondary cities and small towns were connected to piped water supply. While coverage appeared generally high in comparison to most of the other countries with similar income, the quality of infrastructure and services had deteriorated severely over the years due to the lack of investment and deferred maintenance. In many secondary and small towns, water treatment facilities were largely dysfunctional or lacking completely, so that the population in these towns did not have access to safe water supply. In addition, almost everywhere in the country piped water supply was unreliable and often only available for less than 12 hours a day. Centralized piped water supply systems were rare in rural areas and less than 33 percent of the rural population had access to piped water supplies.

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A combination of an inherited and relatively extensive water supply system from the Former Soviet Union (FSU), lack of investment, deferred maintenance and damage due to natural calamities such as an earthquake in 2000 with an epicenter just offshore Baku that was the strongest in almost 160 years, resulted in severely deteriorated quality of infrastructure and services over the years. The compounded impact of these developments negatively affected water supply and sanitation users. In many secondary and small towns, water treatment facilities were largely dysfunctional or lacking completely, to the point that the population in these towns did not have access to safe water supply. Furthermore, most rayons did not have

a functioning sewerage collection system, and the few facilities that were available were in a poor state of disrepair. This was a serious threat to public health and had severe negative impacts on the environment. In addition, almost everywhere in the country piped water supply was unreliable and was often available for less than 12 hours a day.

About 55 percent of Azerbaijan's population had access to improved sanitation facilities. Access to sanitation facilities in urban areas was higher than in rural areas, with coverage estimated at 73 percent and 36 percent, respectively. The sewerage network in Baku served about 78 percent of the population, although only about 50 percent of wastewater in the area was treated. Sewerage coverage in other urban areas was only about 32 percent and a minor proportion of the sewage underwent any treatment before disposal. Rural areas primarily depended on on-site sanitation. There was insufficient control by the public health department on the location and condition of on-site sanitation facilities, and there was no effective regulation of the emptying trucks which periodically removed the sludge, increasing the risk of clandestine and unsafe discharge of this matter into the environment. It was imperative that fecal sludge from these facilities be treated before it is discharged into the environment both for public health and environmental reasons.

Potable water supply and sanitation services in Azerbaijan are centrally managed by Azersu JSC. The company is responsible for taking water from the sources, processing, transporting and distributing of water, and purifying wastewater. Azersu also deal with designing water intake structures, reservoirs, pumping stations, water pipelines, sewage collectors, and their construction, operation and maintenance.

Azersu controls 18,000 kilometers of water transmission lines and 3,500 kilometers of sewer and stormwater lines.

Table 1-8: Water treatment plants

Plant name	capacity (m3/ day)
Hovsan biological treatment plants	640,000
Sahil biological treatment plants	17,500
Buzovna biological treatment plants	10,000
Zig mechanical treatment facilities	70,000
Khojassan mechanical treatment facility	18,600
Shuvelan mechanical treatment facilities	18,600
Total	**774,700**

Source: azersu.az

Water supply Baku city and Absheron peninsula is fulfilled from 3-5 underground and 2 surface water sources: 2 underground water sources located in Khachmaz, the underground water source of Oghuz, and Jeyranbatan reservoir, as well as Kura River. Drinking water is delivered to Baku through Shollar and Second Baku waterlines from Khachmaz, waterlines from Kura and Jeyranbatan water treatment plants and Oguz-Qabala-Baku waterline.

Presently there is a separated sewerage system in Baku. Sewerage system is consisting of very few ceramic, concrete, asbestos-cement, cast iron, reinforced concrete pipes and tunnel-shaped collectors. The total length of economical and domestic sewerage lines is 1500 km. The diameter of distribution sewerage lines is 150-200 mm; the diameter of street lines and collectors is changed between 300 and 4000 mm. Besides it, presently there is a rain sewerage lines with the length of 156 km in Baku. The diameter of rain transmission main is changed between 400 and 1200 mm. The total capacity of wastewater discharged from sewerage lines is more than 1 million m^3. The total capacity of 72 Sewerage Pumping Stations is 1 million m3 per day.

Currently, there are six Wastewater Treatment Plants in Azerbaijan.

Development Plans

The share of Azerbaijan's urban population has increased in the past decade. The urbanization trend is expected to continue in the years ahead, which sets forth new goals in terms of the urban infrastructure. Drastic reforms will be carried out in the housing economy, people's access to water supply and sanitation improved, cities and their suburban settlements provided with treatment facilities and monitoring in this sphere reinforced.

Related Tenders Held

The Republic of Azerbaijan has received financing proceeds from the Islamic Development Bank (IDB) towards the cost of implementing the National Water Supply and Sanitation Project. It is intended that part of the proceeds will be applied to eligible payments under the contract for the Design, Supply and Installation of Wastewater Treatment Plants.

Key players

1- The Azersu Open Joint Stock Company (OJSC) provides water treatment, supply and sanitation services in the Republic of Azerbaijan.
2- Aquamatch Turkey
3- Waterman LLC
4- Endress Hauser AG
5- Water Engineered Technologies

Table 1-9: Related Tenders Held

Project Name	Issue Date	The Client
CONSTRUCTION OF SEWAGE COLLECTORS IN AGDASH TOWN	26-Feb-18	AzerSu Joint Stock Company
WATER AND SEWERAGE NETWORK CONSTRUCTION IN SHAKAR	12-Dec-17	AzerSu Joint Stock Company
SUPERVISION CONSULTANTS FOR AZERSU. REF MEMO ON MINC	25-Aug-17	AzerSu Joint Stock Company
Design, Supply and Installation of Wastewater Treatment Plants in 3 Cities	02-Aug-17	AzerSu Joint Stock Company
Audit Services for SAMWC for FY 2015-2018	27-Jun-17	AzerSu Joint Stock Company

Source: Asian Development Bank

Waste Management

Poorly managed solid waste was a noticeable environmental issue, with the smoke from the Balakhani landfill, the main dumpsite for Greater Baku, being visible from far away. Outside the central city, informal dumpsites were numerous, especially in the new settlements where service coverage and quality were inadequate. Both Balakhani and the informal dumpsites posed health risks to residents and waste pickers. The rapid population growth across the Peninsula exacerbated the solid waste problems. The primary challenges for solid waste management (SWM), and collection in particular, were lack of coverage, lack of service quality and lack of safe disposal options.

Size of waste management Sector

Management of solid waste is poor in most urban centers, with smaller towns performing worse than Baku or not performing at all. Unsafe landfills and uncertain separation of hazardous from nonhazardous waste are the key problems, and minimum waste recycling a subsidiary one.

Azerbaijan attaches importance to environmental issues and therefore, in 2005, has adopted a 5-year Action Plan to address the issue, which has become a landmark in the area. The Action Plan includes activities to address issues related to the clean-up of the Baku Bay, Bibi-Aibat zone, area of the International Airport and Absheron Peninsula from oil puddles as well as oil contaminated land and areas under local water containing considerable process waste. One of major projects was the construction and start-up of a plant in Baku to incinerate solid municipal waste. The project was implemented at the level of the European standards.

Chart 1-7: Generation of wastes by economic activity types

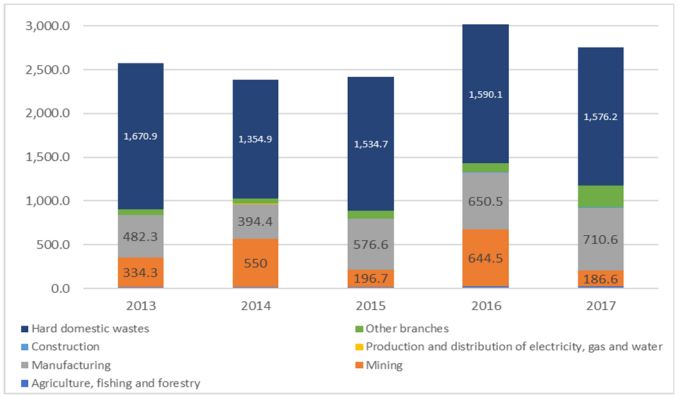


Table 1-10: Generation of wastes by economic activity types (thsd. ton)

	2013	2014	2015	2016	2017	CAGR
Agriculture, fishing and forestry	18.7	18.4	20.0	25.9	21.2	3%
Mining	334.3	550	196.7	644.5	186.6	-11%
Manufacturing	482.3	394.4	576.6	650.5	710.6	8%
Production and distribution of electricity, gas and water	5.6	3.3	4.6	6.2	6.2	2%
Construction	1.2	1.1	3.3	1.6	1.6	6%
Other branches	62.6	63.9	85.3	100.9	252.1	32%
Hard domestic wastes[1]	1,670.9	1,354.9	1,534.7	1,590.1	1,576.2	-1%

[1] m^3 conversed to ton using of rate

Source: State Statistical Committee of Azerbaijan

Figure 1-1: Waste and chemical issues in Azerbaijan

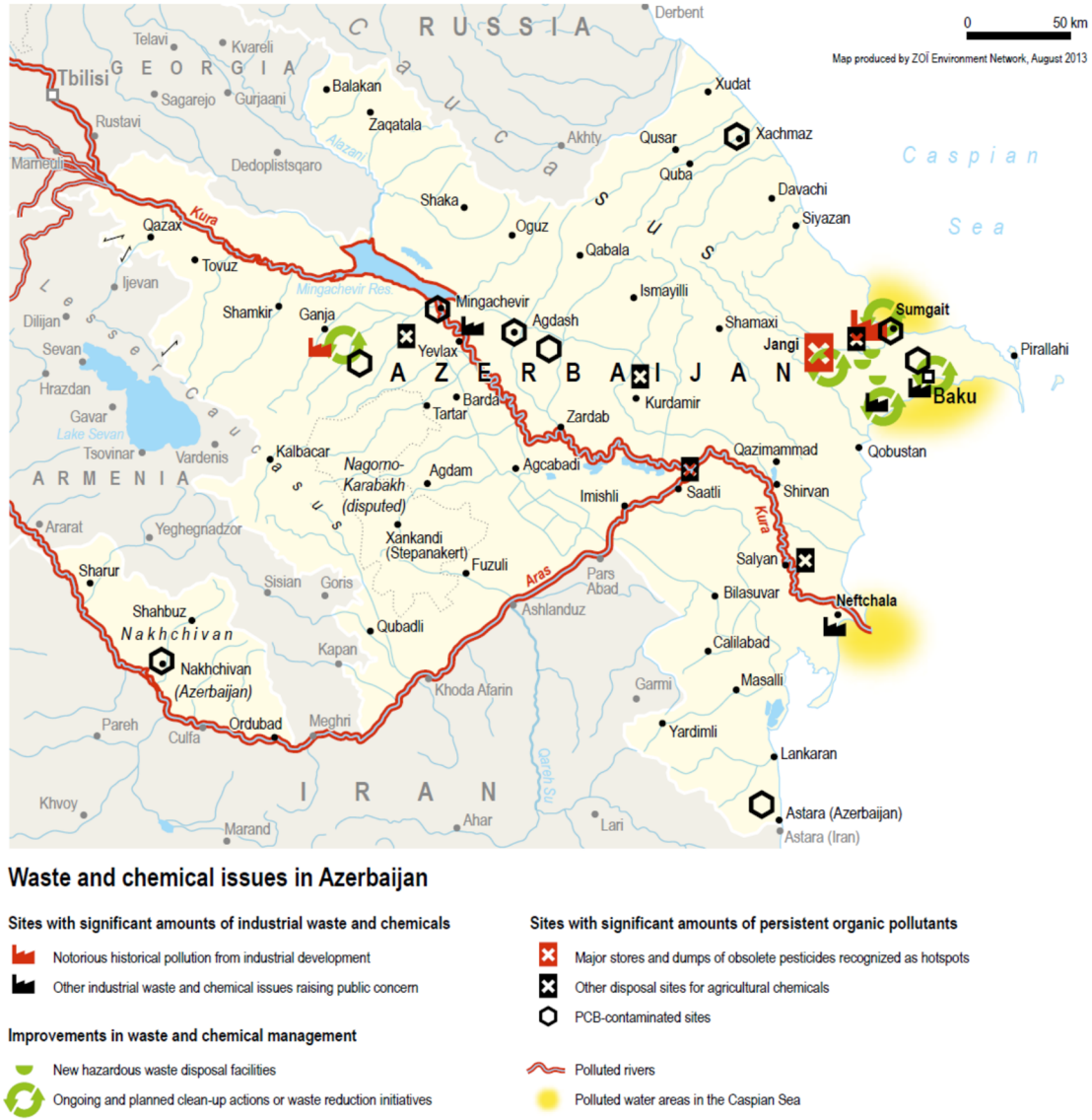
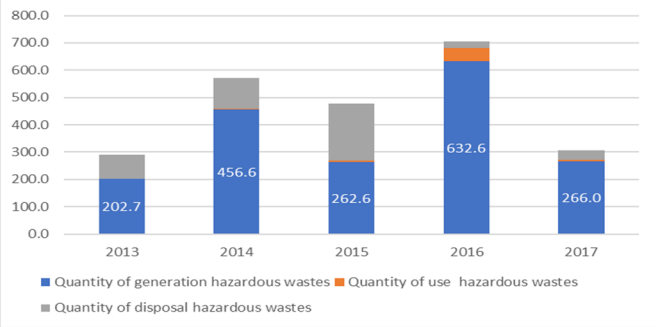


Table 1-11: Generation, use and disposal of hazardous wastes (thsd. ton)

	2013	2014	2015	2016	2017	CAGR
Generation of medical wastes	110.7	103.0	101.0	94.9	91.4	-4%
Disposal of medical wastes	2.3	2.2	2.2	1.4	1.5	-8%
Medical wastes processing by enterprises	108.4	100.8	98.8	93.5	89.9	-4%

Source: State Statistical Committee of Azerbaijan

Chart 1-8: Generation, use and disposal of hazardous wastes



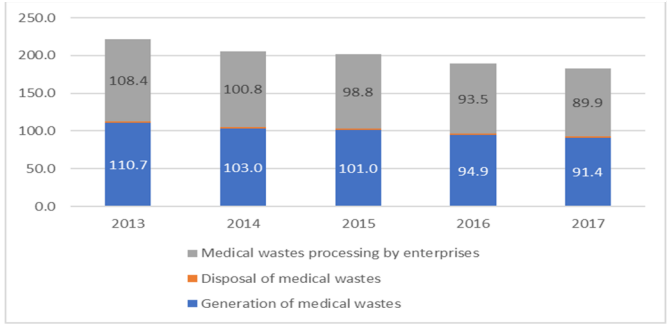
Source: State Statistical Committee of Azerbaijan

Table 1-12: Generation and disposal of medical wastes (ton)

	2013	2014	2015	2016	2017	CAGR
Quantity of generation hazardous wastes	202.7	456.6	262.6	632.6	266.0	6%
Quantity of use hazardous wastes	0.6	3.2	5.2	47.8	5.4	55%
Quantity of disposal hazardous wastes	86.4	111.3	210.9	25.9	35.8	-16%

Source: State Statistical Committee of Azerbaijan

Chart 1-9: Generation and disposal of medical wastes (ton)



Source: State Statistical Committee of Azerbaijan

Methods of waste disposal used in Azerbaijan

Hundreds of thousands of tons of solid waste are generated daily by more than three million people living in Azerbaijan's capital, Baku. The new solid waste management system established in Baku includes an incineration and recycling plant and is the first of its kind in the entire country.

The World Bank is helping the Azerbaijan government with improved solid waste collection and disposal operations in the Greater Baku area, which for years were unmanaged, and environmentally unsafe.

when all and any waste in Baku was dumped at many illegal dump sites and without any regard to content, the waste is now collected, compacted and transported

to the Balakhani landfill by the government owned trucks.

Then the trash is sorted for recycling by more than 130 men and women, who now have government contracts and medical insurance, after years of illegally collecting garbage in the area before the new recycling plant was established.

The preparation of a national solid waste management strategy is underway, based on successes achieved with the waste management system for Baku. The new, integrated approach of good sanitary disposal, incineration, and waste recycling not only provides safe and environmentally controlled waste management, but also aims at recovering energy and substantially reducing the amount of waste that needs to be sent to a landfill.

That means the entire country and its population could soon benefit as well, Sadigov says, from the environmentally safer and better managed methods of solid waste collection and disposal.

Main waste disposal Facilities

Azerbaijan is one of oldest oil-producing nations in world and during the Soviet era became one of the largest manufacturers of agricultural chemicals, producing almost half a million tons of dichlorodiphenyltrichloroethane (DDT) and other pesticides. The country was a large consumer of ozone-depleting substances for air-cooling equipment and refrigerators and its chlor-alkali industry used mercury in its processing. By the end of the Soviet era, the areas around Baku, the capital city, had become pollution hotspots. Historically, three quarters of the country's industrial production and municipal waste generation occurred on the Absheron Peninsula where Baku and many industries are located. This pattern continues today.

During the transition to independence, Azerbaijan's economic profile began to change, and most industrial uses of hazardous chemicals were reduced or stopped. No remediation occurred, however in recent years, the country has demonstrated a strong political will and has accumulated the resources necessary to clean up the legacy pollution. International donors also responded to these positive trends and provided financial and technical support.

Azerbaijan now enjoys improved environmental safety in the areas of oil extraction and transportation and in the chemical industry. The Soviet practices of managing municipal waste and of discharging communal and industrial wastewater to the

Caspian Sea are being replaced by new waste management systems that limit waste generation, sort waste by types, and

improve recycling efficiency and storage safety. Water supply, sanitation and wastewater treatment systems are being upgraded in several urban centres. These improvements not only help to improve environmental quality, they also reduce greenhouse gas emissions and improve energy efficiency and recovery in the management of waste.

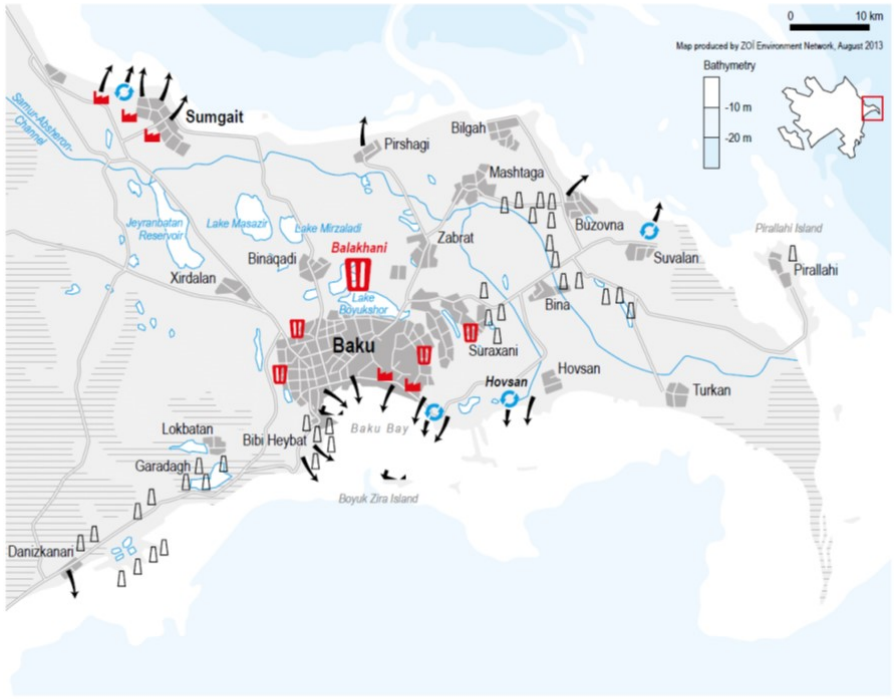
Hazardous Waste Classification System exists in the country. It is adopted based on legislation on wastes and Basel Convention and the pesticides waste have been included in the classification.

The National Laws on the management of hazardous wastes: "On Industrial and Domestic Wastes", "On Phytosanitary Control", "On Ecological Safety" and "Radiation safety of population" include the relevant regulations on the management of hazardous wastes (collection, transportation, storage, neutralization, disposal, etc.).

Wastes are placed in accordance with the relevant rules related to their replacement. Special Personal Protection Equipment, where required, is used.

There are organizations dealing with sorting and utilization (disposal) and re-use of wastes. At present, the Ecotechnopark is being established in Baku for the re-use of larger volume wastes

Figure 1-2: Absheron peninsula: Situation 20 years ago



Absheron peninsula: situation 20 years ago

- Notorious historical pollution from industrial development
- Poorly managed municipal waste landfills
- Municipal and industrial discharge sources
- Sparsely populated areas
- Major wastewater treatment plants: low efficiency of water cleaning
- Shipwrecks
- Oil fields with soil and water pollution

Figure 1-3: Absheron peninsula: present situation

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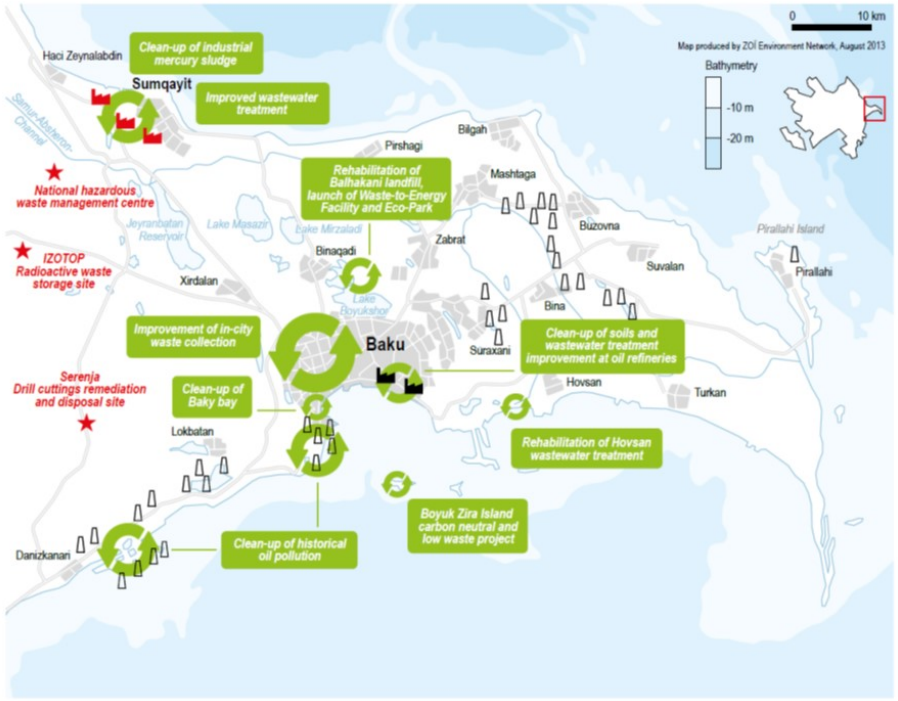


Absheron peninsula: present situation

- Notorious historical pollution from industrial development
- Other industrial waste and chemical issues raising public concern
- Poorly managed waste collection or landfill practices
- Municipal and industrial discharge sources
- Oil wells

Prospects of waste management

The Government has prepared a comprehensive National Solid Waste Strategy that sets a detailed phased roadmap to enhance the sector and its performance. The overall objectives of the Strategy are to (i) improve core collection and disposal processes including the development of regional landfills and transfer stations aimed to provide disposal services for various groupings of rayons throughout the country, which is then followed by more ambitions targets for recycling and recovery; (ii) ensure safe and efficient neutralization and disposal of hazardous wastes to minimize damage to public health and the environment; and (iii) ensure the efficient use of available resources in setting up the investments and development schemes that would improve solid waste collection, recovery and disposal in all the country's rural and urban areas. The Strategy introduces the regional approach for disposal, based on 8 waste sheds served by one regional sanitary landfill each and several transfer stations. The Strategy contains several options for sustainable institutional and financial set up of the sector, including the establishment of a national disposal company to run the regional landfills and transfer stations that are to be built in the short and medium term. The Strategy envisages establishment of the hazardous waste management infrastructure and facilities. The Strategy proposes to improve the tariff collection rates and financial accounting by attaching it to the electricity bill, following a differentiated tariff scheme depending on household energy consumption level; it further envisages the introduction of effective financial and waste accounting systems and adoption of a gradual tariff increase scheme that should allow to gradually offset the government subsidies by 2035. The National Strategy and supporting background studies, prepared with funding under the ongoing Integrated Solid Waste Management Project Additional Financing (ISWMP AF), offers plausible development approaches given the state of the sector in Azerbaijan and provides a solid direction for sector development. The Strategy is in proves of being endorsed by the Cabinet of Ministers and the Presidential endorsement is expected before appraisal.

Key Players

1- Inciner8 Limited
2- Water Engineered Technologies
3- Hako GmbH
4- CQA International Ltd
5- CQA International Ltd

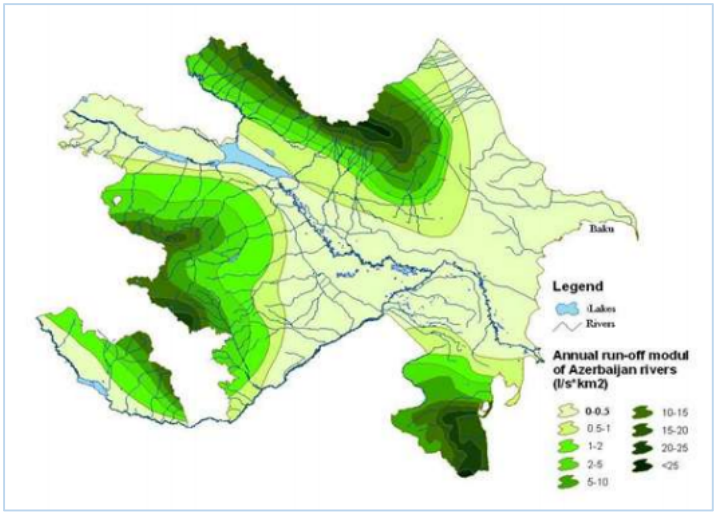
Water Management and Supply

There are 8,359 rivers in the Republic and two of those (Kur and Araz Rivers) have a length of more than 500 km. Water discharge of Kura river before its joining with Araz is 540cub.m/s and Araz 300cub.m/s. The flow of rivers directly flowing in to the Caspian sea from Giba – Kgachmaz and Lankaran Astara regions makes up 70 cub.m/\sec

In summary, the water resources of Azerbaijan are distributed as following:

- River waters: 28.5 to 30.5 km3 of which 9.5 to 10.0 km^3 belong to internal rivers and rivers flowing into the Caspian Sea
- Freshwater lakes: 0.03 to 0.05 km^3
- Water reservoirs: full capacity of 20.6 km3 and a useful capacity of 12.4 km^3
- Exploitation capacity of ground waters: 8.0 to 9.0 km^3
- Water resources of glaciers: 0.080 to 0.085 km^3

Map 1-2: Ground Water Map



Map 1-3: Flow Module Map

Main dams and their capacity

The main dams of Azerbaijan and their capacities are shown in the table below:

Chart 1-10: Azerbaijan Dams, capacity and Applications

Name of dam	Dam height (m)	Reservoir capacity (million m^3)	Reservoir area (km2)	Irrigation	Water supply	Flood control	Hydroelectricity (MW)	Navigation	Recreation	Name of dam	Dam height (m)	Reservoir capacity (million m^3)	Reservoir area (km2)	Irrigation	Water supply	Flood control	Hydroelectricity (MW)	Navigation	Recreation
Kondalanchay 2	14.0	2.1	0.4	x						Qanli gol	11.0	1.0	0.2	x					
Nohur-Qishlaq	8.5	18.2	2.0	x		x				Hajiqedirli 1	9.2	1.2	0.2	x					
Batabat 0	11.5	1.6	0.2	x						Mahmudavar	16.4	1.6	0.6	x					
Batabat 1	11.0	1.2	0.2	x						Agstafachay	52.5	120.0	6.4	x		x			
Ashiq Bayramli	10.0	3.6	0.8	x						Araks	40.0	1,350.0	145.0	x	x	x	x		
Varvara	12.0	62.0	21.4				x			Madagiz	28.0	5.9	0.6	x					
Kahab gol	6.0	1.1	0.3	x						Zogolovochay	26.0	3.4	0.5	x					
Mingacevir	80.0	15,730.0	605.0	x	x	x	x	x	x	Nore gol	8.0	1.0	0.3	x					
Goy Gol	8.5	6.6	0.7							Sarsangh	125.0	565.0	13.9	x		x	x		
Azer Ahmedli	8.0	1.0	0.2	x						Yuxari Khanbyulanchay	64.0	52.0	2.5	x		x			
Shikhlar 1	7.5	1.2	0.3	x						Arpachay	60.0	150.0	6.0	x		x			
Jeyranbatan	6.8	186.0	13.9							Salvarti gol	8.0	1.2	0.2	x					
Shikhlar 2	7.5	1.2	0.9	x						Jeyri 1	8.0	1.0	0.1	x					
Mishar chay	5.8	2.1	0.8	x						Jeyri 2	8.0	1.3	0.2	x					
Sefikurd	12.0	3.4	0.5	x						Ashagi Kondalanchay	25.0	9.5	1.5	x		x			
Uzun-Oba	17.7	9.0	1.2	x						Chalkhanqala	9.0	1.5	0.1	x					
Javanshir	8.0	4.3	0.8	x						Maraza gol	11.0	1.2	0.4	x					
Khatinli	14.7	4.1	0.8	x						Yayji	9.0	1.5	0.2	x					
Babaser 2	22.1	2.0	0.5	x						Hajiqedirli	9.0	3.5	0.3	x					
Khok gol	11.5	1.2	0.2	x						Shamkir	70.0	2,677.0	115.0	x	x	x	x		
Agdamkend	11.0	1.6	0.5	x						Dize gol	5.0	1.0	0.1	x					
Yekekhana	23.0	18.6	0.5	x		x				Ayrichay	23.0	80.6	0.7	x		x			
Xachinchay	38.0	23.0	1.3	x		x				Qelejuq 1	22.0	1.6	0.3	x					
Zumurkhach	6.3	1.3	0.5	x						Injachay	24.5	7.0	0.0	x					
Kondalanchay I	23.3	3.9	0.5	x						Vileshchay	37.0	46.0	2.5	x		x			
Levain	17.5	6.3	1.3	x		x				Bulaq dere	25.0	1.2	0.2	x					
Pirssatchay		16.9	0.2	x		x				Chogazchay	35.0	20.0	0.2	x		x			
Bolqarchay	18.0	12.0	0.1	x		x				Inje su	26.0	2.6	0.3	x					
Nehrem gol	16.2	6.0	0.9	x						Vaykhir	23.0	100.0	0.5	x		x			
Sirab	22.6	12.7	0.2	x		x				Benenyar	35.0	17.4	0.2	x		x			
Axinjachay	42.5	14.0	0.9	x		x				Yenikend	24.0	158.0	22.6	x	x	x	x		

Source: Food and Agriculture Organization of the United Nation

Precipitation

Azerbaijan is situated on the northern edge of the subtropical zone. Its climatic diversity is the result of its geographical location and landscape, the proximity of the Caspian Sea, the effect of sun's radiation and air masses of different origin.

The climate in Azerbaijan is continental. The weather in the lowlands is arid, with average summer temperatures of over 22 °C. In the mountain regions, temperatures can fall below 0 °C in winter and in Nakhichevan severe frost may occur. Humid tropical weather prevails in the coastal zone near the Caspian Sea, mainly in the Länkäran lowlands in the southeast. The estimated average precipitation is 447 mm/year. The maximum annual precipitation falls in Lankaran (1,600 to 1,800 mm or 63 to 71 in) and the minimum in the Absheron Peninsula (200 to 350 mm or 7.9 to 13.8 in).[1]

[1] Food and Agriculture Organization of the United Nation

Water Consumption in various sector

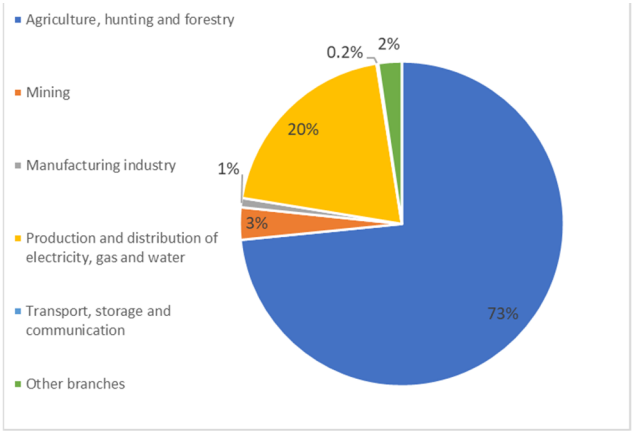
Main indicators characterizing water resources by types of economic activities in 2017 are shown in the table below

Table 1-13: Main indicators characterizing water resources by types of economic activities in 2017 (million m^3)

	Water abstraction from natural resources	Fresh water consumption	Volume of recycled and consequently used water	Water losses during transportation	Discharge of sewage waters	of which untreated waste water
Agriculture, hunting and forestry	11,170.5	6,528.8		3383.4	3,690.1	1.3
Mining	299.1	304.1	200.0		257.2	21.7
Manufacturing industry	10.7	26.4	259.4	0.9	13.4	2.4
Production and distribution of electricity, gas and water	1,281.1	2,199.2	1,914.8	241.8	1,014.5	71.7
Transport, storage and communication	9.8	14.0	9.8	1.4	13.9	8.7
Other branches	10.1	81.2	14.3	0.1	463.5	219.9
Total	12,781.3	9,153.7	2,398.3	3627.6	5,452.6	325.7

Source: State Statistical Committee of Azerbaijan

Chart 1-11: The share of Water Consumption in various sector



Main water supply sources

There are 8,359 rivers in the Republic and two of those (Kur and Araz Rivers) have a length of more than 500 km. Water discharge of Kura river before its joining with Araz is 540cub.m/s and Araz 300cub.m/s. The flow of rivers directly flowing in to the Caspian Sea from Giba–Kgachmaz and Lankaran Astara regions makes up 70 cub.m/sec

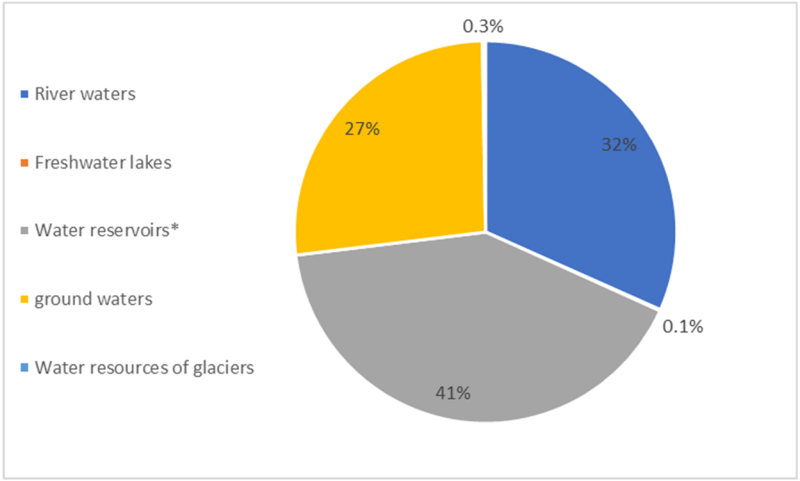
Table 1-14: water supply sources (Km^3)

	Volume (Km^3)
River waters	9.5
Freshwater lakes	0.03
Water reservoirs*	12.4
ground waters	8.0
Water resources of glaciers	0.08

*full capacity of 20.6 km3 and a useful capacity of 12.4 Km^3

Source: EU Water Initiative

Chart 1-12: water supply sources



Development Plans

National water supply and sanitation project is presented to improve the availability, quality, reliability, and sustainability of water supply and sanitation services in twenty of Azerbaijan's regional (rayon) centers/ To provide quality and reliable water supply and sanitation services in selected regional (rayon) centers of Azerbaijan.

Table 1-15: National water supply and sanitation project Components

	Amount at Approval (US$M)	Actual at Project Closing (US$M)
Component A: Rayon Investment	269	207
Rehabilitation and extension of water supply and sewerage systems as well as facilities for water, wastewater, and sludge treatment in the project area.		
Component B: Regional Development Plan	5	5
Preparation of a regional development plan for the Greater Baku area.		
Update of the Water and Wastewater Master Plan.		
Component C: Institutional Modernization	13	13
Development and implementation of key reforms needed for the modernization of the water supply and sanitation sector to improve the efficiency and sustainability of its water supply and sanitation services.		
Component D: Project Management	2	2
Strengthening the management capacity of the utilities to monitor and administer implementation of the Project, including audit.		
Contingencies	22	
Total	310	227

Source: IMPLEMENTATION COMPLETION AND RESULTS REPORT (IBRD-74600, TF-90657)

Prospects of water management sector

Major positive factors in Azerbaijan's environmental outlook include the enactment of new legislation and the signing of international conventions. Although economic development is not advanced, the country is moving slowly in the right direction for water resources management.

At the time of the appraisal of the National Water Supply and Sanitation Project (NWSSP), the World Bank involvement in supporting the water supply and sanitation (WSS) sector had been modest in comparison to the country's huge investment needs in the sector, particularly outside Baku. The World Bank had earlier financed the Greater Baku Water Supply Project (GBWSP) (P008288), which closed in January 2006, and supported substantial improvements to the area's water supply. Given the significant needs in the Greater Baku area and the rest of the country, the GBWSP was designed as a first step in addressing the country's WSS needs. The Government's Poverty Reduction Strategy (2003–05), the State Program on Poverty Reduction and Economic Development (SPPRED), included strengthening of the utility sectors as one of its strategic goals. The Government decided to focus on, among other things, creating the infrastructure needed for regional development and improvement of public utilities. It adopted a nationwide approach aimed at covering as much of the sector's needs as possible through its internal resources and support from various donors and International Financial Institutions (IFIs). Thus, in parallel with the NWSSP preparation, systems in several rayons were being funded by the Asian Development Bank, German Government Owned Development Bank (KFW), and State Secretary for Economic Affairs, Switzerland, while the World Bank, Japan International Cooperation Agency, and Japan Bank for International Cooperation were preparing additional projects. Together, the combined efforts of the Government and these donors were covering the needs of about 80 percent of the urban population in rayons outside Baku and it was expected that the rest would be addressed in the near future. By contributing to the nationwide approach, the Project provided an opportunity to broaden the World Bank's support to many of Azerbaijan's rayons, thus contributing to the overall goals of economic development and poverty reduction.

Related Tenders Held

Water management and supply tenders is shown in table 1-16

Table 1-16: water management tenders

Project Name	Issue Date	The Client
Improvement Of The Population'S Drinking Water Supply, Reconstruction Of Water Supply And Sewerage System, Installation Of Meters And Improvement Of The Ecological Situation	29-Jun-18	AzerSu Joint Stock Company
Provision Of Irrigation Water	15-Jun-18	AzerSu Joint Stock Company
Provision Of Irrigation Water For Sowing Areas Of The Acreage Created	15-Jun-18	AzerSu Joint Stock Company
Establishment Of Distribution Channels For The New Irrigation Water Of The Araz River	14-Jun-18	AzerSu Joint Stock Company

Recourse: Tenders worldwide

Key players (Public and private sectors)

1- The Azersu Open Joint Stock Company (OJSC) provides water supply and sanitation services in the Republic of Azerbaijan.
2- SUEZ
3- Water Engineered Technologies
4- Aquamatch Turkey

Fisheries

After the collapse of the Union of the Soviet Socialist Republics, and in the early years of independence, the fishing industry lost efficiency and there was a major decline in commercially valuable fish species both in the Caspian Sea and in inland waters. The total volume of the fisheries shrank to less than one-tenth of their size between 1990 and 2005, and a similar reduction was recorded in the same period for aquaculture production. The poor economic situation throughout the region and the impossibility of meeting the traditionally large demand for fish caused prices to rise and, as a result, reduced fish consumption to the critically low figure of 3.4 kg per capita.

A growth in investor interest in aquaculture has been observed in recent years. This has been due in part to the increased attention the State has given to this sector as a food-producing sector, especially because it is also part of the State Program to Ensure Food Security. In addition, the high consumer prices for fish and the growth in the population's purchasing power against a backdrop of high growth in the economy have encouraged greater interest in fisheries.

Size of the sector

Expenses on breeding and protection of fishery impotent fishes is about 1,838 thousand Dollars in 2017, the statistics show CAGR of 4 percent during years 2013 to 2017.

Table 1-17: Expenses on breeding and protection of fishery impotent fishes (Thousands US Dollars)

	2013	2014	2015	2016	2017	CAGR
Number of fish breeding enterprises, unit	12	12	12	12	12	0%
Expenses on breeding and protection of fishes	1,529	1,744	1,551	1,735	1,838	4%
including:						
by goals of artificial fish breeding enterprises	1,374	1,546	1,410	1,597	1,687	4%
activities on amelioration	154	198	141	138	150	-1%

Source: State Statistical Committee of Azerbaijan

Main fishery resources

Natural resource sand potential of the fisheries sector:

- Caspian Sea

The Caspian Sea, with its political and economic importance and known for its natural wealth, has been a focal point for Azerbaijan since the eighteenth century. The Caspian Sea is known for the large diversity of fish found there, which is the result of geographical, climatological and hydrological factors. Because of the large number of shallow areas in the sea, nutrient mixing occurs, resulting in high primary production and, therefore, also greater fish production. Its five littoral States benefit from the Caspian Sea in three ways:

1- The Caspian Sea has large natural oil and gas resources that are extracted, used and/or exported

2- It forms an important fishing area for sturgeon and kilka; and

3- The sea is the only possible way for its landlocked littoral States to access international waters, through the Volga River and several canals in the Russian Federation. These resources and accessibility are the cause of many disputes.

- Rivers

Azerbaijan has 8359 rivers, of which 3218 flow directly into the Caspian Sea. The two largest rivers (the Araz and Kura) have a length of more than 500 km within the boundaries of the country. Inland capture fisheries in rivers mainly focus on the Araz and Kura Rivers, with most fishing taking place on the Kura River.

Available aquatic species

The country's fresh water basins and the Caspian Sea account for 133 species of fish. They are fished in the Kur River, surrounding lakes, as well as in the Mingechevir reservoir. Most of fish are anadromous or semi-anadromous (the young grow up in salt water and migrate to fresh water to breed after they reach maturity). The most valuable of anadromous fish are salmon, sturgeon, stellate sturgeon and beluga. Aspius, Chalcalburnus and eel are also anadromous fish. Sturgeon meat and caviar are highly valuable. Beside, the water basins of Azerbaiajn contain such valuable fish species as bream, sazan, rutilus kutum and others.

Table 1-18: Aquatic species

Biotic group	Total species	Endemic species
Phytoplankton	441	17
Zooplankton	315	64
Zoobenthos	380	190
Fish	133	54

Source: Azerbaijan fifth national report

Production

Total quantity of caught fish is about 65,484 tons in 2017; the statistics show CAGR of 5 percent during years 2013 to 2017.

Table 1-19: Fish caught by quota (tons)

Fish species	2013	2014	2015	2016	2017
bream	77	58	27	44	31
wild carp	28	38	41	49	37
crusian	18	11	13	4	25
roach	72	52	54	50	50
omul	117	162	116	93	100
chub	2	2	0	2	1
grey mullet	125	157	78	68	59
cat-fish	4	4	1	4	3
pike perah	32	12	5	3	5
herring	150	247	118	86	75
sprat	206	164	138	316	559
karasol	5	3	4	3	4
shamai (royal fish)	17	10	4	4	5
other types of fish	4	9	27	13	11
Caught fish - total	855	929	626	739	965

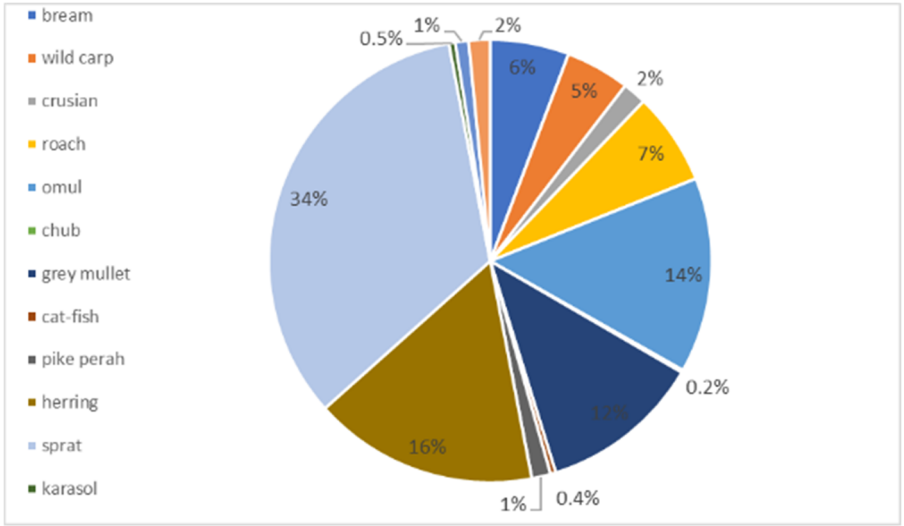
Source: State Statistical Committee of Azerbaijan

Table 1-20: Total quantity of caught fish (tons)

	2013	2014	2015	2016	2017	CAGR
fish caught by farms engaged in lake and puddle fishing	387	370	603	645	707	13%
fish caught by quota	855	929	626	739	965	2%
fish caught by physical persons	49,718	48,768	50008	63,146	63,812	5%
Total	50,960	50,067	51237	64,531	65,484	5%

Source: State Statistical Committee of Azerbaijan

Chart 1-13: Fish species caught by quota



Source: State Statistical Committee of Azerbaijan

Table 1-21: Characteristics of hatcheries in Azerbaijan

Hatchery	Produced species	Area	Construction date	Annual capacity
Ali-Bayramli Hatchery	Sturgeon	62	1957	3.5 million
Azerbaijan Exp. Marine Fish Hatchery	Kura salmon	0.2	1976	200,000
Chaykend Hatchery	Kura salmon	7.4	1955	100,000
Chukhur-Qabalingky Hatchery	Kura salmon	30.5	1956	100,000
Devechi Fisheries Amelioration Station	Cyprinids	3,600	1054	50 million
Khilly Sturgeon Hatchery	Sturgeon	15	2003	15 million
Kura Hatchery	Sturgeon	40	1954	1.5 million
Lesser Qizilagac Hatchery	Cyprinids	38	1954	150-200 million
Tovuz Hatchery	Cyprinids	115	1989	12 million
Ust-Kura Fish Plant	Sturgeon	82	1956	6 million
Ust-Kura Fish Plant	Cyprinids	559	1954	60 million
Varvar Hatchery	Cyprinids	334	1960	10 million
Yenikend Hatchery	Cyprinids	100	-	100 million

Source: Department for Reproduction and Protection of Aquatic Bio resources of the Ministry of Ecology and Natural Resources (unpublished data).

Processing capacity

In Azerbaijan, a number of companies are engaged in fish processing. They include:

- Shamkir Fish Processing Plant,
- Shahmar Ltd,
- Qovsani Baliq Kombinat Ltd,
- Caspian Fish Company Azerbaijan Ltd,
- Orienta Azerbaijan Baliq Sanaye Ltd,
- M.S.,
- Xezerbaliq Ltd.

These companies mainly focus on processing marine species. In addition to these marine companies, there are some smaller companies farther inland that focus on processing and storing freshwater species. However, limited information is available about these smaller companies as a result of the privatized market.

The larger companies have new and modern equipment for fish storage and processing. The latest fish processing plant that was constructed belongs to the Caspian Fish Company located in Baku. This plant has the capacity to process 300 tonnes of fresh material per day into a wide variety of products; for example, canned caviar, fresh fish, frozen fish, smoked fish and crayfish. However, as a result of poor catches, the low quantity of raw material supplied to processing plants means production is below maximum output.

The sphere has great potential for development. Production takes place on a simple processing line, which continues with further packing, smoking, filleting, etc. The majority of processing companies do not produce canned fish to the standards required by European markets. The only company engaged in the correct kind of processing is the Caspian Fish Company.

The main species of interest to the processing industry are diadromous fish or semi-anadromous fish, such as sturgeon, kutum, bream, shemaya, roach, asp, sander and sprat. However, the fish species being used in aquaculture are not of interest to the processing industry.

Trade

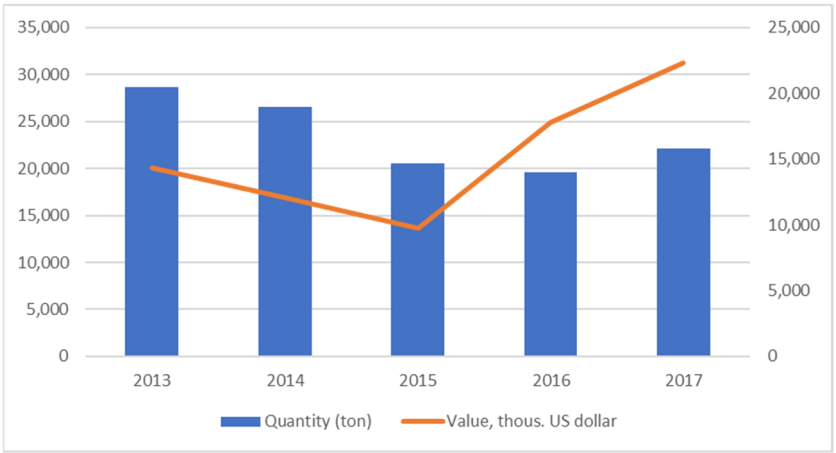
Azerbaijan does not export fishery products; import of fishery products has decreased from 20,000 tons in 2103 to 15,000 tons in 2017.

Table 1-22: fishery products Import

	2013	2014	2015	2016	2017	CAGR
Quantity (ton)	20,460	18,977	14,675	13981	15,806	-5%
Value, thous. US dollar	20,111	16,931	13,629	24918	31,259	9%

Source: State Statistical Committee of Azerbaijan

Chart 1-15: fishery products Import



Workforces in the sector

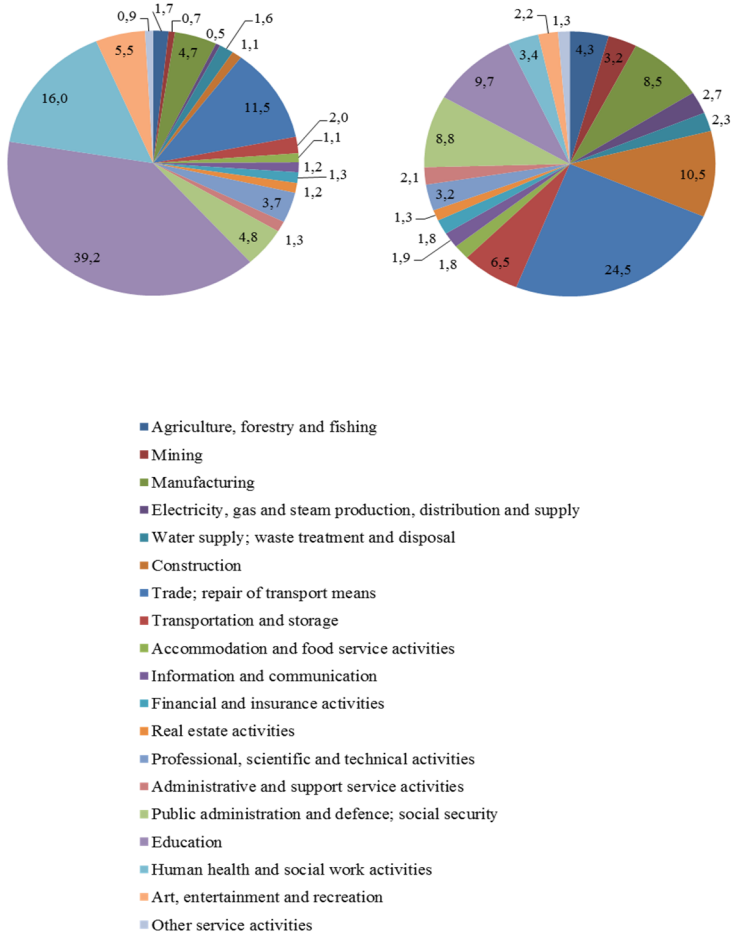
In 2017, 49,000 persons were employed in the Agriculture, forestry and fishing sector that is 36% of the total workforce.

Table 1-23: Number of employees in the fishery sector

	2013	2014	2015	2016	2017	CAGR
On economy, total	4,521	4,603	4,672	4759.9	4,822	1.3%
Agriculture, forestry and fishing	1,677	1,692	1,698	1,730	1,753	1%

Source: State Statistical Committee of Azerbaijan

Chart 1-16: Distribution of employees by types of economic activity in 2017, in percent



Source: State Statistical Committee of Azerbaijan

Main water supply sources

Natural resources and potential of the water supply in the sector as follows:

Caspian Sea

The Caspian Sea, with its political and economic importance and known for its natural wealth, has been a focal point for Azerbaijan since the eighteenth century. Technically speaking, the Caspian Sea is not an actual “sea” and, therefore, its littoral States have no maritime rights as they only border the sea. For this reason, Azerbaijan is a landlocked country with no maritime rights.

Rivers

Azerbaijan has 8359 rivers, of which 3218 flow directly into the Caspian Sea. The two largest rivers (the Araz and Kura) have a length of more than 500 km within the boundaries of the country. Inland capture fisheries in rivers mainly focus on the Araz and Kura Rivers, with most fishing taking place on the Kura River.

Lakes and reservoirs

Azerbaijan has more than 450 natural lakes, ranging vastly in size. The total surface area of all lakes in Azerbaijan combined is estimated at 394 km^2. The only lake used for commercial fishing is Lake Sarysu. Azerbaijan has more than 50 reservoirs that range in volume from 16 km3 to less than 0.020 km^3. Most reservoirs are used for irrigation and hydroelectric purposes. Currently, there are only two reservoirs - Mingachevir and Shamkir- that are used for commercial fisheries. The Sarsang reservoir, located on the Terter River, had been used for fishing activities of local importance in the past but is currently in the occupied territories of Nagorno-Karabakh. The Jeyranbatan reservoir, located on the Absheron Peninsula, is used as a drinking-water reservoir for Baku and Sumgait and, for this reason; it is not used for fishing purposes. The total and usable storage capacities of all functioning reservoirs in Azerbaijan are, respectively, 23 km^3 and 12.4 km^3, and they have a combined surface area of over 1 000 km^2.

Potential water resources for fisheries

The largest rivers (the Araz and Kura) and reservoirs (the Mingachevir and Shamkir) of Azerbaijan are already in use for commercial fishing. Lake Sarysu, the largest lake in the country, is also being used for Commercial fishing. Smaller waters are not used for commercial fishing because they are not capable of sustaining a fish population on which commercial fisheries can thrive. However, recreational fisheries can, and do, use these waters. By optimizing fish production in these waters, much greater production from fishery activities can be achieved. In addition to increasing the productivity of existing fishing areas, new areas could be identified for culture-based fisheries.

In order to intensify aquaculture activities in the country, almost all larger irrigation canals (used for cotton production) will need to be used for the caged culture of fish. Azerbaijan has an estimated 65900 km of irrigation canals, which offer excellent possibilities for the expansion of aquaculture practices.

Development Plans

Since 1992, Azerbaijan has been a member of the Commission on Aquatic Bio resources of the Caspian Sea. This commission aims to identify fish stocks and create consistency between the littoral States of the Caspian Sea with regard to total catch limits. Within the framework of this commission, an action plan has been implemented to fulfil successfully the targets for joint management, conservation and the

sustainable use of marine biological resources.

The main aims for the sustainable development of the fisheries sector in Azerbaijan in the long term are:

- Improvement of the system of management of aquatic biological resources;
- Regulation of fisheries activities and the creation of conditions for the supply of fish products to the
- Population of Azerbaijan;
- Organization and development of rational coastal fisheries, and freshwater and marine aquaculture;
- Improvement of the system of conservation and preservation of aquatic biological resources;
- Improvement of the scientific field of research and the educational system.

Prospects of fisheries sector

A draft of a “Law on Aquaculture” is being prepared by the Government. Without a law, that focuses on aquaculture, very little investment and development can be carried out by existing aquaculture farms and non-governmental organizations. This limits the development of the small aquaculture sector despite its large growth prospects.

To create investment opportunities for the aquaculture sector, the investment climate in Azerbaijan in this sector must improve. An important aspect of this investment climate is the implementation of legislation and policies for the aquaculture sector. Clear legislation and policies provide more certainty and less risk for companies and entrepreneurs. This can also increase the interests of foreign investors.

Of the three species (rainbow trout, carp species and sturgeon species) that have been taken into account in this assessment, investment opportunities for sturgeon farming have the highest potential.

Sturgeon is the most well-known fish in Azerbaijan with a long standing reputation, and both sturgeon meat and caviar are in demand. Besides production for the domestic market, there also seem to be opportunities to export sturgeon meat and caviar to other countries around the Caspian Sea. Caviar is a well-known exclusive product, so high end markets in e.g. Europe and the Middle East might also be targeted. For investments in sturgeon and caviar production the following aspects have to be taken into account:

- Given the current endangered status of sturgeon species and the pressure on the remaining wild stocks, fishing efforts should be strictly minimized or even prohibited. The farming of sturgeon can be a sustainable alternative for wild-caught sturgeon. Responsible farming practices and sustainable use of inputs (e.g. feed, fingerlings and water resources) are highly important. Responsible farming practices can also be an opportunity for marketing.

- Investment costs are high. For caviar production, brood stock fish are needed. Depending on the exact species of sturgeon, brood stock fish have to be 8 to 15 years old before caviar production is possible. This makes the production of caviar a capital-intensive investment with a high risk profile. Also intensive sturgeon farming requires modern facilities with high investment cost. For small or medium sized companies it is therefore probably not possible to invest in sturgeon farming.

Related Tender Held

Table 1-24: Fisheries Related Tender Held

Description	Country	Project Title	Published Date
Technical Assistance On Plant Breeding	Azerbaijan	ACIP - P122812	May 22, 2018
S-19 Ocular Vaccines For Cattle	Azerbaijan	ACIP - P122812	June 29, 2017

Source: The World Bank

Key players (Public and private sectors)

In Azerbaijan, the MENR is in charge of fisheries administration. As part of this ministry, the subordinate department - the DRPAB- carries out the administration tasks. Under this department is the Azerbaijan Fisheries Research Institute (AzerFRI).

Together, these two entities advise the MENR and are responsible for estimating stocks, determining catch limits for inland waters, and awarding fishing licences that identify the section of the water where fishing is allowed, the season when fishing is allowed, and the catch limit for the licensed body of water.

The DRPAB houses four sub departments:

- Aquatic Bio resources Conservation Service,
- Fish Breeding Enterprises,
- Fleet Services,
- AzerFRI.

The financing of the DRPAB and all its sub departments is provided by the MENR, which in turn is financed by the State Government. Activities, development and management decisions are made by the central

organ. There are no decentralized local agencies.

Forestry Management

Forests are one of the most valuable natural resources of Azerbaijan that integrate soil, water, trees, bushes, vegetation, wildlife, and microorganisms which mutually affect each other from biological viewpoint in the course of development. In Azerbaijan, the total area assigned for forestry (state forest fund area) is about 1213,7 thousand ha of which .1021 thousand ha is currently covered by forest vegetation, corresponding 11.8% of the country area.

Azerbaijan is a low forest cover country where the existing forests are unevenly distributed that almost 85% of them are common in mountainous and hilly regions and 15% in the plains.

In accordance with the economic and ecological value, location and functions as well as in terms of protection viewpoint, the country's forest resources are rated as first group forests. They are divided into seven protective categories as such; Forest reserves, Resort forests, particularly valuable forest areas, Forest green areas in cities and other populated areas, Wild fruit forests, State protective forest belts and, other forests.

All forests of country are publicly owned and managed by the state in accordance with the provisions of the Forest Code and the Law on Environmental Protection. Azerbaijani forests assigned to the first group of forests.

They are transferred to the permanent use of forestry enterprises for the intended purpose for the development of forestry.

Forestry Development Department under the Ministry of Ecology and Natural Resources (MENR) is the main government agency responsible for management of the forest lands and resources while the forests under the protected areas are managed by the Department of Biodiversity and Protected Natural Areas.

Size of the sector

In 2018, the gross domestic product of the Agriculture, hunting and forestry sector is about 2,307 million Dollars. 5% of the total GDP of Azerbaijan was attributed to this sector.

Total forest area (natural & man-made)

Forest share in the countries area is about 12%.

Table 1-25: GDP in current prices, million Dollars

	2014	2015	2016	2017	2018
Agriicultural,hunting and forestry	1,779	1,948	1834.31	2,138	2,307
Gross domestic product	34,818	32,204.0	34,396	39,880	46,119

Source: State Statistical Committee of Azerbaijan

Table 1-26: Main indicators of forest funds

	2012	2013	2014	2015	2016
Total area of the country (1000 hectare)	8,660	8,660	8,660	8,660	8,660
Total area of forest fund lands (1000 hectare)	1,041	1,040	1,040	1,040	1,040
forest share in country's area (percent)	12%	12%	12%	12%	12%
Total tree resources (million cubic meter)	149	150	151	152	153

Source: State Statistical Committee of Azerbaijan

Table 1-27: Land preparation and planting of seedling in forest fund lands

	2012	2013	2014	2015	2016
Seedlings planted in the growing areas - total, thsd unit	2,936	3,283	2,592	2,639	2,750
kinds of coniferous	1,098	868	1,178	1,180	1,016
Planting of engraftment in the engraftment areas, thsd unit	757	799	863	626	654
Land preparation in the state important land-total, ha	3,052	2,736	2,538	2,577	2,583

Source: State Statistical Committee of Azerbaijan

Environmental protection policies

The 1998 NEAP identifies four priority categories (divided into

32 objectives):

1. Pollution from industrial production (oil exploration and production, energy, transport, other sources).
2. Caspian Sea.
3. Forestry, land and biodiversity.
4. Institutional development.

The 2003 PPRED (State Programme on Poverty Reduction and Economic Development) includes environment as one of the national priorities. It mentions environmental conditions as a cause of poverty and as a tool to reduce it. The PPRED identifies the following main environmental problem areas:

1. Water resources.
2. Land.
3. Air.
4. Forest.
5. Caspian Sea.

Biodiversity conservation is one of the environmental policy priorities of Azerbaijan. To reverse negative trends, the Ministry of Ecology and Natural Resources has decisively increased the number and size of protected areas. Between 2003 and 2005, protected land doubled, increasing from 4% to 8% of the country's total land area, reaching a total of over 604 000 hectares. In addition, new legislation including stricter penalties has been issued to combat poaching. As a result, the population of red-listed species has noticeably increased – between 2002 and 2005 the number of gazelles increased by 60%, the number of bezoar goats by 53% and the number of wild cats by 24%

Forest farming production

The forests of Azerbaijan account for 150 endemic species of trees and bushes out of 435 species of trees and bushes. Some endemic tree species are, the Hyrcanian box tree (Buxus hyrcana), Caucasian pear (Pyrus communis subsp. caucasica), Lenkoran acacia (Albizia julibrissin), chestnut-leaved oak (Quercus castaneifolia), Caucasian oak (Quercus macranthera), Caucasian ash (Fraxinus angustifolia subsp. oxycarpa), European ash (Fraxinus excelsior), European hornbeam (Carpinus betulus), Oriental hornbeam (Carpinus orientalis), Oriental beech (Fagus orientalis), Caucasian persimmon (Diospyros lotus), Caspian locust tree (Gleditsia caspica), Caucasian alder (Alnus subcordata), black alder (Alnus glutinosa subsp. barbata), white poplar (Populus alba) Caucasian wingnut (Pterocarya fraxinifolia), Persian ironwood (Parrotia persica), Caucasian zelkova (Zelkova carpinifolia), butcher's broom (Ruscus aculeatus), velvet maple (Acer velutinum), Cappadocian maple (Acer cappadocicum), wych elm (Ulmus glabra), Caucasian lime tree (Tilia dasystyla subsp. caucasica), wild cherry (Prunus avium), wild service tree (Sorbus torminalis), sweet chestnut (Castanea sativa), Nordmann fir (Abies nordmanniana) among many others.

Trade

In 2012-2017, Azerbaijan imported an average of 203,500 thousand dollars of forestry products. At the same time, the amount of exports is 1,050 thousand dollars. Therefore, this country is a net importer of forestry products.

Table 1-28 : Forest product Export and Import (thousand dollars)

	2013	2014	2015	2016	2017	CAGR
Import (1000 Dollars)	128,930	229,777	189,417	212,849	256,535	14.8%
export (1000 Dollars)	1,411	919	1,197	1,129	592	-16%
net export (1000 Dollars)	-127,519	-228,858	-188,220	-211,720	-255,943	-

Source: International Trade Centre

Workforces in the sector

The forestry sector is a source of employment and income for a considerable section of the population, especially women.

In 2017, 49,000 persons were employed in the Agriculture, forestry and fishing sector that is 3% of the total workforce.

Development Plans

Azerbaijan is strengthening its forest sector with a new ten-year national forestry program, developed with UNECE support. Strong emphasis is put on increasing forest cover while conserving and improving the country's forest resources.

The sustainable development of forests is among the main priorities of the government of Azerbaijan. In May 2019, Azerbaijan joined the international Bonn Challenge on forest landscape restoration and committed to restore 170,000 ha of forests by 2030 and an additional 100,000 ha if further funding can be mobilized. This commitment increases the visibility for the country's efforts to improve and sustainably manage their forests, which is also a main target in the country's new forestry program.

The new National Forestry Program and its Action Plan for the period 2020 to 2030 were finalized.

The National Forestry Program was drafted within the framework of a project on the revision of the national forestry program and the modernization of the forest management system which was supported by UNECE and jointly implemented by the Food and Agriculture Organization of United Nations (FAO) and the Ministry of Ecology and Natural Resources of Azerbaijan. The National Forestry Program provides a sound legal basis for forest management and ensures the development of institutional capacities. It will now be put forward through the national process for official adoption.

The presentation of the newly developed forestry program was attended by the Minister of Ecology and Natural Resources, the Chairman of the Azerbaijan Food Safety Agency, the Head of the FAO Partnership and Liaison Office in Azerbaijan, the Deputy Chief of the UNECE/FAO Forestry and Timber Section and the international forestry specialist from the FAO sub-regional office in Turkey.

Prospects of forestry management sector

National Forestry Program (NFP) of Azerbaijan has been prepared for a 15-year period that covers the years from 2015 up to 2030. The preparation works started in 2012 and completed at the end of 2013. Apart from the state forestry service, it also refers a wide perspective of different stakeholders including public institutions, academia, national and international expertise, NGOs on the management of country's forest resources.

The basic aims of the NFP are to promote sustainably meeting of the public expectations from the country's forests in a the long term, provide means to harmonize the forest management policies into the government policy instruments and rapid structural changes and, to identify the challenges and means for development of institutional and legal framework for national forest management.

- Strategies:

1- Forest policy is well integrated with the national, regional and sectoral policies and is put high in the national development agenda.

2- Given the first priority to preservation of ecological and protective functions of forests, sustainable management and use of forest resources contributes to a better satisfaction of the needs of society at large and rural population in particular.
3- Negative impacts on forests are reduced while forest resources and biodiversity are effectively protected and conserved.
4- Forest areas and tree cover are significantly expanded through afforestation on suitable lands and restoration of degraded forest areas.
5- Forests are managed in line with participatory multipurpose management plans, elaborated based on reliable information and modern methodologies for forest resource inventory, and assessment.
6- People of Azerbaijan are aware of the benefits of forests and actively involved in sustainable forest management.
7- Institutional capacity, financial mechanisms and regulatory framework for sustainable forest management are improved and strengthened.
8- Enhanced forest education and research are providing essential backstopping to sustainable forest management.
9- Climate change (CC) adaptation and mitigation concerns are integrated into forest management decisions and implementations.

- Expected results from the program implementation

One set of outputs will concern favorable framework conditions that will help to establish the enabling environment for sustainable forest development. They comprise some of the elements of the NFP process including laws and regulations which reflect the previously revised national forest policy. Legal amendments in related sectors and regarding cross-cutting policy objectives which are favorable for the development of the forest sector and improved institutional set-up and capable human resources, mechanisms for dialogue and consensus building among all stakeholders. Another set of outputs will consist of those related to field-level implementation and practical realizations (e.g. afforestation, forest management). Such outputs include afforested area, number of hectares under sustainable management, number of hectares under protection, monetary units of investment in forestry etc. These outputs will have to be documented, monitored and reported on. Valuation of the contribution of forests to the country's economy, to poverty reduction and to sustainable development should also be evaluated and improved. Increased law implementation (e.g. monitoring and reducing illegal logging) is another expected output of the process. Concerning the stakeholders, the main output is increased capacities, not only in technical but also in organizational and management matters, and especially in participatory and inter-sectoral approaches. Increased participation in and transparency of an NFP process will most probably result in more partnership agreements or other forms of cooperation between stakeholders.

Key players (Public and private sectors)

1- The restructuring of forestry institutions is now high on the political agenda in Azerbaijan, gaining full support from the

Ministry of Ecology and Natural Resources. One of the key steps is to review and update the draft National Forestry Program.

2- Ramex Ltd

3- World Wildlife Fund

Territory Planning

A city is historically established and the most rational and sustainable form of human settlement.

Owing to objective regularities of regional town planning, cities have repeatedly been rebuilt, changing their architectural image and planning structure.

Urban development of Azerbaijan has a centuries-long historical past, as witnessed by wide spreading of cities built on regular base throughout countries territory.

Prospects of Territory Planning

- Azerbaijan 2020: Strategic View and Main Priorities

The main strategic view of the concept is to take account of the current opportunities and resources and attain a stage characterized by sustainable economic growth and high social welfare, effective state management and supremacy of the law, the full ensuring of all human rights and freedoms and the active status of the civil society in the country's public life. In 2020, Azerbaijan will be an economically and politically developed and competitive country. Even in the most remote villages of Azerbaijan, all communications required in the daily lives of citizens (communications, Internet, banking services, public utilities, roads and so on), health and education services will be provided. Azerbaijan will be a place where the population's incomes are high, unemployment is minimum, human capital is highly developed, the environment is protected and health and every citizen has broad opportunities. Because of the measures stipulated by the concept, by the end of the period, the volume of per capita GDP in the country will increase more than twice and reach 13,000 US dollars.

According to the World Bank classification of GDP, in 2020 Azerbaijan is expected to become a full member of the group of "countries with high average income" and eliminate its dependence on the export of hydrocarbons, which is the main reason for its belonging to this group at the moment, and to reach the highest positions in the group of "countries with high human development" according to the human development classification of the UN Development Program. From an economic point of view, the Azerbaijan Republic will turn from the region's leading state into a highly competitive participant in the international system of economic relations. To this end, taking into account the favorable geographical position and broad potential, it is planned to turn the country into the region's commercial center and to bring the volume of per capita non-oil export to 1,000 US dollars. In order to achieve the previously mentioned goal, state regulation that ensures healthy competition in market economy conditions, transformation into an export-oriented economy that makes efficient use of energy and creates high benefit and principles of a complex approach to the development of socio-economic spheres will be taken as a basis. Within the framework of the concept, it is planned to turn the country's economy into an economy based on efficiency as a result of a growth in general productivity and ensure transition to a stage characterized by the dominance of innovations.

Increasing the competitiveness of the economy encompasses such fields as the protection of macroeconomic stability, the strengthening of the coordination of the monetary and fiscal policy, the improvement of the business environment, support for private initiative, the development of the market of financial services and the improvement of the foreign trade and

investment policy. During this period, it is planned to keep inflation at the acceptable level and ensure gradual transition to a more flexible currency rate.

At the same time, purposeful measures will be taken to improve the structure of the economy. The modernization of the oil and gas sector and the petrochemical industry, the diversification and development of the non-oil industry, the expansion of opportunities to use alternative and renewable energy sources, the development of the agrarian sector, the strengthening of food security, expansion and development of trade and types of services and the improvement of the foreign trade and investment structure will be priority spheres.

It is planned that during the period covered by the concept, the average pace of annual real growth in GDP in the non-oil sector will be more than 7 per cent.

The main task in the current stage is to speed up the diversification of the economy, to maintain the high pace of the development of the non-oil sector in the future regardless of the level of oil revenues, to increase competitiveness and to develop export possibilities.

In the Development Concept "Azerbaijan 2020: Look into the Future", an export-oriented economic model is taken as a basis, and it is planned that increasing the competitiveness of the economy and improvement of the structure will boost non-oil exports. Along with the speedy development of the non-oil industry, the promotion and expansion of innovative activity will create favorable grounds for the formation of an economy based on knowledge in the country.

In order to achieve these goals, it is important to make full use of all the country's possibilities, to make effective use of the existing economic, social and political resources and create conditions for strengthening the country's potential. From this point of view, it is planned to develop the energy, transport, transit and logistical infrastructure, to concentrate on the development of regions, to form regional development centers taking into account the competitive advantages of each region and to develop the infrastructure and social services in cities and villages.

The expansion of opportunities for using ICT and communication services, the creation of a reliable security system aimed at developing information and communication technologies, the formation of national standards, as well as the launch of totally digital broadcasting across the country and the halting of analog broadcasting, and the total use of e-government services will be in the center of attention as one of the main priorities in the formation of Azerbaijan as a modern state.

The purpose of any economic growth is to increase social welfare. From this point of view, one of the main priorities of the concept is the development of social spheres and human capital. Within these priorities, the main spheres are to increase the quality of education and services, to strengthen social security, ensure gender equality and to develop the family, youth potential and sports.

The issue of poverty within the framework of the concept is assessed at the level of the concept of "multi-factor poverty" in line with modern approaches to the human development concept. Over the past 10 years, Azerbaijan has gained undeniable achievements in drastically reducing poverty. The settlement of the problem

of “absolute poverty” in our country, i.e. the sharp decline in the number of families included in the category of the poor within the framework of accepted criteria is a result of the successful socio-economic policy. Within the framework of the current concept, the problem of “absolute poverty” will constantly be in the center of attention again, and along with that, the expansion of the middle class and the strengthening of the role of this class is one of the main purposes. The experience of various countries shows that countries with a stronger middle class are more sustainable from political, economic, social and other aspects and have higher development potential.

Quantitative and qualitative indicators linked with the population and its structure are the main elements of national power, and the protection of the gene pool of the

Azerbaijani people, issues like migration and demography are of special importance in terms of national security. During the period covered by the concept, the country’s population will increase by 1.1 per cent a year on average and is expected to total about 10.2 million in 2020.

In order to realize the targets stipulated by the concept, measures will continue to constantly improve the legislative base and strengthen the appropriate institutional potential.

The preservation of cultural heritage, its effective management, the protection and enrichment of new creative results, environmental and ecological problems are accepted as the main priority within the framework of the concept, and it is planned to take the appropriate policy measures in these fields.

Investment Made in Territory Planning

A strategic environmental assessment shall be carried out for plans and programs which are prepared for specific sectors: agriculture, forestry, fisheries, energy, industry including mining, transport, regional development, waste management, water management, telecommunications, tourism, town and country planning or land use (art.4.2 of the Protocol on SEA). Such programs and plans (meeting, in addition, other requirements of the art.4.2 of the Protocol on SEA) comprise the first group of strategic documents for which SEA will be required in Azerbaijan under the Protocol on SEA. It is also important to understand what other strategic documents are prepared in Azerbaijan for the purpose of the screening requirements under articles 4.3 and 5 of the SEA Protocol.

The most relevant examples of strategic documents potentially requiring SEA are:

- State Program on Socio-Economic Development in Baku City and its Suburbs - 2011-2013, 4 May 2011, No.1490 (II program);
- Action Program on Socio-Economic Development in the Settlements, February 27, 2006, No. 1338 (I program);
- Action in Connection with the Construction and Repair of Roads in the Settlements,
- Detailed Master Plan for Conservation of the Historical Center of Baku, November 8, 2010, No. 206;
- State Program on Poverty Reduction and Sustainable Development in the Republic of Azerbaijan - 2008-2015, September 15, 2008, No. 3043 (II program);
- State Program for the Social-Economic Development of the Regions of the Republic of Azerbaijan in 2014-2018, 2014 (III program);
- Comprehensive Action Plan for the Years 2006-2010 to Improve the Environmental Situation, September

28, 2006, No. 1697 (Plan II is going to be developed)

- National Program for Sustainable Socio-Economic Development in the Republic of Azerbaijan, February 18, 2003, No. 1152 (formerly the National Action Plan was adopted in 1998);
- State Program on the Use of Alternative and Renewable Energy Sources in the Republic of Azerbaijan on, October 21, 2004, №. 462;
- State Program on Development of Tourism in the Republic of Azerbaijan 2010-2014, April 6, 2010, No. 838 (II program);
- State Program on Reliable Provision of the Population in the Republic of Azerbaijan with Food Products -2008-2015, 25 August, 2008, No. 3004 (II program);
- National Strategy and Action Plan on the Conservation and Sustainable Use of Biological Diversity in the Republic of Azerbaijan, March 24, 2006, No. 1368.

Key players (Public and private sectors)

Key players in Territory Planning are UNDP, IOM, Egis International, and local government.

Rural Development

The Azerbaijan Rural Investment Project (AzRIP) was established by the government of Azerbaijan's State Agency on Agricultural Credits under the Azerbaijan Ministry of Agriculture. It is designed to invest in the rural development of five economic regions of Azerbaijan, focusing on community-based infrastructure development.

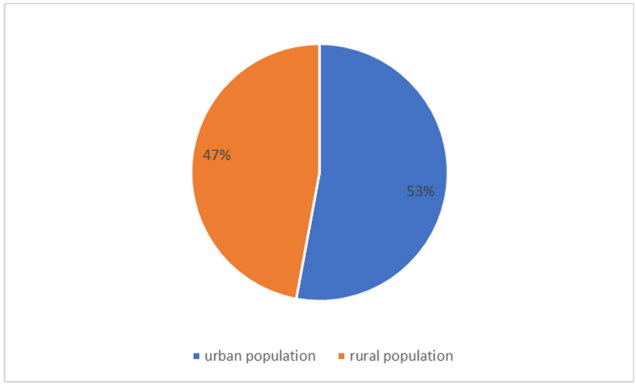
The rural area

Azerbaijan is an upper middle-income country. Agriculture's share of exports declined from 10 percent in 1994 to 5.9 percent in 2004, compared with about 30 percent prior to independence, because of increases in oil production and exports. In terms of value added to the GDP, agriculture is now next in importance to the oil sector. The agricultural sector employs 25 percent of the workforce, with small-scale farmers producing about 96 percent of agricultural output, especially wheat, barley, forage crops, cotton, tobacco, vegetables, grapes and other fruits. Due to wide variations in climate, elevation and rainfall, the country has a highly diversified agricultural sector. Livestock production is an important economic activity in both irrigated and mountain areas. From the total GDP, agriculture accounts for only 6 per cent, while the gas and oil sectors account for 36 per cent. Still agriculture is a major contributed to the country's non-oil economy, employing in Azerbaijan 40 per cent of the workforce. In rural areas, one-fourth of household income is gained from agriculture. The country exports products to Turkey, Georgia, Iran, Russia and other countries. Due to recent the EU sanctions against Russia, the export of agricultural food from Azerbaijan to Russia has increased. Livestock production is the second largest agricultural activity in the country, usually undertaken at a household level. Many rural families make a living by selling cattle, meat and dairy products.

Population in the rural area

In 2018, about 4,660,000 of the population of Azerbaijan, (47% of the total population), lived in the rural area.

Chart 1-17: Urban and rural population ratio



Source: State Statistical Committee of Azerbaijan

Table 1-29: Urban and rural population (1000 person)

	2013	2014	2015	2016	2017	2018
urban population	4,966	5,045	5,098	5152.4	5,199	5,238
rural population	4,390	4,432	4,495	4,553	4,611	4,660
total population	9,357	9,477	9,593	9705.6	9,810	9,898

Source: State Statistical Committee of Azerbaijan

Rural development policies

Agriculture remains the Azerbaijan's biggest employer, absorbing nearly 36% of the workforce while contributing only 3% of GDP. It remains the second largest export sector after oil and gas. Rural/agricultural development is one of the priority sectors in the

Government's Strategic Roadmaps. Rural and regional development has been a priority for EU cooperation with Azerbaijan in the past years and cooperation with the Ministry of Agriculture and the Ministry of Economy has been close. Support to strengthening

Productivity and competitiveness of agriculture and rural SMEs is not only important for economic diversification but needed also to ensure balanced and inclusive development by creating rural jobs. Self-employment remains at high levels and the share of informality is high, mainly in agriculture, but also in other sectors.

In the context of diversification of the economy and given the country's demography, support to (women and youth) employment and social measures will ensure that the population and especially vulnerable groups can adapt to changes in the labour market, paving the way for inclusive growth.

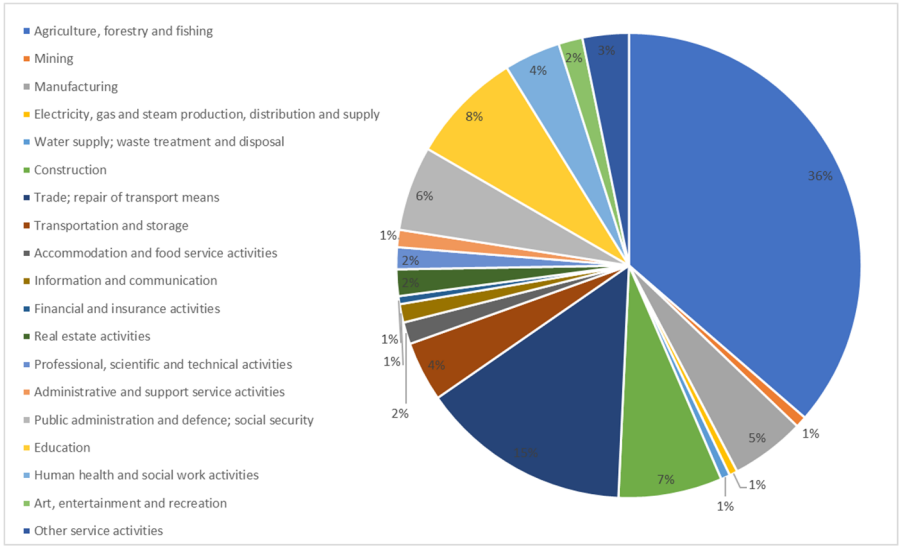
The employed workforce in the sector

In 2017, about 4,000,000 people were employed in the rural sector; it is about 36 percent of the employed population.

Table 1-30: Number of employees in the rural sector

	2013	2014	2015	2016	2017	CAGR
On economy, total	4,521	4,603	4,672	4759.9	4,822	1.3%
Agriculture, forestry and fishing	1,677	1,692	1,698	1,730	1,753	1%

Chart 1-18: Distribution of employees by types of economic activity in 2017, in percent



Prospects of rural Development

International Fund for Agricultural Development (IFAD) currently has one ongoing credit project - the Integrated Rural Development Project with a total budget of USD 103.8 million, jointly financed by IFAD and IDB and with the overall goal of reducing rural poverty in four targeted districts through increased food security and enhanced income-raising opportunities.

EBRD has allocated USD 44 million to support Azerbaijan's agricultural sector through local banks for the development of agriparks and logistics bases, storage of produce and restoration of rural roads.

EU cooperation in agriculture and rural development is significant and relevant to regional priorities identified under the assessments of EaP countries. The ongoing programmes are: (i) "Support to local initiatives on regional and rural development in Azerbaijan" (€4.3 million). The global objective of this call for proposals for the Republic of Azerbaijan is to contribute to the reduction of regional socioeconomic disparities and to the diversification of the economy by creating conditions for balanced and sustainable economic development across all regions of Azerbaijan; and (ii) Support to regional and rural development (SRRD) in Azerbaijan, with a budget of €19.5m. The overall objective of this programme is to contribute to diversification of the economy and sustainable regional development in Azerbaijan, while reducing socio-economic disparities among regions GIZ does not have any specific agricultural projects, although three projects are related to agricultural ubsectors:

1- A private-sector development project;
2- A local governance project; and
3- A biodiversity projects. The private-sector development project includes a trade promotion component, which focuses on agricultural export-oriented value chains. The projects aim to improve skills in market research, renewed market access, international marketing, quality management etc.

IFC's portfolio is currently USD 3 million - Azerbaijan and Agribusiness Tax Project - funded by SECO and focuses on agricultural value chains, trade logistics, tax administration, food safety, seed legislation and certification.

WTO, through STDF, is funding a project focused on strengthening phytosanitary control services in Azerbaijan. The project is aimed at supporting improvement of plant quarantine laboratories, strengthening technical capacity of phytosanitary inspectors and improving their language skills to facilitate regional and international trade.

Among other UN agencies, UNDP has been involved in addressing environmental issues, such as improved management of mountainous ecosystems to tackle degradation of pastures; identification of priority ecosystems and/or economic sectors vulnerable to climate change and development of strategies for improving their resilience.

Related Tenders held

Table 1-31: Related Tenders held

Description	Country	Project Title	Notice Type	Language	Published Date
Technical Assistance And Training To Support The Management And Maintenance Of The Magistral (m) Road Network	Azerbaijan	AZ HIGHWAY 3 - P118023	Contract Award	English	December 29, 2017
4 Laning Of Baku-shamakhi-muganli Road Km 91.0 To 107.0	Azerbaijan	AZ HIGHWAY 3 - P118023	Contract Award	English	November 16, 2017
Construction Supervision Of Civil Works Contract 4 Laning Of The Baku-shamakhi-muganli Road Km 91.0 To 107.0	Azerbaijan	AZ HIGHWAY 3 - P118023	Contract Award	English	November 14, 2017
The Collection Of Road Condition And Inventory Data For Updating The Road Database	Azerbaijan	AZ HIGHWAY 3 - P118023	Contract Award	English	October 18, 2017
Procurement Of Equipment For Road Maintenance Units (10 Lots)	Azerbaijan	AZ HIGHWAY 3 - P118023	Invitation for Bids	English	April 3, 2017
Technical Assistance And Training To Support The Management And Maintenance Of The Magistral (m) Road Network	Azerbaijan	AZ HIGHWAY 3 - P118023	Request for Expression of Interest	English	March 1, 2017

Source: The World Bnk

Key players

1- The government of Azerbaijan's State Agency on Agricultural Credits under the Azerbaijan Ministry of Agriculture is the main player in rural sector.
2- Agricultural trade fairs
3- State Agro Trade Company

Renewable Energy (wind & solar)

Renewable energy sources are important for Azerbaijan; however, there is lack of practicing renewable energy except hydro energy. One of the alternative sources of energy is the wind energy. It is also best profitable due to the cost, ecological cleanness and its renewable properties compared to other alternative energy sources.

Size of the sector

Azerbaijan's wind energy production in 2017 was about 22.1 kWh that shows CAGR of 94 percent during years 2013 to 2017. Solar energy production in 2017 was about 37.2 kWh that shows CAGR of 116 percent during years 2013 to 2017.

Table 1-32: Production of energy products (in volume terms)

	2013	2014	2015	2016	2017	CAGR
Wind energy (million kWt hour)	0.8	2.3	4.6	22.8	22.1	94%
Solar (million kWt hour)	0.8	2.9	4.6	35.3	37.2	116%

Source: State Statistical Committee of Azerbaijan

Renewable energy development policies

1- Azerbaijan 2020: Look to the Future: Approved in 2012 by President Ilham Aliyev. The Azerbaijan 2020 highlights the possible impacts of climate change on the country's society and economy, and the importance of preparing necessary policy measures. It also states that the amount of energy used to produce one unit of GDP as well as the amount of CO2 will need to be in line with the appropriate indicators of OECD member countries towards 2020.

2- Action Plan on improvement of ecological situation and efficient use of natural resources for 2015-2020: The Plan highlights the importance of developing, amongst others: (i) National Adaptation Plan (NAP), and (ii) nationally appropriate mitigation action (NAMA) that incorporates elements relating to Measurement, Reporting and Verification (MRV) systems.

3- State Strategy on Use of Alternative and Renewable Energy Sources (2012-2020): This strategy was prepared to promote development of a range of renewable energy sources in the country. The measures to be taken include determination of main directions towards 2020 on electric and thermal power production from alternative and renewable sources; enforcement of legislative frameworks; incentive measures (e.g. Feed-in-Tariffs and direct subsidies); implementation of projects on alternative and renewable energy development.

4- Law on Protection of Atmospheric Air: The legal framework for establishment of regulations for air pollution and emissions and defines responsibilities of different agencies on elaboration of standards and thresholds for air pollution.

5- Law on "Energy": This law pertains to all areas in the energy sector and materials and products used in the production of energy. It states the objectives of the state energy policies. It contains requirements for the efficient use of energy and also has provisions for the obligations with respect to environmental protection, health and safety.

6- Action Plan for Energy Efficiency and Reduction of Losses and Technological Consumption of Energy Sector Enterprises regardless of Ownership Form: This decree assigns the Ministry of Fuel and Energy (later the Ministry of Industry and Energy) to oversee the four tasks outlined in the decree. Two of the tasks involve metering and the reduction of technical losses.

The share of renewable energy as total energy produced

Table 1-33: Renewable energy supply, thousand TOE

	2013	2014	2015	2016	2017	CAGR
Total energy supply	14,630	15,085	15,569	15,393	15,472	1%
Wind power	0.1	0.2	0.4	2	1.9	80%
Share of wind power in total energy consumption, in percent	0.00%	0.00%	0.00%	0.01%	0.01%	-
Solar power	0.1	0.2	0.4	3	3.2	100%
Share of solar power (photovoltaic) in total energy consumption, in percent	0.00%	0.00%	0.00%	0.02%	0.02%	-

Source: State Statistical Committee of Azerbaijan

Common Finance methods in the sector

The Board of Directors of the European Bank for Reconstruction and Development (EBRD) has approved a new strategy for Azerbaijan which will guide the Bank's investments and policy work in the country for the next five years.

The 2019-24 strategy sets out the following priorities:

The Bank will continue its efforts to help diversify Azerbaijan's economy by supporting the development of the private sector in non-oil sectors and strengthening governance of private and state-owned companies.

The EBRD will work to further expand access to finance for local businesses by encouraging lending by banks and non-bank financial institutions as well as by helping develop local currency and capital markets.

The Bank will step up its support to the country's green economy, including financing for renewable energy sources, increased energy efficiency and cleaner transport and sustainable infrastructure.

The EBRD is a leading investor in Azerbaijan. To date, the Bank has invested almost €3.3 billion in various sectors: energy, infrastructure, banking, industry and commerce.

Development Plans

Since 2000, approximately 472 million Dollars have been invested in this sphere.

According to statistics, 9 per cent of the electricity generated in Azerbaijan in 2011 came from renewable sources, nearly entirely from hydro-electric power.

In 2014 the volume of investments made in the development of the alternative energy sphere in Azerbaijan reached 63.6 million manat. The majority of this volume, nearly 34.9 million manat, was allocated to the development of the solar energy sphere, another 28.7 million manat went toward wind power.

The public fund of Azerbaijan invested 127 million manats in the development of alternative and renewable energy sources.

The total capacity of alternative and renewable energy sources in the country is more than 12,000 megawatts. 4,500 MW of them fall on wind energy, biomass – 1,500 MW, geothermal energy – 800 MW, 350 MW - small hydro power plants.

It's planned to increase the share of alternative energy in total production to 20 percent by 2020. A third of them will come from the wind energy. It requires 6.7 billion USD of investment.

Renewable energy Prospect

Azerbaijan enjoys a vast potential of renewable energy sources and strives to make use of it.

In 2018, electricity produced from renewable sources will exceed 10 percent of the total energy generated in Azerbaijan.

It is forecasted that this figure will reach 12 percent by 2020, and by 2030 it should reach 20 percent. This requires investment, appropriate regulatory framework and an optimal tariff policy. In 2017, the volume of electricity produced from renewable sources amounted to 9.8 percent of the total energy production. In alternative energy, the energy losses are very small, since production facilities are located in close proximity to the end user.

The electricity generation capacity of Azerbaijan is 7,172.6 megawatts, which makes it possible to annually generate about 24 billion kilowatt hours of electricity. This allows Azerbaijan to annually export 2.1 billion kilowatt hours of electricity.

Today, the share of alternative energy sources in the electricity supply of Azerbaijan is 9.5 percent. In recent years, the development of renewable energy sources in Azerbaijan, the largest South Caucasus state on the Caspian shore, has been in the focus of attention. Currently, the country is able to fully meet its own energy needs, and seeks to supply power to the European market.

The State Agency on Alternative and Renewable Energy Sources of Azerbaijan has determined areas, capacities, amounts to be invested in producing 4,200 megawatts in 2018-2020 and other required information.

In the coming years, the agency plans to implement 23 projects worth about 6.9 million Dollars as part of the Strategic Roadmap for the Development of Public Utilities (Electric and Thermal Energy, Water and Gas).

The projects include construction of wind, hydro and biofuel power plants with a total capacity of 4,200 megawatts. This is while 3,500 megawatts will account for wind power plants, 500 megawatts for solar power plants, and 200 megawatts will account for biofuel power plants. The cost of building wind power plants will be 6 million Dollars, solar – 0.87 million Dollars, and biofuel – 0.68 million Dollars.

Azerbaijan aims to increase usage of renewable energy sources and the country has all opportunities for this.

- Windmills

Azerbaijan is one of those countries where the use of wind energy is beneficial due to geographical conditions. The Absheron Peninsula, the coastline of the Caspian Sea and the islands in the northwestern part of the Caspian Sea, the Ganja-Dashkesan zone in the west of Azerbaijan and the Sharur-Julfa region of the Nakhchivan Autonomous Republic are especially favorable for these purposes. The country's wind energy potential is 350 megawatts.

- Solar Panels

Solar energy is also one of the most favorable energy sources in the world, and it is especially promising in regions. The natural climate of Azerbaijan also provides many opportunities to increase the production of electricity and heat using solar energy. During the year, the number of sunny hours in Azerbaijan is 2,400-3,200, which means that the number of sunlight falling on the territory of Azerbaijan is higher than in other countries. This can be considered one of the criteria for the effectiveness of attracting investment in the use of solar energy. The development of solar energy can partially solve the energy problems in several regions of Azerbaijan. Some 50 megawatts account for solar energy.

Key players (Public and private sectors)

1- State Agency on Alternative and Renewable Energy Sources (SAARES)
2- SNC-Lavalin Atkins
3- IEA
4- French company TOTAL