DESK/CASE STUDY

ENVIRONMENT AND HEALTH

(Conditions and Status)

THE REPUBLIC OF AZERBAIJAN

This desk/case study outlines the status of environment and health issues in Azerbaijan, and developed as a background document to facilitate the preparations and discussions for the national workshops to raise awareness and build capacities on the interlinkages of environment and health issues in the context of the implementation of the sustainable development goals (SDGs) in Azerbaijan.

The information contained in this desk/case study, and the follow-up discussions, recommendations, and lessons learned from the workshop is expected to assist and support the efforts of governments and stakeholders in the planning, implementation, monitoring, reporting, and review of policies and actions linked to the 2030 agenda.

This project is kindly supported by the Advisory Assistance Programme (AAP) of the German Federal Environment Ministry.

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Definition

Environmental health comprises the aspects of human health including quality of life, that are determined by physical, biological, social and psycho-social factors in the environment. It also refers to the theory and practice of assessing, correcting, controlling and preventing factors in the environment that potentially can adversely affect the health of present and future generations. This covers all human health issues related to environmental factors and all environmental factors that may affect health.[1] *In the course of this report, the relationship between environment and health will be denoted as "environment and health".*

BACKGROUND:

Recognizing the huge challenge of implementing the 2030 agenda and its sustainable development goals (SDGs), the United Nations Environment Programme (UNEP) in partnership with the Advisory Assistance Programme (AAP) of the German Federal Environment Ministry launched a project to raise awareness and build capacities on the interlinkages of environment and health issues in the context of the implementation of the sustainable development goals (SDGs) at the national level.

The United Nations Environment Programme has a long history and experience in utilizing different entry points and processes to raising awareness and building capacities for the wise management of the environment in collaboration with governmental and non-governmental partners, United Nations entities and the public at large.

One of the key processes that the United Nations Environment Programme actively involved and contributes to is the European Environment and Health Ministerial Process (EHP) that promotes the interlinkages between environment and health issues, and protection of human health and well-being from environmental risk factors. UNEP works with many partners to advance this agenda at national and regional levels.

Therefore, the national workshop in Azerbaijan is intended to strengthening the capacity and knowledge of environment and health ministries to lead and to act with others for better environment and health outcomes within society, and promote collaboration amongst different stakeholders and showcase the co-benefits of intersectoral cooperation to advance the environment and health issues at the national level and beyond.

The desk study will highlight the key environment conditions and health status in the country based on available information. The workshop will fully utilize the desk/case study to facilitate the discussion amongst policymakers, practitioners and other partners. The participants are expected to further discuss environment and health related policies, programs and projects they are involved in, and the views, lessons learned and best practices shared should be able to inform, raise awareness and build capacity on the interlinkages between environment and health with strategic partners, stakeholders and the public.

1. Introduction/ recent developments

The Republic of Azerbaijan is one of the countries that have achieved remarkable growth rates in the recent past, and is currently one of the fastest growing economies in the world, in large part due to its oil and gas resources. At the sametime, the Government of Azerbaijan recognizes the importance of diversifying the country's economy and ensuring a sustainable future for its forthcoming generations by investing in environmentally sustainable economic development and natural resources management.

Environment has been increasingly recognised as an important prerequisite of good health and policy

[1] *Introduction to Health, Environment and Sustainable Development.* WHO. 1993. Available at: http://www.mcgraw-hill.co.uk/openup/chapters/0335218415.pdf

actions to improve both of them have been undertaken. Environmental protection and sustainable water management as well as disease surveillance have been advanced and a reform to strengthen public health system is undergoing. Overall, country capacity to address human health and the environment has been advanced.

Many initiatives have been undertaken by the Azeri government to improve the environmental health conditions of the country. The president of Azerbaijan is an outspoken supporter of the Sustainable Development Goals (SDGs), which is reflected in the enhanced cooperation with the UN-system. Nevertheless, some key challenges in this field continue to exist. Due to economic and demographic growth, many parameters are still evolving in the wrong direction. The UN Azerbaijan Partnership Framework shows that the government is prepared to take up these challenges and offers hope that they will be brought forward. However, they are no guarantees.

In this report, key parameters in relation to the population health status and the environment will be presented. Furthermore, the country's environmental health management will be discussed, with a special emphasis on the country's cooperation with the UN-system.

2. Population health status and environmental conditions

2.1. Population health status

2.1.1. Population development

The population of the Republic of Azerbaijan was estimated to be 9.71 million in 2016, an increase of 12.7% compared to ten years earlier and 25% compared to 20 years earlier. Since 1991, the share of the population that lives in urban areas is about 50% and very stable. The natural growth rate is 11.7 per 1,000 inhabitants, which is almost 4 times higher than the European Region's average. This rapid growth is the result of both a relatively high amount of live births – 17.4 per 1,000 inhabitants, compared to 12.4 in the European region – and a remarkable low death rate of 5.7 per 1,000 inhabitants, compared to 9.9 in the European Region. These numbers have been quite stable in the last 10 years. The fertility rate was 2.1 in 2015 and has been stable since 1995. The Azeri population is also relatively young: 22.5% of the population is 14 years old or younger, compared to 17.5% in the European Region. Only 6.2% of the population is 65 years of older, compared to 15.1% in the European Region. The potentially economically active population (15 to 64 years of age) represents close to 71% of the total population, a higher share than those of the Commonwealth of Independent States (CIS), the European Union (EU) countries and the European Region.

Table 1: Key demographic indicators: Republic of Azerbaijan, and the averages for the Commonwealth of Independent States (CIS), the European Union (EU) and the European Region, most recent data available

	Republic of Azerbaijan	CIS[3)]	EU[3)]	European Region[3)]
Mid-year population (millions)	9.7[1)]	281.7[2)]	505.8[2)]	908.6[2)]
Population aged 0-14 (%)	22.5[1)]	18.9	15.6	17.5
Population aged 65+ (%)	6.2[1)]	11	18.4	15.1
Live births per 1000 population	17.4[2)]	15.5	10	12.4
Deaths per 1000 population	5.7[2)]	11.4	9.8	9.9[4)]
Natural growth rate per 1000 population	11.7[2)]	4.1	0.2	2.5
Total fertility rate (children per woman)	2.1[2)]	1.7	1.6	1.7
Urban population	53.1[1)]	64.2[5)]	73.8[5)]	70.2[5)]

Sources: WHO Regional Office for Europe. Health for All Database, April 2017; State Statistical Committee of the Republic of Azerbaijan, 2016.
Note: 1) data refer to 2016; 2) data refer to 2015 if not referred to otherwise; 3) data refer to 2014; 4) data refer to 2013; 5) data refer to 2010.

Life expectancy at birth, for those born in 2015, is 75.2 years on average: 77.6 years if female and 72.7 years if male. The average life-expectancy is just below the European Region's average.

11 out of 1,000 infants in Azerbaijan do not reach their first birthday. This is a lower figure than the CIS-average, but a significantly higher one than the average of the EU and the European Region. Significant progress has been made in reducing the main causes of deaths amongst infants (under-1 year olds): the amount of deaths caused by diseases of the respiratory system, and by infections and parasitic diseases, reduced from 2,010 to 221, and from 901 to 65 respectively, between 1990 and 2015. Also the amount of infants that died from congenital malformations, deformations and chromosomal abnormalities, dropped with about 1/3 in the same time period, from 294 to 198. At the same time, though, deaths caused by certain conditions originating in the perinatal period almost doubled, from 643 to 1,233.

As the absolute numbers of maternal mortality have been quite small (between 17 and 70 in the period 1990-2015), every single case can have a noticeable impact on the overall ratio. The ratio has therefore been fluctuating significantly, especially between 1990 and 2010. Since then the ratio has been stable and close to the European Region's average.

Table 2: Selected population health indicators: Republic of Azerbaijan, and the averages for the Commonwealth of Independent States (CIS), the European Union (EU) and the European Region, most recent data available

	Republic of Azerbaijan[1)]	CIS	EU	European Region
Life expectancy at birth (years)	75.2	71.2[2)]	80.9[2)]	77.5[3)]
Infant mortality (per 1,000 live births)	11	9.3[2)]	3.7[2)]	6.6[2)]
Under-5 mortality rate (per 1,000 live births)		12[2)]	4.4[2)]	8.4[3)]
Maternal mortality ratio (per 100,000 live births)	14.4	27[3)]	7.5[3)]	14.7[3)]

Sources: WHO Regional Office for Europe. Health for All Database, April 2017; State Statistical Committee of the Republic of Azerbaijan, 2016; and WHO World Health Statistics Report 2015.
Note: 1) data refer to 2015; 2) data refer to 2014; 3) data refer to 2013

Over the years, the development of selected demographic parameters has been as presented in table 3.

Table 3: Development of selected population health indicators, 1991-2015 (selected years)

	1991	1995	2000	2005	2010	2013	2014	2015	2016
Mid-year population (millions)	7218.5	7643.5	8032.8	8447.4	8997.6	9356.5	9477.1	9593	9705.6
Population aged 0-14 (%)	…	…	31.7	26.3	22.6	22.3	22.5	22.4	22.5
Population aged 65+ (%)	…	…	5.2	6.5	5.9	5.7	5.8	6	6.2
Life expectancy at birth, female (years)	74.5	72.9	75.1	75.1	76.2	76.8	76.8	77.6	…
Life expectancy at birth, male (years)	66.3	65.2	68.2	69.6	70.9	71.6	71.6	72.7	…
Life expectancy at birth, total (years)	70.5	69.1	71.8	72.4	73.6	74.2	74.2	75.2	…
Total fertility rate (children per woman)	2.9	2.3	2	2.3	2.3	2.2	2.2	2.1	…
Birth rate (per 1,000 population)	26.6	18.9	14.7	16.9	18.5	18.6	18.1	17.4	…
Mortality rate (per 1,000 population)	6.3	6.7	5.9	6.2	6	5.8	5.9	5.7	…

Natural Growth Rate (per 1,000 population)	20.4	12.2	8.8	10.7	12.5	12.8	12.2	11.7	…
Infant mortality (per 1,000 live births)	25.3	23.3	16.4	12.7	11.2	10.8	10.2	11	…
Maternal mortality rate	10.5	37	37.6	28.9	15.7	25	25	24	…
Urban population (%)	53.5	52.4	51.1	52.4	53.1	53.1	53.2	53.1	53.1

Source: State Statistical Committee of the Republic of Azerbaijan, 2016

2.1.2. Child and maternal mortality policies

Infant mortality has more than halved between 1990 and 2010, dropping from 25.3 per 1000 live births to 11.2 (See Table S.3). Since then, the number has remained more or less stable. This was insufficient to meet the fourth Millennium Development Goal, which aimed at a reduction of 2/3. Given the high fluctuations in maternal mortality between 1990 and 2010, it is somewhat ambiguous to compare different years. However, overall, a decreasing trend is clearly visible, although the MDG goal of a reduction of ¾ has not been accomplished.

The urgency of women's productive health became clear after a 2006 Demographic Health Survey. The contraceptive prevalence rate for modern methods among married women of reproductive age constituted only 13.3%; 49% of those women did not use any contraception, and 23% had unmet needs for family planning, meaning that they were willing to avoid or postpone pregnancy, but did not use any contraception. Therefore, abortions were widely misused in Azerbaijan for family planning grounds: almost half of pregnancies ended in an induced abortion (The Future We Want).

The government has launched a state programme on improving mother and child health for 2013-2020. The programme is not necessarily oriented on infants or pregnant mothers. In the UN-Azerbaijan Partnership Framework 2016-2020, it was agreed that UN-entities will address maternal mortality in relation to women's human rights, as well as women's sexual and reproductive health and rights.

2.1.3. Mortality by main causes of death

Non-communicable diseases continue to represent the major share of death-causes amongst Azerbaijanis. Similar to the rest of Europe, ischaemic heart and cerebrovascular diseases (diseases of the circulatory system) constitute the leading cause of death, followed by cancer (malignant neoplasms; Table 4). Especially the proportions of the four main causes of death are very similar to the ones of the CIS. What stands out once these numbers are compared to the EU, and the European Region more generally, is the magnitude of the share of deaths caused by diseases of the circulatory system: 60% in Azerbaijan, compared to 34% in the EU.

Table 4: Standardized death rates (SDR) for the most important causes of death and their share per 100,000 population, most recent data available

	Republic of Azerbaijan[1)]		CIS-average[2)]		EU-average[2)]		European Region-average[3)]	
Causes of death	**SDR**	**Percentage**	**SDR**	**Percentage**	**SDR**	**Percentage**	**SDR**	**Percentage**
All causes	574.0	100	1,078.37	100	559.85	100	738.16	100
Diseases of circulatory system	344.5	60.0	602.18	55.8	192.05	34.3	332.69	45.1
Malignant neoplasms	76.4	13.3	146.94	13.6	161.73	28.9	154.94	21.0
Diseases of the digestive system	30.0	5.2	56.92	5.3	26.44	4.7	35.21	4.8
External cause injury and poison	27.8	4.8	96.26	8.9	33.13	5.9	52.67	7.1
Diseases of the respiratory system	18.0	3.1	47.79	4.4	40.21	7.2	45.08	6.1
Some infectious and parasitic diseases	5.4	1.6	19.25	3.2	8.6	4.5	12.34	3.7

Sources: WHO Regional Office for Europe. Health for All Database, April 2017; State Statistical Committee of the Republic of Azerbaijan, 2016.
Note: 1) data refer to 2015; 2) data refer to 2014; 3) data refer to 2013

After a peak in the all-cause mortality rate in the mid-1990s, the number has been decreasing over the last couple of years. The amount of victims of some of the main death-causes has decreased significantly between 1990 and 2015. Especially the decreases of the death toll of diseases of the respiratory system – from 83.5 to 18 – and some infectious and parasitic diseases – from 26.9 to 5.4 – stand out (all numbers per 100,000 inhabitants). The amount of deaths caused by today's two main-causes, though, have increased between 1990 and 2015: from 293.8 to 344.5 in the case of diseases of the blood circulatory system, and from 68.1 to 76.4 in the case of neoplasms (all numbers per 100,000 inhabitants).

The 2013-report 'The Future We Want', also know as Azerbaijan's post-2015 development agenda, specifically mentions, besides non-communicable diseases, tuberculosis and HIV/Aids, as continuous problems. Looking at the numbers, though, the amount of HIV/Aids infections is a recent phenomenon.

In cooperation with UN-agencies and the Global Fund to Fight AIDS, Tuberculosis and Malaria, significant progress has already been made towards the elimination of malaria in the country. After a peak in the mid-1990s, the number of Malaria-incidences is now close to zero again.

There is, though, no universal access to high quality health care and drugs – especially in rural areas. When the post-2015 development agenda was drawn, in 2013, investments in health care were lagging. During consultations, stakeholders identified insufficient doctor qualifications, and low levels of public awareness about health issues.

Table 5: Development of main causes of death (all ages, per 100,000 population, 1991-2015 (selected years)

	1990	1995	2000	2005	2010	2013	2014	2015
Total number of deaths, by main causes	606.9	671.9	587.2	620	599.7	585	591.1	574
of which:								
Diseases of blood circulatory system	293.8	340.6	329.5	350.7	364.4	369.8	353.6	344.5
Neoplasms	68.1	62.9	63.9	76.1	74.3	68.7	74.2	76.4
Diseases of digestive system	28	34.9	33	37.2	26.6	30.2	30.5	30
All external causes, injury and poisoning	45.4	46.5	26.4	32.2	28.3	24	30	27.8
Diseases of respiratory system	83.5	86.3	52.9	36.6	26.6	16.4	20.9	18
Some infectious and parasitic diseases	26.9	30.1	19.8	13.2	11.3	6.4	5	5.4

Source: State Statistical Committee of the Republic of Azerbaijan, 2016.

2.2. Environmental conditions

2.2.1. Air Quality Monitoring and Data

According to the sixth General Environmental Outlook for the pan-European area (2016), air quality is currently the largest health risk to the pan-European population. Untill 2009, air quality was not a priority for Azerbaijan, as the environmental policy of the Government was focused on remediation of environmental burdens from the past, and on waste and water management. Consequently, the number of measures and international projects aimed at improvement of air quality was limited. Since then, the Government has undertaken several measures aimed at reduction of atmospheric emissions from both

the stationary and mobile sources. It was decided to close down some of the most polluting stationary installations in Baku and replace their capacity with newly-built installations located in less populated areas. With regard to emissions from mobile sources, measures were prepared and are being implemented, including improvement of transport infrastructure, management of transport in Baku and more efficient inspection of transport means (UNECE, 2011).

Air quality data monitoring and collection is the responsibility of the National Department of Environmental Monitoring within the Ministry of Ecology and Natural Resources, and the Sanitary and Epidemiology Centre of the Ministry of Health. Monitoring data are published annually by the State Statistical Committee of the Republic of Azerbaijan in the statistical yearbooks and on their website.

Azerbaijan contributes only a small amount to the total global emissions. The total emissions of the country have decreased significantly in the 1990s, from 2,634 ton in 1990 to 908 in 2000. Between 2010 and 2015, though, the country's emissions have increased again, from 957 to 1,156 ton. Two developments are clearly visible: the emissions of stationary sources have decreased over the years, from 1,919 ton in 1990 to 178 ton in 2015; while the emissions of mobile sources have – after a drop down in the 1990s –increased during the 2000s, from 393 ton in 2000 to 978 ton in 2015. This has caused an increase of the share of air pollutant emissions from motor vehicles in the total quantity of emissions from 27% in 1990, to 85% in 2015.

The upward trend of motor vehicle emissions is not likely to stop soon. Vision 2020 emphasises the importance of investing in more and better roads in order to enhance the country's competitiveness. At the same time, Azerbaijan's post-2015 Development Agenda mentions as a point of concern that the recent rise in transport vehicles has fuelled air pollution.

According to the UN Environment Report of the National Workshop on Integrated Approach to Environmental Sustainability in Development Planning in Azerbaijan (2015), emission-reduction would be most effective by reducing the use of fossil fuels, polluting transport and air condition.

Vision 2020 announced the establishment and restoration of forests, in order to increase the share of forests in the total territory of the country and roadside areas. This measure aims at the protection of the atmospheric air and the reduction of noise that is generated by transport vehicles. The report also announced that Azerbaijan will align its national standards in these respects with European standards.

Several UN Agencies (e.g. UNDP, WHO, UN Environmental, UNICEF) are currently cooperating with Ministries of Economy, Health, Ecology and Natural Resources, and Agriculture, and with the State Agency for Alternative and Renewable Energy Sources, to increase the use of renewable energy sources. These organisations will also expand inter-disciplinary and inter-sectoral collaboration to work more closely to reduce effects of passive smoking, and indoor and outdoor air pollution (UN-Azerbaijan Partnership Framework 2016-2020).

Table 6: Total emissions of pollutants into the air (1,000 ton/year), 1990-2015, selected years

	1990	1995	2000	2005	2010	2013	2014	2015
Total emission	2634	1326	908	1054	957	1137	1155	1156
Per capita (kg)	368	175	113	124	106	121	121	122
Stationary sources	1919	879	515	558	215	197	189	178
Per capita (kg)	268	116	64	66	24	21	20	19
Mobile sources	715	447	393	496	742	940	966	978
Per capita, (kg)	100	59	49	58	82	100	101	103
Share of air pollutant emissions from motor vehicles in total quantity of emissions (%)	27	34	43	47	78	83	84	85
Azerbaijan Tons CO2 per capita[1)]	7.37	4.11	3.43	3.53	2.7	3.19	3.29	3.36

EU28 Tons CO2 per capita[1)]	9.2	8.53	8.42	8.53	7.73	7.18	6.78	6.87

Source: State Statistical Committee of the Republic of Azerbaijan, April 2017; except from [1)]
Note: 1) means source is Olivier, J.G.J., Janssens-Maenhout, G., Muntean, M. and Peters, J.A.H.W. (2016) Trends in global CO2 emissions: 2016 Report. European Commission, Joint Research Centre (JRC), Directorate C - Energy, Transport and Climate; PBL Netherlands Environmental Assessment Agency, The Hague. JRC103425, PBL2315, Trends in global CO2 emissions - 2016 report, November 2016.

Table 7: Greenhouse gas emissions per sector

	2000	2005	2010	2013	2014	2015
Energy	33.0	39.2	36.6	38.2	39.1	38.5
Industrial processes	0.6	1.8	2.1	3.1	3.2	3.1
Agriculture	5.4	6.5	7.2	6.9	7.1	7.2
Land use, land use change, forestry[2)]	-4.9	-5.3	-5.4	-5.4	-5.5	-5.5
Waste	1.8	2.0	2.3	2.5	2.6	2.6
Total land use and its change, including forestry	35.9	49.5	48.2	50.7	52.0	51.4
Total land use and its change, excluding forestry	40.8	44.2	42.8	45.3	46.5	45.9

Source: State Statistical Committee of the Republic of Azerbaijan, April 2017

Table 8: Emissions of individually listed pollutants from stationary sources, 2000–2010

	2000	2005	2010	2013	2014	2015
Total Air Pollutant Emissions	515	557.9	214.8	197.3	189.3	178
of which:						
Particulates	19.2	28.3	19.3	11.6	9	6.6
Gases and Liquid Substances	496.2	529.7	195.5	185.7	180.3	171.4
of which:						
SO2	35.1	13.8	2.2	5.6	1.6	3.8
CO	26.3	26.1	27.2	34.8	32.2	27.9
NOX	24.2	25.8	19.8	33.5	19.5	18.9

Source: State Statistical Committee of the Republic of Azerbaijan, April 2017

Table 9: Emissions of greenhouse gases from stationary sources, 1995-2015 (selected years)

	1995	2000	2005	2010	2013	2014	2015
Total	**446.8**	**392.7**	**496.4**	**742.0**	**922.4**	**965.9**	**977.7**
including, by ingredients:							
Carbon oxide	338.8	148.2	353.7	528.3	645.6	700.3	708.1
nitrogen oxides	26.9	31.3	41.6	62.3	84.5	91.1	92.2
hydrocarbons	81.1	56.4	67.6	101.7	141.9	151.8	154.5
specific pollutants	…	156.8	33.5	49.7	50.4	22.7	22.9
of which: soot and snuff	x	x	x	x	26	22.7	22.9

Source: State Statistical Committee of the Republic of Azerbaijan, April 2017

The capital of Azerbaijan, Baku, is the biggest source of air emissions. Table 10 shows that the concentration of most air pollutants have grown over the last years. As Baku is a growing city, this trend is not likely to stop if no interventions are taken. Some first steps to combat this negative trend has already been undertaken: in recent years, an Intelligent Transport System for Baku has been introduced,

metro lines have been extended, the amount of parking sites have increased, and, since 2010, vehicles that fail to comply EURO 2 do not get a license. To really turn the tide, though, more measures are required.

Table 10: Daily average concentration of air pollution in Baku, 2005-2015 (selected years)

	2005	2010	2013	2014	2015
Powder	0.15	0.3	0.3	0.3	0.3
Surlfuric anhydride	0.021	0.015	0.011	0.011	0.014
Carbon oxide	2	2	3	3	3
Nitrogen tetroxide	0.05	0.09	0.05	0.06	0.06

Source: State Statistical Committee of the Republic of Azerbaijan, April 2017

2.2.2. Water and Sanitation

In 2015, Azerbaijan took 12,285 million cube meter water from natural sources. A substantial share of that (3,718 million cube meter) was lost during transport, which is a recurrent problem throughout the years. The 8,566 million cube meter that was used, has been consumed for public needs (323), production needs (2,117), and irrigation and agricultural consumption (6,057). In the same year, 5,575 million cube meter of wasted water was discharged. 305 million cube meter of the waste water was untreated before discharge, which is almost twice as much as five years earlier (State Statistical Committee, 2016). Untreated wastewater that is released from Baku, Ganja, Sumgayit, Mingacevir, Ali-Bayramli, Nakhchivan and other urban centres, contributes significantly to the pollution of the water bodies (Azerbaijan Business Centre, 2011).

In 2014, 90% of the abstracted water was used for agriculture, hunting and forestation. About 1/3 of this water was lost during transport, which is 90% of all the water that was lost in the country that year. The other 10% of lost water was lost during the transportation of water that was meant to be used for the production and distribution of electricity, gas and water. Again, this was about 1/3 of the total amount of water that had been abstracted for the branch.

The topic of irrigation is not new for the Azeri government. In 1996, an irrigation subsector development strategy was outlined in the State Programme on Amelioration and Irrigation. Ten years later, in 2006, this programme has been supplemented by a Presidential Decree on developing the water and irrigation sector (Post-2015 Development Agenda). However, this has not been sufficient in order to stop the spilling of irrigation water, as has just been discussed.

Table 11: Main indicators characterizing protection of water resources and their rational use in millions of cubic meter, 2000-2015, selected years

	1991	1995	2000	2005	2010	2013	2014	2015
Water abstraction from natural water resources - total	16474	13971	11110	12050	11566	12509	12123	12285
per capita, m3	2304	1847	1397	1438	1295	1346	1271	1289
Water consumption - total	11900	10223	6588	8607	7715	8229	8115	8567
of which:								
domestic and drinking purposes	367	327	449	521	405	311	313	323
industrial needs	3282	2173	2316	2360	1742	2056	2144	2117
of which drinking water:	267	111	82	61	54	53	49	46
irrigation and agriculture supply	8191	7720	3819	5710	5497	5746	5572	6057
Volume of recycled and consequently used water	1873	1696	1875	2224	1787	2184	2469	2441

% of total water consumption for industrial needs	36	44	45	49	51	52	54	54
Water losses during transportation	4449	3747	3053	3443	3851	4280	4008	3718
Discharge of sewage waters	5305	4247	4106	4878	6005	5173	5358	5575
of which untreated waste water	254	134	171	161	164	248	265	305

Source: State Statistical Committee of the Republic of Azerbaijan, April 2017

Azerbaijan inherited a relatively extensive water supply system from the Former Soviet Union. Since 2000, though, the share of the Azeri house-stock that has no access to piped water has increased, from 6.9% to 12.6%. Most of the houses without a connection to piped water are in the rural area. In urban areas the average daily water supply for personal needs is much higher than in rural areas: 107 versus 13 litre. A 2015 survey that was carried out by Health Ministry, shows that 9.4% of the overall water supply does not correspond with hygienic standards in terms of sanitary and chemicals indicators; 6.7% does not correspond with microbiological indicators (State Statistical Committee, 2016). Access to sanitation is another problematic, again especially in rural areas. Water treatment facilities are sometimes dysfunctional or lacking completely.

The Government recognizes the challenge of access to water, and is therefore implementing one of the largest water programmes worldwide. The main objective of this programme is to reconstruct the water and sewerage systems in more than 50 secondary cities providing customers with 24h metered water supply and sanitation services. Improving water access is crucial in rural areas (Post-2015 Development Agenda).

Azerbaijan belongs to the group of countries with limited water resources. The total transit and flow of Azerbaijan's rivers constitute 29.7 billion m^3 a year on average, and in case of moderate and extremely arid years, they decrease to 25.5 and 20.7 billion m^3 respectively. Amongst its neighbouring countries, Azerbaijan is the country with the least national water resources, estimated per capita and per unit of the area (UNDP/Azerbaijan State Committee for Environment, 1997).

Drinking water availability remains a source of concern as well. Taking into account that only 30% of water resources are originating from the territory of the country itself, addressing this issue requires very carefully designed water management system and infrastructure. While access of the rural population has increased from 62% in 2002 to 71% in 2010, it is still below the average for upper middle-income countries. Azerbaijan should continue modernizing existing water supplies, while paying special attention to the rural areas in that regard. Water quality has been deteriorated from agriculture and individual use, and the Kura River, which is the main source of water for three-quarters of the population, is polluted (Post-2015 Development Agenda).

The mineral groundwater resources of Azerbaijan, which are especially rich in the Nakhchivan Autonomous Republic, are famous for their quality as drinking water and are also used for medical purposes. In the Nakhchivan Autonomous Republic, there is much less water lost and wasted: 54 and 8 million cube meter respectively, compared to a total of 289 million cube water that is taken from natural sources (State Statistical Committee, 2016).

The country is a party to three agreements with its neighbours on transboundary rivers: with the Islamic Republic of Iran on the Araz River, with Georgia on Gandar Lake and with the Russian Federation on the Samur River. With regard to the Kur and Araz Rivers, which flow through Turkey, Georgia, Armenia, the Islamic Republic of Iran and Azerbaijan, discussions are under way on a water sharing agreement between all involved countries. Transboundary cooperation on water-management is important for Azerbaijan, as most of its water supply comes from neighbouring countries, which contaminate them with chemical, radioactive and other hazardous substances. This is especially the case with the Kur River which has its source in Turkey and flows through Georgia before entering Azerbaijan. The ecological situation of the river, due to pollution, is very poor. Also, the technologically obsolete

Metsamor nuclear power plant located in a seismic zone in Armenia poses a threat to the entire region (2020 Outlook Vision of the Future).

As Table 12 shows, Azerbaijan has already made much progress in cleaning its rivers since 2010, after an initial grow of biochemical oxygen demand and concentration of ammonium. Furthermore, the amount of nutrients has increased in almost all rivers and lakes since 2005.

Table 12: Emissions of greenhouse gases from stationary sources, 2000-2015 (selected years)

Average annual oxygen biological consumption, mg O_2/l	**2000**	**2005**	**2010**	**2013**	**2014**	**2015**
Kur	2.21	3.11	3.50	0.70	1.19	0.93
Araz	2.25	3.36	3.56	0.79	1.70	1.60
Average annual concentration of ammonium (NH_4), mg N/l						
Kur	0.21	0.19	0.48	0.23	0.074	0.15
Araz	0.15	0.18	0.25	0.39	0.70	0.11

Source: State Statistical Committee of the Republic of Azerbaijan, April 2017

Table 13: Nutrients in fresh water, 2000-2015 (selected years)

Nutrients in fresh water	**2005**	**2010**	**2013**	**2014**	**2015**
Nitrates concentrations, mg NO_3/l					
rivers:					
Kur	0.53	3.72	3.30	3.34	1.93
Araz	0.33	4.07	5.70	2.47	6.70
lakes:					
Boyuk Shor	0.68	12.00	1.15	1.70	2.08
Hacihasan	2.71	5.30	3.90	4.60	1.94
Masazir	4.06	8.85	12.1	9.85	5.30
Yasamal	0.17	0.30	2.25	2.30	1.88
Kurdakhani	5.42	6.90	8.95	8.90	7.03
Bulbula	0.28	6.90	1.65	1.85	2.31
Phosphorus concentrations, mg P/l					
rivers:					
Kur	0.03	0.04	0.33	0.16	0.11
Araz	0.06	0.05	0.21	3.60	0.13
lakes:					
Boyuk Shor	0.59	1.01	0.55	0.80	1.86
Hacihasan	0.42	0.45	5.85	6.00	2.50
Masazir	0.27	0.19	0.20	1.00	0.90
Yasamal	0.31	0.04	0.60	1.10	0.71
Kurdakhani	0.15	0.50	0.05	0.55	0.68
Bulbula	3.36	1.15	2.10	1.90	2.63

Source: State Statistical Committee of the Republic of Azerbaijan, April 2017

One of the main characteristics of the water resources of Azerbaijan is that about 70% of available surface water resources, including the country's major rivers i.e. the Kur and Araz rivers, come from

neighbouring countries and enter Azerbaijan in a heavily polluted state. About 80% of the water consumed by the population for drinking and irrigation comes from contaminated rivers, posing serious challenges to public health. The Kur River delta and the Absheron peninsula constitute two of the five pollution hotspots of the entire Caspian Sea (UNECE, 2011). In some areas, groundwater is shallow and poorly protected, e.g. on the Absheron peninsula, where the mineral oil content is high in places. Industrial pollution is found in Sumgayit (heavy metals) and Ganja (aluminum and iron). Bacteriological pollution of the upper aquifers is observed in the irrigated areas, towns and on cattle farms (idem).

In the UN-Azerbaijan Partnership Framework 2016-2020, multiple UN-entities have announced to contribute to improving Azerbaijan's water-management. The International Fund for Agricultural Development (IFAD) will be supporting the establishment of Water User Associations that provide: satisfactory operations and maintenance services to their members; trainings for their management and staff; and increased incomes for the associations. The aim is capacity development for farmers in farm business skills, horticulture, livestock husbandry, post-harvest handling, and market orientation, amongst others. Through Public-Private-Producer Partnerships, the aim is to help all the relevant actors to build capacities to evolve into sustainable and profitable partnerships. The IFAD also contributes to: the improvement of settlements by providing access to clean drinking water; improvement of water quality; an increase in the storage of drinking water of upland villages in Sheki and Oghuz; and an increase in the proportion of farmland that receives sufficient irrigation water.

Besides the IFAD, the UN Industrial Development Organisation (UNIDO) and the UN Economic Commission for Europe (UNECE) are involved too. The UNIDO will design and implement pilot projects related to, amongst others, water management. The UNECE, finally, will support national policy dialogues on integrated water resources management under the EU Water Initiative.

2.2.3. Food safety and nutrition

Achieving food security means ensuring that all Azerbaijanis have access to sufficient and nutritious food. This goal is linked with steady employment of people in the agricultural sector, which is a major employer in the country, and which, as such, allows people to earn incomes to pay for the food that they do not produce themselves. Although accounting for only 6% of GDP, 39% of the workforce is currently working in agriculture. A variety of crops is cultivated in the country, ranging from cereals to vegetables, fruits, and potatoes. Azerbaijan's main cash crops include grapes, apples, hazelnuts, potatoes, pomegranate, cotton, tobacco, citrus fruits, and vegetables. In addition, there is a food processing industry that processes meat and dairy products, produces canned goods with fruits and vegetables, and supplies beverages.

The domestic agricultural sector produces 92% of meat products and 100% of potatoes. Other food staples are imported to contribute to the food that consumers eat in Azerbaijan. This has created difficulties, because the population is vulnerable to international trade fluctuations for products and prices.

Before, the Government had adopted a State Programme on the Provision of Reliable Food Supply for 2008-2015. The main objective of this programme was to reach self-sufficiency for the majority of agriculture products as well as improving food safety concerns. The programme sought to address a number of the sectoral challenges, including the development of food processing enterprises, improvement of food safety, genetic improvement of livestock, and the expansion of lending resources.

However, food *security* has not been reached yet. Despite governmental action, the process towards food security has been hampered by insufficient production of main staples to feed the entire population with sufficient and nutritious food. Food *safety* also remains a concern. As Figure S.12 shows, especially the – often food-borne – acute intestinal infections remain a significant challenge. Virus hepatitis infections, on the other hand, have been effectively reduced since 2005.

Table 14: Intestinal infectious diseases, viral hepatitis and salmonellosis, reported cases per 100,000 population, 2005-2015, selected years

	2005	2010	2013	2014	2015
Gross acute intestinal infections	125.5	151.7	145	154	150.1
Salmonella infections	6.8	3.4	7.2	5.5	5.3
Virus hepatitis	20.2	13.8	5.6	4.6	3.5

Source: State Statistical Committee of the Republic of Azerbaijan, April 2017

Stakeholders have suggested that there is not sufficient regulation for the quality of food appearing in markets, resulting in cases in which food is sold after it has passed its expiration date. Insufficient storage facilities in markets and access of farmers to these facilities may contribute to this problem. There is a need to develop a new law on food safety to protect consumers' rights. A Food Safety Strategy has been developed with assistance from the FAO, endorsed by the line ministries and is currently being incorporated into the National Agro Sector Development Strategy.

The Food Safety Strategy establishes a roadmap for comprehensive reforms, including key principles for the national food safety control policy and enforcement. The Government also intends to conduct a review of the legal framework and current roles and responsibilities of various ministries and agencies involved in food safety to identify critical gaps in the existing network of registration, licensing, inspection and food safety certification and developing actions plan for alignment with Codex Alimentarus requirements.

An overarching concern for many stakeholders is the country's reliance on imports for food in Azerbaijan. The country depends – according to the official numbers – on imports for 35% of grains consumed and 27% of milk and dairy products, although actual amounts may be considerably higher. This dependence makes Azerbaijan subject to international agricultural trade fluctuation and prices volatility that increase import bills and may complicate people's ability to access food. To remedy this imbalance and high costs of food imports, a government-supported investment programme is needed for agriculture and food processing to make the sector more competitive and capable of covering the domestic demand and for exports.

Malnutrition rates among children remain high – the stunting rate for children under five remains at 27%, and one third of children are anaemic. Thus the issue of nutrition security is even more pressing than that of food security.

Climate change is another cause for concern for the agricultural sector, which in turn could negatively impact farmer's abilities to produce food to ensure food security in the country. These challenges are all linked to the ability of Azerbaijan to achieve food security for its people.

Again, as can be founded in the UN-Azerbaijan Partnership Framework for 2016-2020, different UN-entities are involved in tackling some of the challenges related to food-safety and nutrition. The International Fund for Agricultural Development (IFAD) focusses on the reduction of rural poverty in poorer rayons of the countries through increased food security and enhanced income-generating opportunities, particularly through strengthening of crop and livestock value chains and enhancing capacity of key actors in the value chains (Public, Private agents and Producers). Expected outcomes are Increased income and assets of poor rural households, more sustainable management of natural resources and enhanced resilience to climate change, production systems improved with sustainable links to markets and financial services are key outcomes. Output-level results include increases in volume, aggregate value and diversity of crops and dairy products produced and sold; number of outlets for agricultural/livestock products in local markets; and proportion of farmers shifting to market-oriented fruit and vegetable varieties and using improved storage facilities.

The United Nations Industrial Development Organisation (UNIDO) supports, in partnership with the government, economic diversification and development of the non-oil industrial sector. Part of this partnership is the promotion of investments, innovation and technology transfer through a partnership approach; strengthening of quality infrastructure, including for the agro-industrial sectors such as food processing, wood, leather, textile and agromachinery industries.

UNICEF, finally, is supporting the adoption of policies and standards enabling food fortification as an effective mean to tackle iron deficiency anaemia. I will also contribute to the revision of Infant and Young Child Feeding policies, norms and standards. Support policies and practices that specifically target the most marginalized groups of the population, such as children with disabilities, children from IDP/refugee families and remote localities, and strengthen practices that aim for the integration of these population groups.

2.2.4. Chemical safety

The use of mineral fertilizers in agriculture, has increased notably over the last couple of years – see table 15. Mineral fertilizers are artificial or synthetic inorganic chemical fertilisers either mined or made by chemical processes. The UN Industrial Development Organisation is currently assisting the government with implementing Government commitments on the reduction of Persistent Organic Pollutants (POPs) under the Stockholm Convention.

Table 15: Application of mineral fertilizers by kinds of agricultural crops

	Total (x 1,000 tons)	**Kilogram per hectare of cultivated ground**	*Of which:*								**Share of fertilised area, %**
			cereals[1]	cotton	tobacco	potatoes	gourds and melons	fodder crops	fruit trees	vine-yards	
2007	22.8	16	22	42	3	3	7	4	8	20	…
2009	22.8	12	14	27	4	12	12	3	7	2	31
2010	31.7	18	20	25	76	16	37	4	20	15	34
2011	20.4	12	15	30	34	10	19	2	9	6	54
2012	28.1	16	20	31	65	28	20	5	11	6	61
2013	29.3	16	20	30	66	28	24	4	12	7	68
2014	34.1	19	23	33	71	31	30	4	15	7	46
2015	40.6	23	21	35	72	26	28	9	17	8	58

Source: State Statistical Committee of the Republic of Azerbaijan, April 2017
Note: 1) maize is not included

The government is further planning to modernise the oil-gas and petrochemical sectors, by far the biggest industry in terms of GDP and the main driver of economic growth in the country. The UN-system will assist the government in achieving this goal, by offering its rich experience in such areas as enhancement of higher education curricula and research in fields related to innovation, technology and science of non-oil industries.

2.2.5. Climate change

Table 16: Annual average temperature Azerbaijan, 2002 – 2015

	2002	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Annual average temperature	12.3	12.2	13.8	13.2	13.2	12.9	13.0	13.1	14.4	12.1	13.3	13.4	13.4	13.6

Source: State Statistical Committee of the Republic of Azerbaijan, April 2017

Climate change represents a central problem, as steady temperature warming, fluctuations of the Caspian Sea, land degradation, and increased aridity, are affecting the country (The Future We Want). Azerbaijan is highly vulnerable to climate change, particularly given its high reliance on the agriculture sector, as well as the need to update energy sector infrastructure, strengthen adaptive capacities and resilience, and potentially mitigate or adapt to the impact of catastrophic events. The relevant policy document on the improvement of environment and rational use of natural resources has been prepared and the promotion of environmental sustainability will remain a top priority (UNAPF). Table 16 shows how the annual average temperature has evolved over the last years. As a result, the average temperature between 2002 and 2015 was 13.1 degrees Celsius, compared to 12.3 between 1961 and 1990.

At the national workshop on integrated approach to environmental sustainability in development planning in Azerbaijan in 2015, the Minister of Ecology and Natural Resources, Dr. Hussein Baghirov, described the rapid positive transformations in the field of environmental protection in Azerbaijan over the past decade. For ecosystem-based adaptation to climate change, biodiversity protected areas have increased from 4.5% of the country's area to 10.4%, and forest cover has risen from 11.4% to 11.8% increasing absorbed carbon by 2 million tons. Azerbaijan's greenhouse gas emissions account for 0.1% of global emissions, with emissions per capita equivalent to 5.4 tons of CO2, down from 10.4 tons in 1990. Emissions were reduced by half after the collapse of the Soviet Union, and are still 70% of the 1990 level despite intensified economic growth (Workshop Report).

A State Agency on Alternative and Renewable Energy Sources has been established and a National Strategy is being prepared. The actual share of renewable energy sources is 11% . The National Strategy aims at increasing this to reach 30% by 2030. The production of electricity has completely shifted from oil to gas, and the amount of fuel used in electricity production has significantly decreased. In the period 2006-2014, 1500 ha of oil polluted areas were cleaned up (Workshop Report).

Azerbaijan is supporting the legal framework for future climate change activities at the global level. It ratified the Doha Amendment to the Kyoto Protocol in April 2015, and has set a target to reduce its emissions of greenhouse gases by 35% by 2030, drawing the praise of the Climate Action Network for taking the lead in climate change mitigation. Azerbaijan is party to key international treaties, including on Climate Change, Land Degradation and Biodiversity, has enacted important national environmental laws, and has integrated environmental concerns into national policies and programmes (The Future We Want).

About sustainable development, the Minister of ecology and Natural Resources further noted that population growth, the expansion of consumption, and development based on competition have resulted in the depletion of resources and increasing environmental damage. The UNDP Resident Coordinator, Antonius Broek, noted that climate change effects were already observable. By 2050, worldwide emissions of greenhouse gases should be reduced to at least half of their 1990 levels in order to avoid further harmful impacts from climate change, requiring an urgent response. The preparations for and the conduct of the UN Climate Change Conference COP21 in December in France are of crucial importance (Workshop Report).

Climate change is a crisis with multiple consequences for the economy, health, safety and security, food production and other dimensions of our life, requiring cross-sectoral coordination within government, and coordination between the public and private sectors, engagement with civil society, academia and international institutions. Climate finance is needed for large-scale investments in infrastructure, technology and capacities for emission reductions, and for adaptation to strengthen resilience of communities to the adverse effects of climate change. Response to climate change should be integrated into national budgets and plans and supported by international funds. The Resident Coordinator also acknowledged the critical role of collaboration and partnership not only within the different sectors at the national level, but also coherent approaches with development partners. He cited the continued support and engagement of the UN Environment in Azerbaijan, and the timely nature and scope of the

National Workshop on Integrated Approach to Environmental Sustainability in Development Planning which is built around earlier work on greening the economy and encourage inter-sectoral, inter-ministerial dialogue, partnership, and collaboration to advance Azerbaijan's national development aspirations.

The Government also collaborates with international institutions on the implementation of the regional Forest Law Enforcement and Governance Programme (FLEG) which aims at supporting forest governance arrangements through strengthening and reform of the forest management organizational structure, reviewing and updating the policy, legal and institutional frameworks, as well as increasing the country's capacity to enforce respective laws and policies. There are a few youth NGOs which address problems of the environment – mostly waste management – and new actions based in Youth Houses encourage young people to identify environmental issues in their neighbourhood and devise (and implement) low-cost solutions to those issues.

The United Nations System in Azerbaijan, both resident and non-resident, will cooperate with the Government, civil society, the private sector and other stakeholders to support a country-driven transformative progress toward: i) promoting sustainable and inclusive economic development underpinned by increased diversification and decent work; ii) strengthening institutional capacities and effective public and social services; and iii) improving environmental management and resilience to hazards and disasters.

Improving Environmental Management and Resilience to Hazards and Disasters, has been listed as one of the strategic priority areas in the UN Azerbaijan Partnership Framework. The goal is to establish well implemented and coordinated sustainable development policies and legislation, that is in compliance with multilateral environmental agreements, recognize social and health linkages, and address issues of environment and natural resource management, energy efficiency and renewable energy, climate change, and resilience to hazards and disasters

The UN-system will, furthermore, prioritise strengthening populations' resilience to environmental and hazards/disaster risks as well as to climate change. This will include a focus on improving the effectiveness of relevant institutions for sustainable management of natural resources, including forests, water, land and biodiversity. Moreover, energy and climate change are central to sustainable development efforts, affecting all aspects - social, economic, and environmental – including livelihoods, access to water, agricultural productivity, health, population levels, education, and gender-related issues. Rapidly increasing energy demand in Azerbaijan calls for accelerated efforts to develop renewable energy sources and enhanced energy efficiency.

UN-entities that will support the Azeri government in achieving the goals are, amongst others, IFAD, UNDP, IOM, UNICEF, WHO, and UN Environment.

2.2.6. Waste

Waste is another highly relevant issue in Azerbaijan, and the government of Azerbaijan is increasingly paying attention to it. It is recognised that there is a need for improved solid waste management in the country. As part of an on-going Integrated Solid Waste Management Project, the Government has substantially improved the landfill management in Greater Baku area accompanied by newly constructed mechanical recycling and waste-to-energy incineration plant. As part of that activity, the Government has prepared the Greater Baku Solid Waste Management Strategy, which would further contribute to continual improvement of waste collection system in Greater Baku area. The Government is also preparing the National Solid Waste Management Strategy to expand its successful experience in solid waste management gained in Greater Baku area to the rest of the country (The Future We Want). In Azerbaijan's Vision 2020, it is emphasised that recycling, decontaminating and disposing wastes is beneficial for both the environment and economic efficiency.

Table 17 shows that after a peak in generated wastes in 2012, the amount has dropped. In 2014 and 2015, though, numbers have started to increase again. Table 18 shows a similar pattern in many of the main waste-generating economic activity types. At the same time, 2015 was a peak-year in terms of disposing waste as well, and especially manufacturers have started to utilise wastes (see table 19).

Overall, both hazardous waste (table 20) and medical waste (table 21) generation have increased, between 2010 and 2015. The disposal of hazardous waste has increased even with a faster rate. Table 22 shows how different secondary raw materials and wastes have developed. Especially the increase of wastes of ferrous metals and bottom ash stands out.

In the United Nations Azerbaijan Partnership Framework (2016-2020), the UN Industrial Development Organisation has announced to cooperate with the Azerbaijan government on the application of municipal, industrial and toxic waste management best practices and technologies.

Table 17: Generation, Utilization and disposal of wastes, 2010-2015, x 1,000 tons

	2010	2011	2012	2013	2014	2015
Quantity of generated production and consumption waster	2281.5	2789.6	3096.7	2575.6	2386	2421.2
per capita, kg	252	304	333	274	250	251
Quantity of used and disposal of production and consumption waster	476.1	572.3	665.0	537.2	497.3	771.2
per capita, kg	53	62	72	57	52	80

Source: State Statistical Committee of the Republic of Azerbaijan, April 2017

Table 18: Generation of wastes by economic activity types, 2010-2015, x 1,000 tons

	2010	2011	2012	2013	2014	2015
Agriculture, fishing and forestry	2.7	9.2	12.3	18.7	18.4	20.0
Mining	247.0	409.5	542.9	334.3	550.0	196.7
Manufacturing	414.6	529.3	868.6	482.3	394.4	576.6
Production and distribution of electricity, gas and water	1.6	4.6	11.2	5.6	3.3	4.6
Construction	0.6	0.6	0.7	1.2	1.1	3.3
Other branches	5.7	55.9	13.9	62.6	63.9	85.3
Hard domestic wastes[1)]	1609.3	1780.5	1647.1	1670.9	1354.9	1534.7

Source: State Statistical Committee of the Republic of Azerbaijan, April 2017
Note: 1) m^3conversed to ton using of rate

Table 19: Utilization of wastes by economic activity types, 2010-2015, x 1,000 tons

	2010	2011	2012	2013	2014	2015
Agriculture, fishing and forestry	0.8	2.0	6.7	5.7	7.2	8.9
Mining	80.9	28.6	76.8	5.1	10	10.9
Manufacturing	387.5	482.7	565.0	472.2	407.2	684.5
Production and distribution of electricity, gas and water	1.0	4.8	4.2	1.1	1.4	3.9
Construction	-	0.6	0.7	1.2	0.4	0.6
Other branches	5.9	53.6	11.6	52.1	71.1	62.4

Source: State Statistical Committee of the Republic of Azerbaijan, April 2017

Table 20: Generation, use and disposal of hazardous wastes, 2010-2015, x 1,000 tons

	2010	2011	2012	2013	2014	2015
Quantity of generation hazardous wastes	140.0	185.4	297.0	202.7	456.6	262.6
Quantity of use hazardous wastes	5.5	3.6	6.3	0.6	3.2	5.2
Quantity of disposal hazardous wastes	58.4	37.1	113.9	86.4	111.3	210.9

Source: State Statistical Committee of the Republic of Azerbaijan, April 2017

Table 21: Generation and disposal of medical wastes, 2010-2015, x tons

	2010	2011	2012	2013	2014	2015
Generation of medical wastes	87.5	89.9	81.8	110.7	103.0	101.0
Disposal of medical wastes	3.1	7.0	3.8	2.3	2.2	2.2
Medical wastes processing by enterprises	84.2	85.2	78.4	108.4	100.8	98.8

Source: State Statistical Committee of the Republic of Azerbaijan, April 2017

Table 22: Generation of secondary raw materials and wastes, 2000-2015, selected years

	2000	2005	2010	2013	2014	2015
Paper and cardboard wastes, thsd. ton	1.0	0.6	0.6	2	2.1	2.2
Secondary textile materials, thsd. ton	0.2	0.4	0.3	0.2	0.1	0.1
Cotton seed, thsd. ton	14.9	23.5	3.4	3.1	4.7	1.4
Glass fragments, thsd. ton	0.0	0.3	0.4	0.1	0.1	0.1
Used gumbrin, thsd. ton	0.1	0.1	1.3	0.9	0.6	0.1
Wood wastes, thsd. m^3	3.4	4.3	2.4	3.2	0.5	0.6
Soapstock, thsd. ton	1.4	0.7	0.7	0.6	0.7	0.5
Secondary polymer material, thsd ton	0.2	0.6	0.3	0.5	0.4	0.4
Wastes of ferrous metals, thsd. ton	11.5	514.6	303.4	337.2	302.5	x
Wastes of non-ferrous metals, thsd. ton	0.0	0.4	1.2	0.4	0.2	0.1
Domestic wastes, mln. m^3	4.6	7.3	6.7	7	5.6	6.4
Bottom ash	x	x	x	49.3	125.9	103.5

Source: State Statistical Committee of the Republic of Azerbaijan, April 2017

3. Environmental health management

3.1. Domestic Environmental health management

Environmental health is an intersectoral task that requires effective collaboration between health and non-health authorities, such as those dealing with environment, transport, housing, social, economic and regional planning. Therefore, next to health actors, a number of relevant ministries, agencies and

institutions with direct or indirect impact on environmental health status of the population need to be involved in activities in the field of environmental health. The effectiveness of this collaboration is an essential prerequisite for successful environmental health services.

Azerbaijan has a set of institutions and centres that deal with national challenges in environment and health. The majority of these institutions and centres are part of the Ministry of Ecology and Natural Resources and Ministry of Health, including its Centre for Epidemiology and Hygiene which deals with specific areas of environmental health. However, other relevant actors with key mandates in the field of environment and health are empowered directly by the government or are within other ministries. This diversity of actors is accompanied by a diversity of mandates and objectives, which therefore suggests allocating the overall leadership and coordination of environment and health issues with a single institution mandated for environmental health issues.

Within the health sector, action is needed to increase and further extend health services that relate to settings and specific environmental conditions and/or to provide local services beyond traditional health care. Examples would be the once existing occupational health services, home nurses, or school-based initiatives. The current reform of public health care structures, which increases capacities for public health care and prevention on municipal levels, provides good opportunities.

Intersectoral collaboration is a major challenge for action on environmental health in Azerbaijan. This is often due to a lack of commitment or input from relevant stakeholders. Health and non-health actors have often revealed conflicting positions on responsibilities for health-related action, as well as diverging perceptions of the duties and mandates of health actors. Within the non-health sector environmentally triggered health problems are considered to be a requirement for providing care and treatment, and not a call for environmental protection. Also, since the work programme of non-health institutions rarely includes health aspects or related performance indicators, the overall impression is that (despite their relevance) non-health actors often are not strongly committed to contribute to the reduction of environmental health risks within their respective working area. Therefore, non-health actors need to increase their commitment to and accountability for environment and health outcomes. Ideally, this commitment should be part of the institution's work plan, which would include the health target and indicator goals to be achieved.

The institutional framework for both the environment and the health sectors is rather adequate, with a number of institutions and agencies taking care, more or less, of specific tasks and activities that relate to environment and health. At the same time, clarity is lacking on the potential overlaps and/or redundancies when different actors work in closely similar areas.

Overall, the policy framework for each of the environment and health sectors individually is rather adequate in Azerbaijan. Both the environmental and the health legislation are in place but there is a strong need for their further development, in particular with regard to implementation legislation. Azerbaijan faces difficulties with implementation and enforcement legislation due to limited financial resources, especially at the regional and local levels.

Improvements are also necessary with regard to monitoring and evaluation activities which remain the main challenge for the both environment and health sectors in the country. According to findings of the Second EPR, even though the country has achieved a significant progress in upgrading its environmental monitoring network for the last few years, there is still a strong need for improvement. Furthermore, integrated information and analysis of environmental and health data is insufficient (if not lacking) and is rarely used as a key argument in decision-making. This is especially true for health impact assessments and cost–benefit analyses in environmental policy-making.

By now there is no official programme on environment and health capable of bringing together stakeholders/activities from various related sectors, which could serve as a basis for joint activities on a national level. Collaboration between ministries and stakeholders does exist to more or less degree and on different levels. However coordination between the stakeholders is poor. In general, the Ministry

of Health handles environment and health issues, and integration of non-health sectors needs to be strengthened. This is especially relevant in view of the current lack of accountability for actions on environment and health in non-health sectors.

While the existing regulatory framework needs to be improved and developed further, the major challenge is mostly associated with the implementation of the regulatory framework and its monitoring and evaluation. Although regulatory frameworks are established for specific areas of environment and health, these frameworks tend to be sectoral and coordinated by different actors, and are only marginally connected. Therefore, what is missing is a national programme on environment and health that covers related activities carried out by different actors. The lack of such a programme directly contributes to and enhances the difficulties in intersectoral work described above, especially since such a national programme would be the foundation needed to engage various actors.

The initiation of a national programme – or a national environment and health action programme based on WHO guidance on environment and health – would provide a unique opportunity to implement actions and structures that have been recommended to improve the environment and health performance of the country. Such recommendations include:

- overall coordination of activities by one defined institution or centre;
- review and modification of duties and responsibilities of relevant actors;
- development of shared responsibility for action and opportunity for setting clear targets and milestones for actors from health as well as non-health sectors;
- identification of a national environment and health priority list that can be used to orient the work programme, make policy-making more effective, and coordinate research activities in national and international contexts; and
- parallel identification of government funds and ministry budgets for achieving the targets for which respective ministries or agencies are responsible.

Education on environment and health for medical and public health professionals is not yet fully developed. In parallel, information campaigns, directed at the public, on the relevance of environmental issues and related health effects are as much needed as are increased support to and integration of nongovernmental organizations in the environment and health field.

Funding and provision of human resources is a key challenge for the environment and health sector in Azerbaijan. This applies both to the national level, where environment and health tasks are often dealt with on a formal scale only, and to the local level, which in recent years received many mandates and tasks, sometimes without the provision of adequate funds.

3.2. SDGs and Cooperation between Azerbaijan and UN-organisations

Azerbaijan is a party to the following conventions: the UNECE Convention on Long-range Transboundary Air Pollution; the Convention on Biological Diversity; the UN Framework Convention Climate Change; the Kyoto Protocol; the UN Convention to Combat Desertification; the Convention on International Trade in Endangered Species of Wild Fauna and Flora; the London Convention on Marine Dumping; the Vienna Convention for the Protection of the Ozone Layer; the Montreal Protocol; the International Convention for the Prevention of Pollution from Ships; the Tehran Convention on the Caspian Sea; and the Ramsar Convention for the conservation and sustainable use of Wetlands. Furthermore, Azerbaijan has signed and ratified the Paris Agreement, and it has accessioned the Basel Convention and the Stockholm Convention.

In 2013, national consultations were held on the post-2015 development agenda. Its outcomes are consistent with the priorities articulated in the Azerbaijan: Vision 2020 strategic plan which, primarily, strives for the transition from a traditional economy to a knowledge-based economy. The UN stands ready to cooperate with Azerbaijan for the integrated implementation of the Vision 2020 and post-2015 Development Agenda, as has been expressed in the 2016-2020 UN Azerbaijan Partnership Framework.

In implementing this vision, the UN-Azerbaijan Partnership Framework (2016- 2020), sets the first goal "Towards a highly competitive economy; balanced development of regions; development of human capital; ensuring transition to an information society" to be achieved by promoting sustainable and inclusive economic development, so that by 2020, the Azerbaijan economy is more diversified and generates enhanced sustainable growth and decent work, particularly for youth, women, people with disabilities, and other vulnerable groups. It will address Sustainable Development Goals (SDGs) 1, 2, 5, 8 and 17. The second goal "Improvement Post-2015 Integrated Approach of legislation and strengthening of institutional potential; development of human capital and provision of an effective social security system; balanced development of regions; development of civil society; ensuring transition to an information society; protection and effective management of cultural heritage" will require strengthening institutional capacities and effective public and social services, so that by 2020, Azerbaijan has enhanced institutional capacities for transparent, evidence-based and gender-responsive policy formulation and implementation, has made progress in line with international human rights mechanisms, including the Universal Periodic Review, and other treaty obligations, and has strengthened capacities for implementation, monitoring and reporting aligned with international standards, and has quality public and social services that are accessible to all and help achieve more socially inclusive and equitable development results. This will help Azerbaijan to meet SDGs 3, 4, 5 and 16. The third goal of "Environmental protection and ecological issues; improvement of legislation and strengthening of institutional potential; development of human capital" will focus on improving environmental management and resilience to hazards and disasters, so that by 2020, sustainable development policies and legislation are in place, are better implemented and coordinated in compliance with multilateral environmental agreements, recognize social and health linkages, and address issues of environment and natural resource management, energy efficiency and renewable energy, climate change, and resilience to hazards and disasters. This will cover SDGs 5, 6, 7, 9, 11, 12, 13, 14, and 15 (Workshop Report).

In addition to the Azerbaijan - 2020: The Vision of the Future and the UN-Azerbaijan Partnership Framework, the Post-2015 Development Agenda national consultation in Azerbaijan that involved a wide range of national counterparts and stakeholders, identified ten priority areas including: Economic diversification and inclusive growth, Rural development and quality infrastructure, Enhanced quality and access to healthcare, Improving opportunities for youth, Gender equality and women' empowerment, Promoting internally displaced person's self-reliance, Good governance and effective institutions, Ensuring food and nutritional security, Environmental sustainability, and Effective migration management. These priority areas will cover SDGs 2, 3, 4, 5, 8, 9, 12, 13, 14, 15 and 16 (Workshop Report).

As part of the implementation of *Vision 2020* strategy, several other strategies such as the National Strategy for Information Society Development in the Republic of Azerbaijan (2014- 2020), the State Programme for Improving Mother and Child Health (2014-2020), the State Programme on Population Development and Demography (2015-2025), the State Strategy for Education Development in the Republic of Azerbaijan, and the Azerbaijani Youth Development Strategy (2015-2025) will feed into the implementation of the Vision 2020 strategy (UNAPF).

To ensure sustainable growth, the Government strives to turn the non-oil sector into a driving force for the national economy. The Government announced 2014 as The Year of Industry and 2015 as The Year of Agriculture. The Government prepares the Strategy for the Development of Agro-Industrial Complex in the Republic of Azerbaijan to accelerate industrial development and further improve the agriculture sector as a dominant force in the rural economy, and has approved the State Programme on the Development of Industry in the Republic of Azerbaijan (UNAPF).

Although there exists a network of primary health care facilities in the country, modern scales for early detection and prevention of child disabilities are not used, and a medical approach to disability still prevails. Moreover, Azerbaijan, like many European countries, is experiencing emerging health issues arising from non-communicable diseases (NCDs), such as the harmful effects of smoking, and is beginning to address a number of these issues with support of the United Nations System through

national NCD policy, based on the main principles of the Global NCD Action Plan (2013-2020) and the UN General Assembly resolution on NCDs (2011). It will be particularly important for health issues to be considered and reflected in most national development processes, in compliance with the European Policy for Health (Health2020), which addresses the inverse relationship between socio-economic factors and health outcomes, particularly through acknowledging the importance of addressing social determinants of health. Health issues also were highlighted by participants in the national post-2015 consultations (UNAPF).

Azerbaijan is vulnerable to a number of hazards and disasters, including earthquakes, seasonal floods and landslides. High exposure and vulnerability of the population to hazards and disasters, are likely to increase disaster risks. Natural hazards cause significant damage to agriculture in rural areas and to infrastructure in urban areas. The urgent addressing of environmental issues is likewise becoming increasingly important, to protect the environment from the negative impact of harmful economic activities; air and water pollution are high, while a crucial shortage of drinking water exists. Moreover, Azerbaijan is highly vulnerable to climate change, particularly given its high reliance on the agriculture sector, as well as the need to update energy sector infrastructure, strengthen adaptive capacities and resilience, and potentially mitigate or adapt to the impact of catastrophic events. The relevant policy document on the improvement of environment and rational use of natural resources has been prepared and the promotion of environmental sustainability will remain a top priority.

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Questions for the Workshop

Q1. What are the key environment and health issues/priorities, and lessons learned in the implementation of environment and health agenda?

Q2. How do the environment and health issues/priorities fit into or aligned to Azerbaijan's efforts in implementing the 2030 Agenda for sustainable development?

Q3. What are the bottlenecks, obstacles, and challenges for implementing the of environment and health agenda?

Q4. What are the different responses/interventions needed (policy, capacity building, resource allocation, inter-sectoral collaboration, etc.) to advance the in the implementation of environment and health agenda in the context of meeting Azerbaijan's commitment to the 2030 agenda?

Q5. What are the available mechanisms or necessary requirements for the effective involvement of different stakeholders in advancing the environment and health agenda in Azerbaijan and beyond?

Q6. How do we use the available information, knowledge, and lessons learned to support the develop of national "portfolios of actions on environment and health" and prevent the adverse effects of environmental and health risk factors, costs and inequalities?

Draft Agenda for the workshop