





## Section 5

Key water developments  
in the countries  
of Central Asia

## 5.1. Kazakhstan Overview

### General information

**Territory.** 2, 724,900 km<sup>2</sup> (9<sup>th</sup> place in the world). Most of the territory of the country is occupied by desert (44%) and semi-desert (14%). Steppes cover 26 % of the Kazakh terrain, while forests occupy 5.5 %. By administrative division, the country is divided into fourteen provinces and two cities of the "state importance".

**Climate.** The extreme continental climate of the country can be explained by its remoteness from oceans. The average temperature in January varies from –19 °C in the north to –2 °C in the south, while the average temperature in July ranges from +19 °C in the north to +28 °C in the south. Summers are warm and dry and winters are cold and snowy.

**Population.** By the beginning of 2018, the population was estimated at 18.1 millions, of which 48% men and 52% women.

**Natural resources.** Kazakhstan is the top zinc, tungsten and barium sulphate producer in the world. The country also has vast petroleum and gas reserves mostly found in its western regions. Nowadays, Kazakhstan is considered to be the one of the leading oil countries in the world.

**Economy.** In 2017, the GDP growth in the country reached 4%. In 2017 a foreign trade turnover was \$69.5 million. Productoin of mining, fuel and energy, metallurgical, chemical and agriculture industries are the main export commodities. Historically, agriculture development is one of the priorities in the country. Kazakhstan is among the ten leading exporters of grain and one of the leaders in flour export. 70% of cropland in the north are covered by grain and technical crops, such as wheat, barley, and millet. The leading subsector of agriculture is the livestock farming which focuses mostly on breeding cattle, horses, camels and pigs.

**Water resources.** Due to its geographical location, [Kazakhstan](#) experiences a shortage of [water](#). Glaciers are the main sources of rivers in Kazakhstan. There are 8,500 rivers in the country, and Irtysh, Ishim, Ural, Syr Darya, Ili, Chu, Tobol, etc are the major ones. There are 48,000 large and small lakes. The major lakes are the Caspian Sea and the Aral Sea. Balkhash, Zaisan, and Alakol are the largest lakes. The Aral Sea is shared by Kazakhstan and Uzbekistan.

The territory of Kazakhstan can be divided into eight water-management basins:

1. Aralo-Syr Darya water management basin;
2. Balkhash-Alakol water management basin
3. Irtysh water management basin;
4. Uralo-Caspian water management basin;
5. Ishin water management basin;
6. Nura-Sarysus water management basin;
7. Shu-Talas water management basin;
8. Tobol-Turgai water management basin.

The unit water supply of the Republic of Kazakhstan is 37,000 m<sup>3</sup>/km<sup>2</sup> or 6,000 m<sup>3</sup> per capita a year. The total river water resources are 101 km<sup>3</sup>, of which 57 km<sup>3</sup> are formed on the territory of Kazakhstan. The rest of the water from neighboring countries: Russia - 8 km<sup>3</sup>; China - 19 km<sup>3</sup>; Uzbekistan - 15 km<sup>3</sup>; and, Kyrgyzstan - 3 km<sup>3</sup>.

**Water resources management** is implemented by the [Committee for Water Resources of the Ministry of Agriculture of Kazakhstan](#).

### Latest developments in legislation

In February 2017, the State Program for agro-industry development in Kazakhstan was adopted for 2017-2021. Based on the analysis of the existing problems, the Agro-industry Expansion Roadmaps were developed during in 2017 for each region. The Law On amendments and additions to some legislative acts of the Republic of Kazakhstan on the flora and fauna issues was enacted. This law is aimed to improve the legislation related to flora and fauna protection, conservation, reproduction and use.

### Flood control

Annually, different regions of Kazakhstan are suffering of [floods](#) that cause substantial damage. The insufficient flow capacity of downstream springs, rivers, and canals used for water discharge are among the reasons of

causing floods. During the 2017 flood season all necessary **preventive measures** were implemented; however, as the Kazakh Minister for Internal Affairs reported at the Governmental Meeting, not all large reservoirs had been ready for the safe bypass of flood water. According to him, free storages in reservoirs during the flooding periods should be ready to regulate the streamflow safely.

The **four-year master plan for flood prevention and elimination** has been developed in Karaganda region for the period of 2017-2020. The plan includes dredging and bank protection work, protective dams, capital repair of bridges and pipe culverts and other measures to prevent flooding. Regional authorities decided to divert the course of the Nura River in order to prevent the possible damage during the spring floods of 2018. In 2017, the local flood warning systems were installed in Zhana-Arka district of the region. By 2020 it is planned to install such systems in all settlements and district centers.

## Water facilities and construction

**Shardara HPP.** Replacement of all hydroaggregates and equipment at the Shardara hydropower plant (HPP) under the modernization program to be completed in 2018, would extend the operation service of this hydropower plant for another 50 years. The plant has been operating successfully as part of the Naryn-Syr Darya cascade of the hydropower stations providing with irrigation water the South Kazakhstan and Kyzylorda regions.

**Additional 20 reservoirs** with possible accumulation of almost 2 billion m<sup>3</sup> of water will be built in seven regions of Kazakhstan. The project cost is estimated for 57 billion tenghe. 15 emergency reservoirs are under rehabilitation, of which in 7 the work was completed in 2017.

The **capital repair** has been started in the **Char reservoir** in the Eastern Kazakhstan. Formerly, that reservoir used to umulate almost 80 million m<sup>3</sup> and irrigated 1,800 ha of land. The Kazakh Government has allocated 1.6 billion tenghe to implement this work. After the reconstruction of canals, dam embankment and other necessary activities, the irrigated land area is planned to be extended by 6,000 ha.

## Irrigation and land reclamation

**Kazakhstan is planning to attract investments for rehabilitation of 481,000 ha of irrigated land.**

In particular, loan agreements were signed with the European Bank for Reconstruction and Development (EBRD) and the Islamic Development Bank (IDB) for irrigation rehabilitation on 128,000 ha and drainage restoration on 101,000 ha for a total amount of more than 102 billion tenghe. Investment proposals are being developed for the rest of 481,000 ha. of land.

**Irrigated land reclamation in Kyzylorda province.** Funds from international financial institutions for land reclamation projects are being raised in Kyzylorda province. It is planned to reclaim 188,400 ha of available 238,600 ha of irrigated land in the region through international institutions' funds. 180,000 ha land have been used in crop farming this year, which is in 10,000 ha more than last year. Irrigated land expansion is achieved through hydrotechnical structures, including the Kyzylorda hydrosystem. As part of the Irrigation and Drainage Improvement Project Phase 2 initiated by the Ministry of Agriculture, it is planned to rehabilitate 15,000 ha of irrigated land in Zhalagash district, Kyzylorda region.

## Agriculture

In Kazakhstan, **agricultural GDP amounted** to 3,880.3 billion tenghe in January-November 2017. This is 2.3% higher than the same period of the last year. Agricultural production growth can be explained by an increase in crop production by 1.4%, cattle and poultry slaughtering by 5.2%, milk yield by 2.9% and eggs by 6.7%.

**Grain yield.** In 2017, the total cultivated land was 22.1 Mha which is 651,000 ha higher than in 2016. Production of crop requiring high amount of water was reduced. Spring sowing covered 18.7 Mha. In general, yields of spiked cereals in 2017 were forecasted at the average level of 12.6 centner per ha, with the gross harvest of grain 19.2 Mt. By 30 October, grain harvesting was fully (100%) completed. Given the average yields of 14.4 centner/ha in the current year, farmers of the country have harvested more than 22 Mt of grain.

**Increase in oil crop and lentil acreage.** The acreage of oil crops were record-breaking and exceeded 2 Mha in 2017. The planned planted lands of those crops increased from 1,901,800 ha in 2016 to 2,310,600 ha in 2017. In fact, 1,956,400 ha and 2,377,500 ha were planted accordingly. The plan was 102.9% exceeded in 2016 and 2017. The lentil-planted land extended three times as much: from 105,000 ha to 295,000 ha. Horticulture development is increasing in the South Kazakhstan region. As

the regional authority reported, the total horticulture area is expected to reach 2,000 ha.

**In 2017, 777 agricultural cooperatives were established in Kazakhstan** and covered about 85,400 of private subsidiary farms and peasant farms. Cooperatives will provide centralized services related to cattle slaughtering, veterinary, forage production, agrochemistry, and delivery of production to the places of processing and sale. The above measures will help to increase the load of processing enterprises by average 30% and reduce the trade margin between producer and consumer.

**By 2021, Kazakhstan plans to increase food export** by 40% through agricultural diversification. To achieve the goal, the Ministry of Agriculture should implement 6 conditions:

- 1) revise the subsidy allocation principles;
- 2) establish new cooperatives;
- 3) increase the level of agricultural production processing;
- 4) improve productivity and reduce production costs through modernization and application of the advanced agricultural technologies;
- 5) improve land use efficiency and increase of irrigated land by 40% in the next 5 years;
- 6) increase investments in research in agricultural field.

For development and enhancement of **export opportunities in the agroindustrial sector** for the period of 2017-2020 in Kyzylorda region, it is planned to implement 99 projects for the total amount of 30 billion tenghe. The European Investment Bank and AO "Agrarian Credit Corporation" have signed a financial contract for the amount of 100 million Euro for lending and credit of small- and medium-scale agroindustries in Kazakhstan.

## Hydropower and other renewable sources

**Kazakhstan has set the target to reduce greenhouse gas emissions by 15% of the 1990 level by 2030.** At the same time, there is more ambitious goal to reduce the total national emissions by 25%. Consequently, it is necessary to reduce the emissions by 73 Mt of CO<sub>2</sub> in the republic. Among various measures to implement this is the expansion of renewable energy sources. Thus, by 2020, the share of wind and solar powered stations would reach about 7% of the Kazakhstan's power system installed capacity, with the share in energy generation would be about 3%. In 2017, the first 12 MW solar power

station was constructed in Mangistau region together with French engineers and Chinese investors. The pilot green energy project is to be put in operation as early as in the first quarter of 2018.

**The largest Central Asian 200 MW solar power station** for the total amount of about 300 million Euro is to be constructed by TOO «Duesun Taraz» in Zhambyl region.

**The World N1 Project**, which will use solar power for railway transport, was launched in Saryagash district, South Kazakhstan region. The foundation of the construction producing 20 MWt electricity a day was laid in rural district of Zhilga on the total area of 41 ha. The Project for the total amount of 14 billion tenghe is under implementation by the TO "EC PROTECH-ASTANA".

**200 MW solar power station "KUNNURY"** will be constructed on 300 ha-piece of land in Otyrar district, South Kazakhstan region by the "Zindao Bayhay" Chinese company.

**The 2.5 MW mini hydropower station "Mankent"** on the Aksu Lake and a 1 MW/hour solar power station have been put into operation in the Sayram district, South Kazakhstan region.

**28.5 MW HPP along the Kora River** is the second after the Maynak HPP (on the Charin river) high-capacity diversion power plant built in Almaty region. The project, cost 7.1 billion tenghe, has been fully financed for the enterprise' funds.

AO "Development Bank of Kazakhstan" has started financing of the **24.9 MW Turgusun hydropower project** in Eastern Kazakhstan region. The total project cost is 11.6 billion tenghe.

**EBRD will allocate €1 billion to Kazakhstan** for the green energy projects and provide training assistance for the specialists working in oil-and-gas and mining industries. For the period of cooperation with the EBRD, 222 projects for the total amount of more than USD 7 have been implemented in Kazakhstan.

Over the last five years, the **European Investment Bank has allocated** €500 million for the development of green and renewable energy projects.

**Seven green energy projects** are being developed in the Karaganda region. All these innovation projects have been shown at the international exhibition "EXPO-2017" at the "Nur

Alem" pavillion. Three of the above projects have been already completed. The project is fully financed from European Union countries direct investments and is also supported by the governmental and private investment facilities of Germany, Czech Republic and Slovakia. In particular, a biogas plant for processing of organic wastes with the purpose to receive electric and thermal energy and organic fertilizers has been put into operation in Dubovka settlement. Mini 570 kW HPP was commenced at the Intumak reservoir. The energy generated by HPP is transmitted to the public electric grid of the Amangeldy settlement through the "Karaganda Zharyk" transmission lines. And the third project is the innovative gas treatment system "ABsalutecology", which helps to resolve of the regional energy problems through the high-tech cleaning of industrial emissions.

### Environmental protection

Over the period of January-August 2017, 14.3 billion tenghe have been invested for the environmental protection actions. That was 32.5% more than in the same period of the last year. The highest amount of investments was given to the Western Kazakhstan, Atyrau and Eastern Kazakhstan regions.

Massive fish death was recorded in the area of the Kokaral dam downstream on 7 to 8 August 2017. The possible reason of death in the Aral Sea could be the breach of rules for fishstock protection. Experts think that huge inflow to the lower reach of the Syr Darya River, including the Small Aral could also be the reason of this tragedy. "As a result of such situation accompanied by hot weather and reduced water discharge, 210 tons of young fish were lost. In this context, environmental prosecutor's office of the Kyzylorda region has initiated a criminal case by article 336 (breach of fishstock protection rules) and [article 371, part 2 \(negligence\) of the Criminal Code of Kazakhstan](#)".

### Foreign policy and cooperation

In 2017, the Kazakh Ministry for Foreign Affairs held about 300 events and prepared more than 500 visits of foreign entrepreneurs to Kazakhstan. Mr. N.Nazarbaev in his new publication "The Age of Independence" marked 2017 as a year that opened a new chapter in the country's foreign policy. Among the key developments of the year related to the foreign policy are:

Start of Kazakhstan's membership in the UN Security Council for the period of 2017–2018, with the January chair in the Security Council (see Section [UN Security Council](#)).

The Astana negotiation process for Syrian conflict resolution.

Success of the "EXPO-2017" Exhibition, with the participation of 115 countries and 22 international organizations.

Historical summits of the Shanghai Cooperation Organization and the Islamic Cooperation Organization held in Astana in June and September.

### Establishment of the International Water Assessment Centre

The International Water Assessment Centre (IWAC) was established in July 2017 in Astana as a branch of the TOO "Geography Institute". The core funding of the IWAC is provided from the government budget of Kazakhstan. Kazakhstan is making its contribution to the international community through the work of the Centre and becoming an international scientific hub on regional and global water problems. Activities of IWAC will be particularly focused on protection and sustainable use of transboundary water resources in Kazakhstan's neighboring countries and other countries of Central Asia, as well as in the UNECE countries and beyond.

### Transboundary water cooperation between Kazakhstan and China in 2017

Water relations between the Republic of Kazakhstan and the People's Republic of China are governed by the Inter-governmental Agreement on Cooperation in Transboundary Water Use and Protection (12 September 2001, Astana). For implementation of the Agreement, a Kazakh-Chinese Joint Commission for transboundary river use and protection and an expert working group were established. The Joint Commission and the working group have meeting once a year. From their establishment in 2003 till 2017, 15 meetings of the Joint Commission and 14 meetings of expert working group have been conducted.

In November 2017, the Agreement between the governments of Kazakhstan and China on reconstruction of Kazakh-Chinese joint water

intake structure on the Sumbek River was signed in Beijing. The countries will finance the project in equal shares. The project works started 26 December.

In June 2017, the Agreement between the Governments of Kazakhstan and China on construction of the mudflow protection dam Chukurbulak on Khorgos River was signed in Astana. The financing of the Project will be implemented in equal shares.

*Major information sources:*

Official web-sites of the President of Kazakhstan ([www.akorda.kz](http://www.akorda.kz)),  
the Ministry of Agriculture (<http://mgov.kz>),  
the Ministry for Foreign Affairs (<http://mfa.gov.kz>),  
the Committee for Water Resources (<http://mgov.kz/ru/komitet-povodnym-resursam-msh-rk/>),  
the Ministry of Justice (<http://adilet.zan.kz/rus>),  
Leading State Information Agency KAZINFORM [www.inform.kz](http://www.inform.kz)

*Other sources:*

<https://zonakz.net>,  
<http://kazakh-zerno.kz>,  
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<https://e-kyzylorda.gov.kz>,  
<https://www.zakon.kz>,  
<http://ekois.net>,  
<http://www.easttime.ru>,  
<https://regnum.ru>,  
<https://agrosektor.kz>,  
<http://canews.org>,  
<http://carececo.org>



## 5.2. Kyrgyzstan Overview

### General information

**Territory.** The total area is 199,900 km<sup>2</sup>, of which land area is 191,800 km<sup>2</sup> and water area is 8,100 km<sup>2</sup>. The highest terrain point is Pobeda Peak (7,439 m). Administratively, Kyrgyzstan is divided into seven regions, such as: Jalal-Abad, Issyk-Kul, Naryn, Osh, Talas, Chuy, and Batken.

**Population.** Beginning of 2018, the population was 6.1 million, of which 2.1 million or 33.8 % urban population and 4.1 million or 66.2% rural population.

**Economy.** By the World Bank's assessment, for the period of first nine months of 2017 the actual GDP increased by 5% comparing to 2016. Economic growth in 2017 is estimated at 3.5%. Considering slow-down in gold production due to geological factors, economic activity decreased in the second half of the year. It is expected that production growth would be slightly higher than 4% in the mid-term.

**Climate.** The climate is continental. In July, the average temperature varies from 17 to 27 °C in the valleys (maximum temperature may exceed 40 °C), whereas at the altitude of 3,000 meters above the sea level the temperature is not more than 10 °C. In winter time all regions of the country face freezing weather. The largest amount of precipitation is recorded in mountain areas, mainly as snow, with the maximum level of 1,000 mm in the mountainside of the Fergana Valley. Precipitation level varies within 250-500 mm in Talas province: from 200 mm in the western part of Issyk-Kul Lake, and up to 600 mm in the eastern part of Issyk-Kul Lake.

Rain and snow usually fall during autumn, winter and spring. The potential annual evaporation level is recorded from 200 mm at a high altitude (more than 3,500 m) to 1,600 mm in lowlands. Evaporation in main irrigated areas varies from 1,200 to 1,600 mm, considerably exceeding the average precipitation level (400 mm). The climate seriously influences on the natural and anthropogenic ecosystems. Changing of climate is one of the major factors in biosphere evolution.

**Water resources.** Freshwater resources in mountain glaciers are estimated at 650 km<sup>3</sup>. The area of current glaciation is 4% of the Kyrgyzstan's territory and varies within 750,000-

800,000 ha or 7,500-8,000 km<sup>2</sup>, including: the Sary-Zhaza and Kakshaala basins (3.5 km<sup>2</sup>); Naryn, Kara-Darya and other sources of the Syr Darya (2.4 km<sup>2</sup>); and Chu, Talas and Issyk-Kul (1.5 km<sup>2</sup>). The rivers' outflow formation takes 7% of the territory of Kyrgyzstan, with the runoff exceeding 47 billion m<sup>3</sup> /year. The amount of annually renewable groundwaters in the main artesian basins is within 250 m<sup>2</sup>/s or 7.7 billion m<sup>3</sup>.

**Energy.** There are 18 power plants in the Republic of Kyrgyzstan, including 16 HPPs and 2 thermal electric power stations (TEC) located in the cities of Bishkek (666 MW) and Osh (50 MW). The electric power system of Kyrgyzstan comprises the transmission lines of 0.4-500 kV with the total length of 86,800 km. Considering the geographical location of Kyrgyzstan and its nature-and-climate conditions, the territory of the country is divided into seven economic regions with two industrially developed cities. Kyrgyzstan's energy system can generate, transmit and distribute the electricity not only within the country but also export, import and interchange the electricity to the neighbouring states, as well as cover the power deficiency and the on-peak load in energy grids of the Central Asia regions. In terms of hydro-resources, Kyrgyzstan is number three among the CIS countries after Russia and Tajikistan. Thus, the development of huge hydropower potential, which is about 142 billion kWh, is the main strategy of the national energy development program. As many as 31 hydropower plants could be potentially built along the Naryn River and its tributaries with annual energy generation of more than 16 billion kWh. Attraction of private investments within the country and from international sources plays an important role in development, construction and rehabilitation of HPS situated on the outflows areas of the small rivers of Kyrgyzstan.

**The state agency responsible for water resources management** is the Department of Water Resources and Land Reclamation (DWRLR) of the Ministry of Agriculture, Food Industry, and Land Reclamation of the Republic of Kyrgyzstan. The Department provides governance, monitoring and regulation of the conditions and use of water resources through the irrigation and drainage infrastructure, and fulfills ministerial and coordinating functions on the implementation of the unified state water policy.



### **Irrigated area and water-management system.**

The Kyrgyz Republic has 1,023,000 ha of irrigated land, of which 240,000 ha are equipped with the collector and drainage network. Reclamation-wise, the conditions of about 87,000 ha of irrigated land are very poor.

The water-management system is comprised of 34 reservoirs for irrigation purposes and approximately 400 basins for daily and decade flow regulation with the total volume of about 2 billion m<sup>3</sup>, 28,900 km of irrigation canals, including 5,700 km of inter-farm canals (which are on the balance sheet of the DWRLR) and 23,200 km of on-farm canals (being on the balance sheet of the local administration of Aiy Okmotu, water-users association and other acting legal entities). There are 274 irrigation systems, 93 accumulating irrigation structures, and 219 pumping stations (of which 111 electrified) being on the balance sheet of the DWRLR. The length of collector-drainage network is 5,705 km, 1,187.1 km of which are on the balance sheet of the DWRLR, 460.7 km are on the balance sheet of the WUA and 4,057.2 km are on the balance sheet of Aiy Okmotu.

### **Latest developments in legislation**

Certain improvements have been made to legislation in part of water and land management in 2017. In particular, it includes the following:

#### **Water Code and Law On Water have been amended:**

The amendments made by the Law No.54 of 6 April 2017, bring the provisions of water legislation in accordance with the Law On the Basis of administrative activity and administrative procedures. The above-mentioned Law provides an order of appeals against acts. Amendments made by the Law No. 193 of 23 November 2017, would allow the entities contributing to the country economy and regional development, whose activity has an impact on glaciers, implement the activity on prospecting and development of mineral resources, however, with obligatory transfer of glacial mass located in place of mining to another place. Additionally, in accordance to the amendments to the Article 62, big taxpayers and budget-generating companies on exceptional basis are allowed to implement activity affecting glaciers, provided the maximal possible mitigation of damage and control over glacial status.

### **The Concept for conservation and improvement of fertility of agricultural land was adopted**

for 2017-2020 (PP KR No. 414 of 30 June 2017). The main objectives of the Concept are continuous reproduction of agricultural land fertility, improvement of nutrient balance in the soil, and achievement of steady crops. The Concept's priorities include maintainance of favorable environment and consolidation of land for intensive farming.

### **The State Program for irrigation development in the Kyrgyz Republic was adopted**

for 2017-2026 (PP KR No. 440 of 21 July 2017). The Program makes provisions for construction of irrigation infrastructure to develop new irrigated land in rural area, improvement of socio-economic conditions and ensure regional development, as well as assistancy in solving the issues of food security and poverty reduction. As a result of implementation of the State Program, 66,500 ha of new irrigated land will be put into operation; water supply for 51,080 ha will be improved; 9,500 ha of land will be transferred from pumping irrigation to gravity irrigation; and conditions of 50,000 ha of land will be improved.

### **Basin and regional water authorities and reservoirs of the DWRLR have been re-organized**

into state agencies. In total, 26 basin and regional water management authorities have been re-organized (PP KR No. 524 of 24 August 2017).

### **Amendments to the Law On introduction of moratorium for transformation of arable land into another land categories**

(Law No.174 of 14 October 2017) have been made in. In accordance with the adopted Law, the moratorium for transformation of irrigated arable land into another land categories does not cover the list of lands mentioned in the Law.

### **The work on development of the National Sustainable Development Strategy up to 2040 has been started.**

The first draft of the Strategy is to be ready by February 2018.

### **Irrigation and Land Reclamation**

In 2017, the construction of 4 irrigation projects on the piece of new irrigated land of 1,090 ha for the total amount of 285 million Som was completed. Thus, the work included the following:

- Kakakyshtak-Boz Canal in Kadamjai district of Batken region on the Isfairam-Say River. The capacity is 560 ha of new irrigated land.

- Irrigation of land from the Cholpon-Ata River in rural community “Kara-Oy” in Issyk-Kul district. Project cost is 80 mln,Som. The capacity - 330 ha of new irrigated land;
- Irrigation of land from the Bash-Kuugundy River in Zhungal district of Baryn region. The Project cost is 60 mln.Som. The capacity – 200 ha of new irrigated land;
- rehabilitation of Ak-Tektir and Terek-Talaa canals of one irrigation system of the Kyzyl-Zhar district, Kara-Kulzha district of Osh province; the source is zun-Airys River. The Project cost is 55 mln.Som, and the capacity is 560 ha of new irrigated land.

Additionally, the above project will create 4,200 new jobs.

During the Project “Development of new irrigated land in Burganda scheme of Kadamjai district in Batken region” implemented within the National Sustainable Development Strategy for 2013-2017, 3,850 ha of new irrigated land have been developed. At the same time, the inverted 1.56-km syphon with intake structure, main 3-km canal with structures, and on-farm irrigation network have been constructed.

The 5,300 m long canal has been put into operation in the Nookan district of the Djalal-Abad province. Irrigation of 1,379 ha lands would be improved and in future 1,025 ha of new land can be irrigated. Water losses will be reduced to 1,993,000 m<sup>3</sup> a year.

**The Loan Agreement On financing of Sarymsak Irrigation System Development Project between the KR and the WB has been ratified.** Under the Agreement, the loan would be provided in the amount of more than \$13 million. The Kyrgyz Government will allocate more than \$3 million. The objective of the project is to put new irrigated land in use (Decree of the Zhogorku Kenesh of the KR N 1331-VI of 9 February 2017).

**China has provided grant in the amount of \$32 million** for reconstruction of 6 irrigation investment projects, including:

- Construction of a new canal and modernization of existing canal in Batken province for 1,500 ha of new irrigated land. Project cost - \$7.2 million; 3000 people will be provided with new jobs;
- Irrigation on 330 ha of new irrigated land in Kara-Oy settlement in Issyk-Kul region.

The project costs \$1.2 million; 260 people will be given new jobs. Possible implementation of drip irrigation;

- Reconstruction of Ak-Olen canal in Tonsk district on 1,200 ha of new irrigated land. Project cost is \$10 million. By present, it is necessary to have \$8,4 million. 2400 people will be given new jobs. At present, 1.7 km of the canal has been constructed;
- Development of new irrigated land on 2,700 ha near Spartak reservoir in Moscow district. Project cost is \$11 million; 5400 people will be given new jobs.
- Construction of Bakhty-Nogoi canal in Kara-Buura district, the Talas region province on 380 ha of new irrigated land. Project cost is \$2.5 million. 760 people will be given new jobs.
- Completion of Kyzyl-Jar and Jalpak-Til canals in Bakay-Aty district, Talas region on 16 thousand ha. Project cost is \$1.7 million. 30000 people will be provided new jobs.

## Agriculture and water economy

The **Concept of agricultural cooperative system** development has been approved for 2017-2021 (PP No.237 of 21 April 2017).

The concept provides development of agricultural cooperative movement in the country in the short- and mid-term. Under the short-term (2017-2018), a number of issues related to development of agriculture cooperatives should be resolved. During the mid-term (2019-2020), it is planned to set up the cooperation infrastructure in agricultural sector through the establishment of sustainably developing network of agriculture cooperatives in the area of processing of agricultural products, services, lending, insurance and logistics and marketing.

The amendments to the Decree on approval of the **“Financing of agriculture-5”** Project of 3 February 2017 No. 58 (PP No. 665 of 13 October 2017) have been made. According to the amendments, funds allocated for crop production should not exceed 15% of the total sum of financing. The “Financing of agriculture-5” Project objective is to ensure the state support to enterprises and physical entities of the KR for timely implementation of the field work in spring 2017 and further development of

livestock, crop farming, agro-processing and services via credits on easy terms. The project implementation period is 36 months. By the end of 2017, more than 13,700 agricultural producers have been provided soft loans for an amount of more than 5.9 billion soms.

Experts of the World Food Programme together with the National Strategic Research Institute of Kyrgyzstan have developed an **innovation Internet-platform (SNAP)** that would help to make food crisis forecasts. With the new system, huge volumes of information on food and prices will be collected and analyzed which would help government to receive warning on coming crisis. The new platform would play several food development scenarios in case of natural disasters, conflicts, and socio-economic crises. This would allow the government to plan its actions and take necessary measures to socially protect population. The project has been developed under the financial support of Japan.

### Agricultural cooperation

In January 2017, the **Kyrgyz Ministry of Agriculture, Food Industry and Land Reclamation and the German Federal Ministry of Food and Agriculture** signed a Joint Declaration on cooperation. The main areas of agricultural cooperation have included the following: exchanges of scientists and specialists; assistancy in development of cooperation between research and educational institutions; experience exchange in innovation in agriculture and creayion of the appropriate conditions to support small and medium enterprises.

The **FAO and the Kyrgyz Government** have signed a Cooperation Agreement. The key areas of cooperation include: improvement of nutrition; reduction of rural poverty; sustainable nature management in Kyrgyzstan; and, adaptation to climate change. The signed Cooperation Framework Program would govern the FAO's activity in the country for the period of 2018-2022. The program was developed in line with the National Strategy up to 2040 and the National Development Strategy for the period of 2018-2022.

In April 2017, the **KR and Saudi Arabia** signed the Agreement on cooperation in agriculture, livestock farming and fishery. The Agreement will form the legal framework for cooperation and implementation of joint investment projects.

The **modern logistics center has been established launched in the south of the Republic** in the Kadamjay rayon of the Batken region under USAID support. In the world standard wholesale warehouse it will be possible to store 6,400 m<sup>3</sup> of fresh fruits and up-to-date technology that allow sorting and packaging up to 500 tons of fruits a day. This center will help local farmers from the southern part of Kyrgyzstan to store their production longer and to become more competitive on local and export markets.

The **World Bank and the KR have started working on the new Partnership strategy for the period of 2018-2021**. Future project needs are assessed jointly with the Government, based on national priorities and the World Bank's analysis results.

The **UN assistance framework agreements have been signed for an amount of \$233 million for the period of 2018-2022**. The key areas to receive the financial aid include the following: industrial development, agriculture, food security and nutrition; responsible governance, rule-of-law, human rights and gender equality; environment, climate change and disaster risk management; social protection, health and education.

### Drinking water supply

In 2017, **as part of the state program Ala-Too Bulagy**, the water supply and sanitation systems and treatment plants were reconstructed in 22 cities and towns. This program has been implemented since 2016 in order to provide access to water supply for 141 villages in Chu, Osh, Issyk-Kul and Jalal-Abad regions. By 2020 under the Program, it is planned to supply with water 120 villages situated in Osh, Issyk-Kul and Batken regions.

**Amendments have been made in the Technical Regulation Document** On Safety of drinking water that, among others, provide the changes in permissible levels of uranium contents in drinking water from 0.015 to 0.030 mg per 1 liter of water as well as change in the standards of the Maximum Permissible Concentration for the indicator "Cumulative alpha activity" from 0.1 to 0.5 Bq / l (Law No. 67 of 28 April 2017).

**World Bank and Islamic Development Bank have provided \$51 million** for improving access to clean drinking water for Kyrgyz population. Two projects are planned to be implemented for the period of 2017 to 2022: "Sustainable

development of rural water supply and sanitation” financed by the World Bank in the amount of \$23 million, of which \$15 million are financed by the IDB; \$5 million – Islamic Solidarity Fund; \$3 million – co-financing of KR (Law No. 222 of 29 December 2016) and “Improved rural water supply and sanitation” Project financed by the IDB in the amount of \$20 million (Law No. 116 of 30 June 2017). Co-financing of the KR is \$7,5 million. Under these projects, it is planned to construct/rehabilitate 25 rural water supply systems in 64 villages in Chu, Osh, Issyk-Kul and Jalal-Abad regions, with population more than 170,000 people.

**Several Agreements have been signed between KR and EBRD** for implementation of projects on rehabilitation of water supply and sanitation in Kara-Suu (€6.3 million); Cholpon-Ata (€6.2 million); Osh (€10.76 million); Mailuu-Suu (€6.65 million and €1.6 million); Uzgen (€8,5 million and €2,75 million); Toktogul (€5,5 million and €1.21 million); Balykchi (€5.3 million and €1,21 million) and setting up modern water meters and replacing the equipment necessary for the system to work in 13 villages of Danbulaksk, Myrzaken and Kurshab in Uzgen district of the Osh region and 13 villages situated near to the cities of Kerben, Toktogul of the Jalalabad region.

**With the support of EBRD and the Government of Swiss Confederation**, drilling of 35 new wells has been started under “Rehabilitation of water supply and sanitation in the city of Bishkek, Phase 2” Project for the amount of €16 million (€8 million credit funds and €8 million grant). The project aims to increase supply of drinking water to the people of Bishkek city, ensure control of drinking water quality and wastewater with the up-to-date analysis methods and equipment.

## Hydraulic structures

**Upper-Naryn cascade of HPPs.** In July 2017, an agreement between KR and Czech company «Liglass Trading CZ, SRO» on the construction and commencement of Akbulun HPP and Naryn HPP-1 of the cascade, as well as on implementation of the project “Construction of small hydropower plants in the Kyrgyz Republic” has been signed. The document on construction in the country small HPPs provided financing, preparation of feasibility study, construction, and commencement of small hydropower plants “Orto-Tkoy-1”, “Orto-Tkoy-2”, “Papan”, “Chon-Aksuu”, “Kirovskaya”, “Karasuu-1”, “Karasuu-2” till 30 December 2019, as well as construction and commencement of small HPPs

“Sandyk-1”, “Sandyk-2”, and “Sandyk-3” up to the end of 2020 year. The total amount of investments by Liglass trading CZ SRO for the whole cascade of Upper Naryn HPPs was approximately \$500 million. However, in October 2017, the agreement was terminated unilaterally by a decree of the Kyrgyz Government..

**Toktogul HPP.** In July 2017, the Agreement between KR and the Asian Development Bank (ADB) on financing of the Toktogul HPP rehabilitation project, Phase 3 for the total amount of \$175 million was ratified. The main goal of the project is to improve energy security of Kyrgyzstan through reconstruction of Toktogul HPP by increasing capacity of each aggregate up to 60 MW. The ADB contribution is \$110 million, \$60 million of which are credit funds; \$40 million - EBRD, and \$25 million is a Kyrgyzstan's contribution as tax and duty exemption. As part of the ADB's Project “Modernization of energy sector”, a hydroaggregate and a transformer have been put into operation at Toktogul HPP. The new generator transformer supports protection from explosion and fire, as well as continuous monitoring.

**Kambarata HPP.** In June 2017, an Agreement on investment loan by the Eurasian Stabilization and Development Fund for the Project “Commencement of second hydroaggregate at Kambarata HPP-2” between KR and EBRD was ratified. The objective of the Agreement is to increase the generating capacities by putting into operation of the second hydroaggregate (120 MWt) at the station. As a result, it is expected to increase the capacity of Kambarata HPP-2 up to 240 MW. This will also allow reducing water releases from the Toktogul reservoir by 1.4 billion m<sup>3</sup> in winter season and increasing power generation up to 1.019 billion kWh, of which 0.864 billion kWh in spring and summer period; and 0.155 billion kWh in autumn and winter period. The total project amount is \$138 million, of which the amount of \$110 million is the EBRD credit and the amount of \$28 million has been provided by the energy joint stock companies.

**Orto-Tokoy (Kasansay) reservoir.** The agreement on interstate use of the Orto-Tokoy reservoir signed on 6 October 2017 in Tashkent was ratified between Kyrgyzstan and Uzbekistan (Degree of Zhogorku-Kenesh No. 2153-VI of 28 December 2017). According to the agreement, after ratification, the reservoir is transferred under responsibility of the Department of Water Resources and Land Reclamation. The Kyrgyz party will be responsible for

safety of structures, operation, maintenance and water releases within the established limits based on the current mutually agreed documents and legal acts. The Uzbek party will share O&M costs and other negotiated actions proportionally to the water volume received. No additional payment of taxes and duties required. February 2018, the Law on ratification of the Agreement on interstate use of Orto-Tokoy (Kasansay) water reservoir in the Jalal-Abad region between the Government of the Republic of Uzbekistan and the Kyrgyz Republic was signed by the Kyrgyz President.

**Energy export.** In June 2017, Kyrgyzstan started exporting energy to Uzbekistan at the price of 2 cents per kilowatt-hour. The contracted volume is 1.25 billion kWh for \$25 million.

### Small HPPs

Tender regulations on the right to construct small HPPs in KR have been approved. The regulations set general conditions for small HPPs construction projects as well as allow to establish the terms and conditions for conduction of tender process (PP No.175 of 24 March 2017). In February 2017, small Tegirmen HPP (installed capacity 3,077 kW) was put into operation in Kema rayon. The total estimated project cost was 215 Million soms, of which 71.6 Million soms - own funds, and the rest amount is loan. The loan has been provided for 5 years with the yearly interest rate of 12%. Project cost recovery is 8 years with the guarantee of 2 years.

An Agreement on implementation of small HPP project "Leilek" construction Project in the Batken region was signed in July 2017.

Construction of HPP (capacity 10 MW) will be implemented by the OOO "Kyrgyz Kaganat".

### Emergencies

158 landslides were recorded in the country for the period of January – May 2017. The same amount of landslides happened over the last nine years. As a result of the landslides, 34 people died. 5,146 households are in the area of risk. 1,871 households have been provided with financial aids and pieces of land for resettlement, however, they had not resettled. 2,465 families were have been resettled. The most severe landslides that led to tragedy are:

- 29 April, about 07:20 am. 11 houses were under landslides in the village of Ajuu, Uzgen district, Osh region. 24 people suffered.

- The village Kurbu-Tash, Uzgen district, Osh region, Three landslides have been recorded. First was 1 May and 11 houses were under the landslides. 5-th of May another landslides happened between the villages Kurbu-Tash and Marks. 30 houses were under the landslides and 35 transmission lines. According to the Ministry of Emergencies, no victims have been recorded. 11 May was the third landslides covered 45 houses and 3 social buildings. According to the Ministry of Emergencies, the soidl mass volume was 2.8 million m<sup>3</sup>.

- 1 May the village Kurlush, Alai district, Osh region the movement of landslides has been recorded.

### Foreign policy and cooperation

In 2017, the President of KR made a state visit to the Russian Federation, official visits to Kazakhstan and Uzbekistan, and working visits to PRC, RF and Belarus. The President took part in the jubilee session of the Collective Security Treaty Organization in Minsk.

**As the Kyrgyz Ministry of Foreign Affairs estimates, the most important developments in the foreign policy of the country in 2017 included the following:**

- progress in delimitation of the Kyrgyz-Uzbek border and establishment of a strategic partnership between Kyrgyzstan and Uzbekistan;
- further strengthening of strategic partnership with RF;
- strengthening of relations with China considering the level of strategic partnership;
- chairmanship of Kyrgyzstan in the Eurasian Economic Union;
- participation of the President of Kyrgyzstan Mr. A. Atambaev in the 72<sup>nd</sup> UN GA (see section [General Assembly](#)) in New York;
- the first visit of the new UN Secretary General Mr. Guterres to the Kyrgyz Republic on 10-11 June (see section [Secretariat](#));

- strengthening of political dialogue between the Kyrgyz Republic and EU, and beginning of negotiations on a new agreement on further partnership and collaboration between the KR and EU;
- organization of the second international forum for preservation of snow leopard and its natural habitat (25 August, Bishkek), etc.

Kyrgyzstan takes an active part in different international events. In 2017, the Head of State and country representatives participated in many important events, including:

On 14-15 May in Beijing, the President of Kyrgyzstan A. Atambayev took part in the International Cooperation Forum "One belt, one road". (see section [China's Belt and Road Initiative: green directions and water-management projects](#)). The representatives of the 110 countries also participated in the Forum.

On 10 July the Vice-Prime Minister presented a report on the achievement of SDGs in the EAEU region in the UN Headquarters in New-York as a country chairing EAEU.

On 17 July during the High-level policy forum on sustainable development the Kyrgyzstan's permanent representative at ECOSOC shared experience of the country's sustainable development and underlined that the country had joined the PAGE initiative – Partnership for Actions on green economy in 2016 in order to create politically-friendly environment, incentives and partner relations for encouragement investments in green technology and in natural, human and social assets.

On 20 September the Kyrgyz President Mr. A. Atambaev spoke on a plenary session of the 72<sup>nd</sup> UN GA in New York and focused on the effects of climate change and a necessity of mutually beneficial use of water and energy resources (see section [General Assembly](#)). Under the Summit Mr. President took part in Special High-Level Meeting on the issues of uranium heritage in the Central Asia countries.

On 10 November in Samarkand the Foreign Minister of KR spoke at the International Conference on security and sustainable development in CA "Central Asia: Shared Past and a Common Future, Cooperation for Sustainable Development and Mutual Prosperity". The Kyrgyz Foreign Minister called to remove the existing obstacles for free move-

ment of people, goods and services and boost the cooperation in culture, education, science, arts, tourism, sports, and other areas.

On 27 November in Vienna the Kyrgyz delegation headed by the Chairman of the State Committee of Industry, Energy and Mineral Resource Management took part in the 17<sup>th</sup> session of UNIDO during which the decision to include the Kyrgyz Republic into the Program of UNIDO country partnership was officially declared. The topic of the event was "Partnership for successful achievement of the sustainable development goals".

On 1 December the Kyrgyz delegation headed by the Deputy Minister of International Affairs took part in the 7<sup>th</sup> Ministerial conference of the Istanbul process "The Heart of Asia (on Afghanistan issues)", which was held in Baky, Azerbaijan. The Conference was dedicated to "Safety and economic connectivity to strengthen the Asian region "The heart of Asia". At the Conference, the Kyrgyz party announced the priority areas of cooperation between Kyrgyzstan and Afghanistan and its partners, particularly, in part of implementation of the regional energy project CASA-1000, establishment of transportation corridor in CA, establishment of trilateral agroindustrial consortium between Kyrgyzstan, Tajikistan and Afghanistan, etc.

The year 2017 was a landmark in the development of Uzbek-Kyrgyz cooperation. (See [Bilateral water cooperation between the states in Central Asia](#)).

#### Major information sources:

Official web-sites of the President of Kyrgyzstan ([www.prezident.kg](http://www.prezident.kg)),

Parliament of Kyrgyzstan ([www.kenesh.kg](http://www.kenesh.kg)),

Ministry of Justice (<http://cbd.minjust.gov.kg>),

Ministry of energy and industry

(<http://energo.gov.kg>).

Explanatory note to the State Irrigation

Development Program of the Kyrgyz Republic for 2017-2026.

News sites:

<http://barometr.kg>,

<https://24.kg>,

<https://ru.sputnik.kg>

## 5.3. Tajikistan Overview

### General information

**Territory.** The total area is 142,600 km<sup>2</sup>. The country terrain is represented by mountains with altitudes varying from 300 m to 7,495 m. 93% of the country territory is covered by highest Central Asia mountain systems, such as Tien Shan and Pamir. Mostly, all population and economic activity of Tajikistan are concentrated in valleys which are only 7% of its territory.

**Population.** By the beginning of 2017, the population was 8.7 million, of which 26.4% live in urban area and 73.6% live in rural area. The average annual population growth is about 2.5% a year.

**Economy.** According to the results of 2017, the GDP amounted to about 61.1 billion somoni (\$6.9 billion), and the economic growth was 7.1% compared to the year 2016. Agriculture (including hunting, forestry, fishery) takes major part in GDP and accounts for 21.1% of its total volume. Comparing to 2016, the share of agriculture in GDP has increased by 0.4%. The industry in GDP, including energy sector, was 17% (1.9% growth compared to 2016), construction was 9.3%. The total trade turnover in Tajikistan in 2017 was \$3,973 billion. This is 1.1% more comparing to the figures of 2016.

**Climate.** Almost all climatic zones can be found in Tajikistan, with temperatures ranging from +50°C to -60°C. Climate is arid and warm and widely variable within year. The average annual precipitation is 760 mm. The climate change is evident in Tajikistan. Over the last 65 years the average annual air temperature increased by 0.7-1.2 °C in valley areas; 0.1-0.7°C in mountain area, and 1.2-1.9°C in cities. Climate change has affected the country's glaciers as well. By some estimations, glaciers lost 20% of their volume for the last 50-60 years, and 30% of their area. Based on the ADB assessment, by the end of the century the air temperature is predicted to increase by 6°C in Asian territory and by 8°C in Tajikistan, Afghanistan, Pakistan and North-West China.

**Water resources.** Tajikistan is on the first place in terms of water resources in Central Asia. Mountains and piedmont zone are the main streamflow generation areas in the Aral Sea basin. More than 80% of Amu Darya runoff and 1% of Syr Darya runoff are formed in Tajikistan and account for 64 km<sup>3</sup> a year or 55.4% of water

resources in the Aral Sea Basin. The total glacial volume is more than 845 km<sup>3</sup>. Groundwater amount to 18.7 km<sup>3</sup> a year, and lake water is about 46.3 km<sup>3</sup>.

**Energy.** Given insignificant oil and gas resources and difficulties for large-scale coal mining, Tajikistan has huge, inexhaustible reserves of hydropower resources. By expert estimations, those reserves amount to approximately 527 billion kWh/year. At present, about 95% of energy in the country is generated by hydropower plants. In 2017, energy generated all over the the country amounted to only 17.13 billion kWh or a little over than 3% of available potential. This potential is threefold higher than the current energy consumption in the Central Asia as a whole, and provided its efficient use, the region would have cheap and clean energy.

**The state agencies dealing with water management** in Tajikistan include the Ministry of Energy and Water Resources (MEWR), Ministry of Agriculture, Ministry of Health and Social Protection, Committee for Environmental Protection, Committee for Emergencies and Civil Defense, Chief Administration of Geology, Service of State Monitoring of safe operations in industry and mining, Agency of Land Reclamation and Irrigation (ALRI) at the Government of Tajikistan, State Unitary Enterprise "Khochgaii Manziliyu Kommunalny" and The Open Joint-Stock Company OAHK "Barki Tojik".

### Latest developments in legislation

In 2017, the following regulations were adopted in agriculture and water sector, hydropower and environment:

The Law [No.1448](#) of 18 July 2017 "On environmental impact assessment";

The Law [No.1416](#) of 30 May 2017 "On seismic safety";

Decree of the Government of Tajikistan [No.107](#) of 25 February 2017 "On Draft Agreement between the Government of Tajikistan and the Government of Russian Federation on environmental cooperation";

Decree of the Government of Tajikistan [No.487](#) of 26 October 2017 "On preparation and implementation of the International Action Decade "Water for Sustainable Development, 2018-2028".

Majlisi Namoyadagon, the lower house in the Parliament of Tajikistan, has ratified the Agreement on financing of water resources management project in the Pyanj River Basin and the Document on Technical Assistance Agreement Revision between the “Barki Tojik” and EBRD on rehabilitation of Kairakkum HPP.

### Implementation of national strategies and programs

Implementation of the National Development Strategy of the Republic of Tajikistan up to 2030 was underway during the period of 2016-2017 and the first-stage priority measures have been included into the Mid-Term Development Program for the period of 2016-2020. Over this period, more than 36 billion somoni have been allocated from the state budget for the implementation of planned tasks and additional approximately 70 billion somoni are planned to be allocated for the period of 2018-2020. The total amount of estimated funds (including all sources of financing) for the Strategy for the next 15 years is \$118.1 billion.

Within the State horticulture and grape development program for the period of 2016-2020, new orchards would be established and old ones would be restored. All these measures will help to achieve the main strategic goals – food security and improved socio-economic well-being of population.

### Irrigation and land reclamation

**Irrigation in Dangara Valley.** In 2017, the third phase of the regional irrigation project was started in Dangara district, for which \$381,4 thousand have been allocated. According to the Decree of the Government of Tajikistan [No.330](#) of 29 June 2017 “On withdrawal and allocation of land plots to the “Dangara Valley Irrigation” Project implementation unit, land-plots have been given for unlimited time of use for inter- and on-farm construction on the area of 107.11 ha and for short-term use, for the period from one to three years, for development of 1,635.32 ha of land.

**Water tariffs.** Agency of Land Reclamation and Irrigation proposes either raising the water tariffs for irrigation or making water free as Tajik water users pay nowadays only 1.5 dirham per 1 m<sup>3</sup> of water, whereas electricity tariffs for water pumps and pumping canals of Agency's repair and manufacturing centers are 5.1 dirhams (for the period from 1 April – 30 September) and 14.65 dirhams (for the period from 1 October - 31

March). It is proposed not to take money from water users and declare free water for all farms, while all costs should be incorporated into land tax, depending on land category.

**Hydroponics.** An innovative greenhouse for growing vegetables based on hydroponics technology was created in Buston town in the Sogd region ( “Elegant” Limited Company). This greenhouse is experimental, and vegetables are grown without soil using the basalt fiber. Production of basalt fibers is one of the directions of the “Elegant”. Annually, 14 thousand m<sup>3</sup> of the fiber are produced. The greenhouse produces tropical fruits, tomatoes, cucumbers and lemons. Based on the progress, it is expected to achieve good crops. The estimated cost of the greenhouse was 4.5 Million somoni. 30 permanent new jobs have been created.

**Repair and reconstruction work.** In 2017, with the support of authorities of Kanibadam town, the local Land Reclamation and Irrigation Administration together with the population and local jamoats of the town have started the work on cleaning The Big Fergana Canal. Reconstruction of the Dasht irrigation canal was completed in the village Siponj, Rushan district. Repair of pumping stations in B.Gafurov district has been started as part of preparation for irrigation season-2018.

### Agriculture

**Yielding year.** In 2017 the crop yields in Tajikistan was very high. Grain harvest exceeded 432,700 tons. By the beginning of November, 372,100 tons of cotton and about 156,000 tons of fruits were collected and more than 424,000 tons of potato were produced. On the whole, the yields 2017 exceeded the yields 2016 by 39,600 tons. Different sources of information show that Tajik farmers collected more than 800,000 t of vegetables, of which: onion – 393,500 t; tomato – 144,000 t; carrot – 90,400 t; cucumber - 49,400 t; cabbage – 22,700 t. Unfortunately, pistachio yields decreased in 2017. This could be caused by different factors, such as dense plantation, dust storms, drought, plant diseases, etc.

**Agribusiness Investment Forum.** ECTAP (Enhanced Competitiveness and Agribusiness Project in Tajikistan) has been conducted in Dushanbe. The purpose of the Forum was to assist and attract local and foreign investments in dairy and meat industry and enhance industrial modernization, with maximum effective and mutually beneficial relations between the local producers and international counterparts.



**Technical assistance.** In 2017, the following grants from international organizations were provided to support and improve agriculture in the Republic of Tajikistan:

The US Government started implementing a new project on land reform under the Program "Food for Future". The Project provides development of a land market, where farmers may buy, sell and give their agricultural land to rent. The Land user right market Project Conference was held in Dushanbe. The participants have discussed such topics as effective management of agricultural land under Reserve and Special Funds, development of assessment process, improvement of knowledge, and protection of land market.

Preparatory work has been started under the Project "Achievement of food security through increased climate change resilience", which was aimed at strengthening food security in Tajikistan through improving dairy production and its resilience to climate change. ADB has provided grant in the amount of \$500,000 for feasibility study of the proposed investment project.

The WB's Board of Directors approved additional \$15 million in support of the current Agricultural Commercialization Project in Tajikistan.

## Drinking water supply

By UN estimates, in terms of water supply and sustainable access to improved drinking water sources, the Republic of Tajikistan, with its 57.5% of access, is 156th out of 177 estimated countries and the last one among the CIS countries.

In 2017, in order to improve this situation, the work under the "Rehabilitation of water supply systems in northern cities of Tajikistan" Project financed by EBRD for the total amount of \$22.7 million was continued. The project covers Buston, Isfara, Guliston, Kairakkum, and Istiklol cities of the Sogd region as well as Khorog city of the Gorno-Badakhshan autonomous region. Implementation of project's phase I was started in 2012 and finished in 2017. EBRD allocated more than \$15 million for the Phase II.

## Hydropower

**Roghun HPP.** By 15 May 2017, one more stage in construction of Roghun HPP was completed. "Salini Impregilo" (Italy) completed construction of lower arc of the dam which is 35 thousand m<sup>2</sup>. Dushanbe officials informed that by the end of 2018 three aggregates of the Roghun HPP could be put into operation.

In 2017, Tajikistan allocated 1.7 billion somoni for Roghun or 200 million somoni less than in 2016. The total estimated cost of Roghun HPP is approx. \$5 billion (as estimated at the beginning of 2013). This does not include the costs of local and intersystem/interstate trans-mission lines.

To convince international creditors in ability to meet payments, Tajikistan has got the independent credit rating of the second international rating agency. The international rating company "Standard and Poors" has assessed the independent credit rating of Tajikistan as B3, Outlook Stable. After that, for completion of Roghun HPP, the Tajik Ministry of Finance has proposed dollar securities for 10 years with the size of equity offering from \$500 million to European and American investors. The results of successful debut and sale of state securities on the world market were announced on 15<sup>th</sup> of September on the official web-site of the National Bank of Tajikistan. According to the Bank's data, 38% of bonds were bought by the US investors, 24% - by British investors, 35% - by EU investors, and 3% - by Asian ones. The bond yield is up to 7.125% per annum.

**CASA-1000.** August 2017 the tender process has been started under the CASA-1000 Project for the Package TW06 – supply and installation of transmission lines and extension of relevant modules in Tajikistan and Kyrgyzstan in as part of the CASA-1000 Project. It is planned to construct a 477-km long transmission line of 500 kW from a substation in Kyrgyzstan (Datka) to Khujand. Besides, Sangtuda, Kabul and Peshavar are planned to be connected through a 750-km high-voltage transmission line.

**Sarband HPP.** In 2017, modernization of Sarband HPP was continued. It started in November 2016 with the financial support of ADB. The cost of modernization is \$136 million. The Project consists of two phases and is planned to be finished in 3 years. The initial design capacity of HPP was 240 MW, and after reconstruction this indicator would increase to 252 MW.

**Nurek HPP.** The lower chamber of the Tajik Parliament has ratified the Finance Agreement for the “Rehabilitation of Nurek HPP, Phase I” Project signed in June 2017 between RT and the International Development Association (IDA). The Agreement provides for allocation of \$225 million, of which the amount of \$57 million is grant, and the rest is rest is a soft loan. Previously, the loans for that project were provided by the European Stabilization and Development Fund (\$40 million) and Asian Infrastructure Investment Bank (\$60 million). Thus, the whole necessary amount for implementation of the first phase of Nurek HPP rehabilitation for the period of five years was collected.

The Nurek HPP Rehabilitation Project divided into two phases, provides replacement of all nine hydroaggregates and key elements of the plant's infrastructure, autotransformers, reconstruction of auxiliary transformers, improvement of dam safety, and technical assistance. After complete rehabilitation of the HPP, energy generation is to achieve 3,300 MW.

**Sangtuda HPP-1.** 31<sup>st</sup> of July 8 years ago the Sangtuda HPP-1 was put into operation, which generates up to 12% of total energy in the Republic of Tajikistan. Since April 1, 2017, by the Decision of the Board of Directors of the OAO “Sangtuda”, its new Director General Mr. Shevnin was appointed.

**The Small 400 kW HPP “Tekharv”** was put into operation after complete reconstruction. Thus, Upper Vanch has been provided with regular electricity supply. HPP “Tehrav” was reconstructed and connected to the main grid for the Pamir Energy funds, which has allocated more than \$1.3 million. Now, about 1,200 households are provided with electricity on regular basis.

A **new tariff ation concept** in the energy sector was adopted in May 2017. The Concept provides reforming energy tariff system in order to improve the quality of services to population, thus, bringing national energy sector to new level.

**Electricity production.** 18.1 billion kWh were generated in Tajikistan in 2017. This figure is 889.8 billion kWh higher than in 2016.

**Currently, energy is mostly exported** to Afghanistan and Kyrgyzstan. In 2017, Tajikistan exported 1.3 billion kWh for an amount of \$53 million (at 4 cents per 1 kW) to Afghanistan. Energy from Tajikistan to Afghanistan was mainly exported during the period of early April to late

September. According to the main macro-economic forecasts of Tajikistan for the period of 2018–2020, during the nearest three years the Tajik energy providers are planning to increase annual energy exports up to 3 billion kWh. It is also informed that Tajikistan may start delivering energy to Uzbekistan in summer 2018. For rehabilitation of the Integrated electricity system (IES), Uzbekistan has to rehabilitate 60 km of transmission lines connecting the south of Uzbekistan with Tajikistan.

## Climate change, glaciers and environmental conservation

In 2016, Tajikistan became the first country, with which EBRD started implementing the **Climadapt** Program in cooperation with the international donors. Since then, four local financing institutions have joined the Program, and \$5 million – half of the allocated funds – were used for support of implementation of technologies that would increase resilience to climate change in the country.

The process of development of **local adaptation action plans** was finished for 10 villages that were identified as the most vulnerable suffering of the negative consequences of climate change.

According to the invitation of the Tajik Academy of Sciences, researchers from the Institute of Ecology and Geography of Xinjiang at the **Chinese Academy of Sciences** have visited Tajikistan for joint collection of field data, and the further improvement of climate change research network and update of the database on environmental changes in the regions under “Belt and Road Initiative”.

The President of Tajikistan in his message to the Majlisi Oli on 22 of December 2017 stated that given the sharp glacier shrinkage, it would be necessary to establish a **Center for Glacial Studies** within the Academy of Science with the purpose to conduct detailed monitoring of glaciers and other water sources in the country on a regular basis.

## Disaster prevention

In 2017, the agreement on allocation of more than **\$6.3 million for the River Pyanj and the Chubek Canal** (Khamadoni district, Southern Tajikistan) bank protection works was signed between the King Salman Humanitarian Aid and Relief Centre and AMI.

A special observation point has been established **at Sarez Lake** for timely warning of local people in case of any safety hazards.

Tajik geologists have prepared a **map with disaster risk areas** to help the authorities to identify locations for priority measures. The map shows the most vulnerable to natural disasters places.

The Board of Directors of the World Bank has approved the allocation of \$50 million of the IDA funds for the **Strengthening of Critically Important Infrastructure Project** to ensure resilience to natural hazards in the country. The country capacities in the area of preparedness, response and mitigation of natural disasters will be built under the Project.

The **UNDP's Disaster Risk Management Program for the period of 2016-2021 was continued** under the three projects: Strengthening capacities of disaster risk response and mitigation (\$10.6 million, Japan), Strengthening capacities in preparedness and response (\$1.5 million, Russia), and, Improved mechanism for policy development on disaster risk reduction. Strengthening the disaster risk management system in Tajikistan (\$800,000, SDC). Particularly, in 2017, to improve the search-and-rescue functions of the national Committee of Emergencies, the latter has been provided with relevant equipment and a regional meeting was organized among the heads of Central Asian country agencies for emergency situations and disaster risk reduction (See section UN Development Program).

The **joint training program** on disaster risk management in Badakhshan for border services and citizens living in border area of Tajikistan and Afghanistan was organized by UNDP EC-BOMNAF and JICA-BMP.

## Investments in Tajikistan

In 2017, Tajikistan was provided substantial investments for support and development of its sectors. Among those are: \$750 million from EBRD for implementation of 100 projects in addition to already given financing of 65 projects for the total amount of \$420 million.

The Board of Directors of AIIB has approved the credit in the amount of \$60 million for the first phase of the Nurek HPP reconstruction project co-financed by the World Bank.

IDB has provided more than \$335 million for implementation of the most important projects in Tajikistan. Currently, 7 investments projects are implemented in the country for the amount of more than \$173 million in education, poverty reduction, energy, irrigation, and transport.

## Foreign policy and international initiatives

In 2017, the President of Tajikistan made a state visit to China; official visits to Qatar, Armenia, and Jordan and work visits to Pakistan, Kyrgyzstan, Saudi Arabia, Kazakhstan, Turkmenistan, USA, Russian Federation and Belarus.

One of the most significant facts in Tajikistan's foreign policy of 2017 was warm-up in relations with Uzbekistan. Regular flights between the two countries have been restored, industrial exhibitions of Uzbek and Tajik producers were held in Dushanbe and Tashkent, and the progress in launching the integrated energy system of the two countries was observed (see also Bilateral water cooperation between the states in Central Asia).

Preparational work under the "2018-2028 International Decade for Action on Water for Sustainable Development" initiated by Tajikistan was continued in 2017. The Relevant resolution proposed upon initiative of Tajikistan in co-authorship with 177 member-countries of UN was adopted on December 21, 2016 at UN GA. According to the resolution, the International Decade of Actions "Water for sustainable development" would start on 22<sup>nd</sup> of March 2018 (International Water Day) and ends on 22<sup>nd</sup> of May 2028.

Tajikistan takes an active part in various **international events**. In 2017, the Head of the State and the representatives of Tajikistan participated in some important events, including:

23 March – The Head of MFA took part and spoke at the high-level event "Climate change and sustainable development agenda". The Minister Mr. S.Aslov in his speech has informed the participants about recent ratification of the Paris Agreement by Tajikistan that would "create a solid base for further joint actions in addressing the climate change problems."

9-11 May – The Ambassador of Tajikistan to Egypt Mr. Noziri presented his country in Addis Ababa at the VI World Hydropower Congress where the issues of hydropower development for

the next decade were discussed to ensure the existence of reliable and sustainable water and electricity systems for all.

20 July – The Minister of Economic Development and Trade N.Khikmatullozoda was speaking at the 3<sup>rd</sup> UN Special event on water and natural disasters “Adaptation to climate change and extreme water-related phenomena” in New York. In his speech the Minister underlined a considerable increase in extreme natural phenomena in Tajikistan and noted an increasing impact of climate change on environmental conditions and the critical glacier and snowfield melting in the country.

19 September – The President E.Rakhmon spoke in New York at the plenary meeting of the 72<sup>nd</sup> UN GA session and focused on such problems as counterterrorism efforts, dialog with North Korea, and development of green economy in the context of climate change (see [General Assembly](#)). The Head of MFA had a meeting with the FAO's Director General José Graziano da Silva and discussed potential development of cooperation on agriculture and food security.

21 September – The President E.Rakhmon spoke on the 4<sup>th</sup> Meeting of the High Level Panel on Water, where he stated that Tajikistan, being a country-initiator – intended to conduct the high-level events under the process of implementation of actions of decade “Water for Sustainable Development” for the period of 2018-2028 years. The high-level events to be conducted in cooperation with the UN and other partners every 2 years (see [UN High-Level Panel on Water](#)).

1 November – The Permanent Representative of Tajikistan to the United Nations Mr. M.Makhmadaminov spoke at the High Level Symposium “Global energy interconnection: achieving of Sustainable Development Goals” conducted by the United Nations Department on Economic and Social Affairs.

30 November – The Permanent Representative of Tajikistan to the United Nations Mr. M.Makhmadaminov spoke at the regular meeting of the Group of Friends of Water at the UN Headquarter. He has introduced the participants with process of launching the International Decade for Actions on Water for Sustainable Development and its importance in further development of SDGs.

#### Major information sources:

Official web-sites:  
of the Ministry of Justice ([www.adliq.tj](http://www.adliq.tj)),  
Ministry for Foreign Affairs (<http://www.mfa.tj/>),  
Chamber of Commerce and Industry (<http://tpp.tj/>)  
National Information Agency of Tajikistan “Khovalar”:  
<http://khovar.tj/>  
News Agency Sputnik-Tajikistan:  
<https://ru.sputnik-tj.com/>  
ASIA-Plus – independent media-group of Tajikistan  
<https://news.tj/>  
«Dialog»: <http://www.dialog.tj/>  
News of Tajikistan: <http://novostiitadzhikistana.ru/>

## 5.4. Turkmenistan Overview

### General information

**Territory.** The second largest country in Central Asia region in terms of territory (491.21 thousand km<sup>2</sup>). More than 80% of the territory is covered by the Karakum desert, mainly, in the center of the country. Foothills and mountains occupy approximately 15% of Turkmenistan. The highest point is the Ayrybaba mountain (3,139 m). There are five administrative regions in the country (velayat): Akhal, Balkan, Lebap, Mary, and Dashoguz.

**Population.** By the beginning of 2018, there were 5.5 million people, of which 49.2% is male and 50.8% is women. Urban and rural population is 50.7% and 49.3%, accordingly. Annual population growth was 1.27%.

**Economy.** Industrial development is based on rich mineral and raw material base (gas and oil). Fuel and energy sector, oil refining, chemical, petrochemical, light and food production industries, mechanical engineering, and metal working are well-developed. Strategic sub-sectors in agriculture are cotton production and grain-growing. The socio-economic results of 2017 were as follows: GDP growth rate - 6.5%, including 5.5% - industrial sector, 1.3% - construction, 11.1% - transport and communications, 9.4% - trade, 5% - agriculture, and 9% - services. In general for agroindustry, growth of production, work and services was 103.8%. In 2017, construction of industrial buildings amounted to 48.5%, and social and cultural facilities amounted to 51.5%.

**Climate.** The climate of the country is dry, sharply continental, with wide temperature variations, low precipitation, and high evaporation. Summer is hot and dry, with average temperatures of July 28-32°C. Winter is mild and with low snowfall. In some years, there is heavy but short-term snowfall, and the temperature may reduce to -20°C. Average temperature in January varies between -5°C in the North-East of the country to +4°C in the Southern areas of Turkmenistan. Average annual rainfall is about 80 mm in the midstream of the Amu Darya river, 150 mm in Karakum, 200-300 mm in foothills and intermountain valleys, and higher than 400 mm in mountains. Dry winds and dust storms are typical for valleys

**Water resources.** Turkmenistan's water resources are very poor. Annual water resources storage

per capita is the lowest in the Central Asia region (232.0 m<sup>3</sup>). Water resources of Turkmenistan are represented by large (Amu Darya - the only largest river, Murgab, Tedjen, and Etrek) and small rivers, springs and kariz (drainage gallery), as well as fresh groundwater resources. Rivers flow only in the southern and eastern regions of the country. Most lakes are saline. Yaskhan and Topiatan located in the Uzboy valley are the fresh water lakes. There are also lakes of karst origin, such as Kouata (in the Bakharden cave) and Khordjunly (in the Kugitangtau) in the mountain area. 95% of surface water is formed outside the country. 88% of all surface water in the country refers to the Amu Darya River. Fresh groundwater accounts for less than 2% in the water balance. Collector and drainage water also is a source of country's water; the former is estimate at 5.6-6.0 billion m<sup>3</sup>/year. Part of the water is slightly saline and may be re-used. The Karakum-River plays the important role in meeting the needs for water. It is the largest hydrotechnical construction in the world (1,380 km in length) that irrigates approx. 1 million ha.

The cumulative length of rivers is 14,300 km. The longest river is the Amu Darya, with the total length of 1,437 km and more than 1,200 km in the territory of Turkmenistan.

**Energy.** Energy sector is comprised of 9 gas-fired TPPs (Mary, Turkmenbashi, Abadan, Balkanabad, Seyd, Ashgabat, Dashoguz, Avaz, Akhal) and one HPP (Gindukush). The country is entirely self-sufficient in electricity and even exports it to Iran, Turkey and other countries. Until recently, electricity within the pre-determined limit has been free for population. Energy potential is continuously developed: new power stations and transmission lines are being constructed, and existing energy facilities are being technically reconstructed. For the period from January to December 2017, more than 23.8 billion kWh were generated, given the growth rate of 100.5%.

In Turkmenistan, the Cabinet of Ministers, the Ministry of Agriculture and Water Resources, the State Committee of Turkmenistan for Environment Protection and Land Resources, the State Corporation "Turkmengeologiya", the National Committee of Hydrometeorology, the National Deserts, Flora and Fauna, the Ministry of Energy, and the Ministry of Communal Services are the state bodies responsible for use and protection of water resources.

## Latest developments in legislation

Since the beginning of the year, the Parliament has conducted [8 sessions](#) ; 194 legislative documents were adopted, including 111 laws and 83 decrees of Mejlis (National Assembly). The following regulations adopted in on water, agriculture and environmental protection play an important role: the [Law on collection, storage, and rational use of genetic resources of cultivated plants](#) (4 February 2017), The [Law on grain production](#) (20 March 2017), [Law on environmental security](#) (3 June 2017), [Law on cotton farming](#) (26 August 2017), the [Program for Socio-Economic Development of Turkmenistan for the period of 2018-2024](#) (10 October 2017), [Law on the State land cadaster](#) (25 November 2017), and the [Law on amending and supplementing the Land Code of Turkmenistan](#) (10 December 2017).

## Water sector

Water resource management is a crucial factor of the economy and environment in dry climate of Turkmenistan. On 1 January 2017, a new "[Water Code of Turkmenistan](#)" came into force. It governs relations under sustainable and rational water use with the purpose to meet the needs of physical and legal entities in water and aims to increase the value of water, ensure protection of water from pollution, clogging, and depletion, as well as prevent and mitigate the negative impact of waters, and restore and improve conditions of water bodies.

**Strengthening water infrastructure.** Big amounts of funds are allocated for technical modernization; new hydro-technical facilities are being put into operation in all regions of the country. For the period of 2015-2017, the first stage of works was completed on land reclamation, including 28,164 ha in the Akhal region, 9,176 ha in the Balkan region, 11,362 ha in the Lebap region, and 9,249 ha in the Mary region. Similar work is close to completion in the Dashoguz region covering the area of 14,506 ha.

The second phase of construction of the "15 Years of Independence" reservoir in the Lebap region is underway. This reservoir is also regulating river runoff as well, thus ensuring continuous water flow along the Karakum-River with the defined parameters.

"Dyaneata" reservoir (capacity of 47.3 million m<sup>3</sup>) for collection of flood water is under construction in Bereket district of the Balkan

region. A new artificial water reservoir is under construction in Kunyaurgench district of the Dashoguz region. Khanhovuz (on Karakum river) and Saryyazy (Murgab river) reservoir bowls are under technical extension. Those reservoirs accumulate water resources and efficiently redistribute them by season, keeping the water until it is the most needed for irrigated land.

In accordance with the "**Program of Work for Rational Water Use in Turkmenistan and Increasing Flow Capacity of the Karakum-River for 2015-2020**", the reconstruction of existing water-regulating and water pumping facilities and construction of new ones are underway; the water meters and other necessary equipment are being installed. A reservoir is planned on the Karakum-River, which supplies water to several regions.

In 2017, under the "**General Program on Clean Drinking Water for Turkmen Settlements**", [groundwater reserves are being assessed](#); and the new [water treatment facilities](#), reserve [water intakes](#), and a [water conduit](#) are under construction. Additionally, it is planned to build [desalination plants](#). Existing communications are under reconstruction to meet the necessary modern requirements.

The national holiday [A Drop of Water Is a Grain of Gold](#) is celebrated every first Sunday in April in Turkmenistan. It is intended for water managers, irrigators, engineers and other water sector workers. On 2 April 2017, Karakum-River and its bank became the heart of the celebration event.

An ambitious [hydrotechnical project "Altyn Asyr"](#) is under implementation in the country. This is a manmade Turkmen lake in the middle of the Karakum desert. The Decree for its construction was signed in August 2000. It is projected to collect secondary water via collectors from all irrigated land of the country, including Amu Darya lower reaches, into a natural low land Karashor located in the north-west of Turkmenistan. Its bottom is 25 meters below sea level. The water to be diverted through the collector and drainage facilities was flooding previously abandoned pastures in the Mary, Balkan, and Akhal provinces. It is expected that the Project would reduce the groundwater level and risk of floods, as well as increase the agricultural crop, enrich flora and fauna in Karakum, and, would have positive environmental impact in Turkmenistan and in the region as a whole. The second phase of construction is underway.

**During 2017, the following water-related events were conducted in Ashgabat:**

On 3-4 November: the [CAREC workshop](#) "The basics and principles of the integrated water resources management: International practice and regional experience" was held.

On 13-14 November, the [sixth meeting of regional organizations](#) dealing with sustainable development and water resources management issues in Central Asia was held.

The first time [Amu Darya River Day](#) was celebrated in November in the provincial center of Lebap.

On 19 December, the [International Water Law Workshop](#) was conducted

**Turkmenistan continues its cooperation under the ICWC of Central Asia.** Ashgabat hosted the [69<sup>th</sup> meeting of ICWC](#) (January 26). On 6 June 2017, the [first meeting of the Working Group on Water Saving](#) was held at the premises of the Central Asian Ecological Forum. The Group was established by a ICWC Decision as part of the "Implementation Plan on strengthening the ICWC activities in key directions" (See [ICWC of Central Asia](#)).

**Turkmenistan's Chairmanship in IFAS.** A package of documents concerning Turkmenistan's Chairmanship of IFAS for the period of 2017-2019 was signed during the [session of the Cabinet of Ministers](#) on 16<sup>th</sup> of June. The main focus of Turkmenistan chairmanship in IFAS is made on the further development and strengthening of cooperation between the countries of the Central Asia region in stable development, rational use of water resources, reduce of desertisation and assistance in social and economic development of the Aral Sea region. Turkmenistan is preparing the Summit of Heads of state-founders of IFAS to be held in Ashgabat in 2018.

An [international conference](#) "The Role of the International Fund for Saving the Aral Sea in the Development of Cooperation in the Central Asian Region" was held in Ashgabat on 19 June 2017 under the Turkmenistan Chairmanship in IFAS. During the Conference the following issues have been addressed: efficient and rational use of transboundary water resources, mitigating the Aral Sea crisis' consequences and prevention of ecosystems degradation in the Prearalie, biodiversity conservation and sustainable use of natural resource, promotion

of economic and social development of people living in the region (See [Executive Committee of IFAS and its country branches](#)).

On 9 February 2018, at the session of the Cabinet of Ministers, the Head of State has requested to draft a "**Program of water sector development in Turkmenistan for the period of 2018-2030**". The President has announced the relevant tasks on using the potential of water sector and assist in technical modernization of this sector through application of modern irrigation technologies in agro-industry, taking into account local climatic conditions, introduction of advanced technologies for rational water use, improvement of reclamation conditions, etc.

**Turkmenistan actively cooperates on the Caspian Sea** on a pentilateral basis. It hosts national conferences and regional [workshops](#) under the [Caspian Ecological Program](#), which was established in line with the 1995 agreement supported by UNEP, UNDP, and WB; [sessions of working groups](#); meetings for development of environmental documents on the Caspian Sea, and the [international conferences](#) aimed at resolution of Caspian problems. Turkmenistan continues scientific and environmental activities in the Caspian basin, including field monitoring of avifauna, research and practical expeditions, and young volunteers campaigns.

## Agriculture

The key aspect of the state [agrarian policy](#) is the development of efficient governance system in agro-industry, increase of agricultural profitability, development of new economic relations in rural area, rational use of water and land resources, and protection of environment.

An integral **state support system of agro-industry** has been developed and currently successfully operating. The main elements of the system are investments in infrastructure modernization, technical re-equipment of agro-industry and services, including construction of agro-processing enterprises and fertilizer plants. Substantial funds are allocated for irrigation and land reclamation, seed farming, science and selection, and adoption of advanced resource-saving technologies and latest scientific and technological developments.

The real support for farmers is provided through **state subsidies and tax benefits**, including nominal fee for land plots and entire

tax exemption. Maintenance of equipment, supply with seeds, mineral fertilizers, and irrigation water and other services are provided to tenants and daikhan associations on preferential terms. Concessional loan systems are widely used. To implement all of the above-mentioned actions, the land plots are provided to the ministries, regional bodies, members of the Association of engineers and entrepreneurs and daikhan households.

In 2017, during the enlarged session of the Cabinet of Ministers, the President of Turkmenistan highlighted the importance of wider adoption of **advanced technologies and scientific achievements**, improvement of soil fertility, and rational use of water resources. Agricultural research institutes being the key mechanisms for innovation development in agro-industry and their main scientific and technological platform should be brought to a higher level. The Turkmen President has requested to continue [reforming agriculture](#) and commence to lease out unprofitable daikhan associations for the period of 50 years and more.

## Energy

**International cooperation on energy** is a priority for Turkmenistan, given the fact the country initiated two UNGA Resolutions of "Reliable and Stable Transit of Energy Resources and Its Role in Ensuring Sustainable Development and International Cooperation". Turkmenistan promotes these initiatives in international organizations, such as UN, OSCE, and Energy Charter Conference, the member of which Turkmenistan became in July 1997. By the end of 2016, Turkmenistan was elected as a chair-country of the Energy Charter Conference for 2017. In 2017, a range of activities was conducted to speed up the process of development of a new international legal mechanism for sustainable energy.

On 30-31 May, the [International Energy Charter Conference](#) "Towards a multilateral framework agreement on energy resources transit" was held. During the Conference, the issues of transit and cross-border transportation of energy resources, including natural gas, oil products and electricity, have been discussed. A [Final document](#) was adopted by the end of the Conference.

On 31 May 2017, a media forum dedicated to the 28<sup>th</sup> session of the [International Energy Charter Conference](#) was held to raise

awareness of international mass media on the main activities of the Energy Charter.

On 7-8 November 2017, the [14<sup>th</sup> meeting of the Working group](#) on the Regional Energy Cooperation in Central and South Asia (RECA) was held in Ashgabat. During the meeting, participants have discussed the implementation of regional and interregional infrastructure projects, as well as the strengthening of regional and interregional cooperation in energy, assessment of regional and interregional connections and infrastructure, prospects and potential for regional simplification of trade, transit and communication procedures. International experts were focusing in details on methodology for development of a roadmap on expanding cross-border trade.

On 28-29 November 2017 in Ashgabat, the [28<sup>th</sup> session of the International Energy Charter Conference](#) on the issue of "Mobilizing Investments for Sustainable Energy of the Future and Diversifying Transportation Routes" was held. The Conference has become a platform for policy dialogue on sustainable energy investments, reliable transit and diversification of supply routes and energy sources within the International Energy Community Charter. During the event, a Memorandum of Understanding between the Ministry of Foreign Affairs of Turkmenistan and the Energy Charter Secretariat on Enhanced Cooperation has been signed. At the end of the session, the [Ashgabat Declaration of the Energy Charter Conference](#), which was distributed as a main document of the 72<sup>nd</sup> Session of UN General Assembly under the item 19 (i) of the Agenda has been adopted.

## Environment and climate change

Environment protection and efficient use of land and water resources are the priority areas of the state environmental policy of Turkmenistan. Turkmenistan's environmental strategy for the nearest future is aimed at environmental security and sustainable development through the integrated resolution of economic, social and environmental issues in a comprehensive manner, while saving the existing natural resources.

There is a National Strategy for Climate Change in the country. The State inventory of green gas emissions, assessment of vulnerability, and mitigation measures are conducted on regular basis. Introduction of water conservation technologies, expansion of artificial



forest areas, construction of "Altyn Asyr" Lake to regulate drainage system, reduction of groundwaters level, improvement of land reclamation, and enrichment of desert biodiversity are currently under way. Seminars and conferences are being held. Thus, the Technology Center hosted a [Round table](#), during which the activities on improvement of socio-economic and environmental conditions of the country's territory, affected by the Aral Sea have been discussed. A [meeting](#) on the management issues of the Ramsar site, "Turkmenbashi Bay", was conducted in Turkmenbashi city. Management practices in the Khazar National Park, the only place in the country nominated in the Ramsar site, have been interactively reviewed. A [training workshop on geobotanical research of pastures](#) was organized with the support of GIZ at the National Institute of Deserts, Flora and Fauna. The State Committee for Environmental Protection and Land Resources in cooperation with GIZ has conducted a workshop to discuss [prospects of implementation of "green" economy principles](#).

**Protective forest belts** are established around rotation farms using various trees and shrubs watered by collector and drainage water. At the same time, pine-family trees and fruit trees are also planted. They prevent erosion, keep water in the soil, and enrich air with oxygen. A manmade forest park creates a special environment.

Since 2001, on annual basis, 22 of May, Turkmenistan has been celebrating the [International Day of Biological Diversity](#). This day was proclaimed by the UN GA in 1995.

The first International Ecological Forum "[Initiative for Cooperation in the Field of Environmental Protection and Sustainable Development in Central Asia](#)" was held at the World Environment Day.

The Forum was held on 5-7 June 2017 in Ashgabat. It was organized by the State Committee for Environmental Protection and Land Resources of Turkmenistan and CAREC. The main topic of the Forum was "Climate change and water cooperation in the context of sustainable development in Central Asia". Under the Forum, the Ministry of Foreign Affairs of Turkmenistan has conducted a Round table "Role of mass media in covering environmental problems of the region". As follow-up to the Forum, CAREC was requested to develop and negotiate between the countries and international development partners a roadmap

of the further cooperation "Environment for Central Asia".

**The list of ongoing and already implemented in 2017 regional and national projects** covering the issues of water resources management and their efficient use, combatting desertification, forest reproduction, and biodiversity conservation is as follows:

Putting into operation new sewage treatment and water recycling system at the Turkmenbashi oil refineries: implemented by "[Petro Gas LLP](#)";

The project "[Ecosystem Approach in management of land and forest resources in the area of the Amu Darya River to improve the living conditions of local community as adaptation to climate change](#)" was completed. As a result, a regional map showing location and condition of the coastal tugay forests of the midstream of Amu Darya has been developed; the territory has been physiographically analyzed;

The project "[Supporting climate resilient livelihood in agricultural communities in drought-prone areas of Turkmenistan](#)" was continued. It is aimed at sustainable development in the field of rational use of water and soil;

The project "[Energy Efficiency and Renewable Energy for Sustainable Water Management in Turkmenistan](#)" was continued. The project objective is to support and improve social conditions and economic livelihood of the population of Turkmenistan;

Completion of construction of an environment-friendly combined cycle gas turbine power station with enhanced efficiency was completed on the territory of the existing [Mary power plant](#). In addition to gas turbines, boiler-utilizers and steam turbines are installed at this power plant.

## SDGs in Turkmenistan

Turkmenistan takes substantial efforts to achieve SDGs, improve ecological efficiency of national economy, and create appropriate legal framework for management of natural resources Turkmenistan was one of the first countries that has adjusted the SDGs to the national context by starting the joint activity on their incorporation into national plans and programs.

On the 1<sup>st</sup> of September, the [Science and Methodology Center for SDGs](#) was opened at the Institute of International Relations of the Ministry of Foreign Affairs of Turkmenistan.

*“Opening of the Center is a result of joint work of the Turkmen Government and the UN with reference to the appeal of the Chairman of the 71st UN GA Session to the UN member-states. We hope that the Center will become a foundation for exchange of experience on international practices in sustainable development”* said Ms. Yelena Panova, the [UN Resident Coordinator in Turkmenistan](#).

In early November, the Science and Methodology Center for [SDGs organized its first training](#). The curriculum has covered 18 topics, including best practices of Turkmenistan on alternative energy and other relevant innovations; global climate change; preservation of marine ecosystems; and legal aspects.

Just before the upcoming UN Day the Government of Turkmenistan and the UN agencies have held a UN Debate Cup on SDG focusing on Turkmenistan's development efforts, [students debated](#) over “Economic growth to achieve sustainable development in the country”.

### Foreign policy and international cooperation

In 2017, the President of Turkmenistan had many meetings with officials from other countries and international organizations, including ministers, heads of international and regional organizations, diplomatic missions accredited in the country, and various international corporations and companies. As the Head of the State underlined, “the great achievement of our diplomacy in 2017 was the UN GA announcement **12<sup>th</sup> of December the International Day of Neutrality** (71<sup>st</sup> UNGA session, 2 February 2017), as well as the **adoption of Resolutions “Role of the UN Center for Preventive Diplomacy for Central Asia”** (55<sup>th</sup> Plenary meeting of the 72<sup>nd</sup> UNGA Session, 17 November 2017) **and “Strengthening the Links between all Modes of Transport to Achieve the Sustainable Development Goals”** (74<sup>th</sup> Plenary meeting of UNGA, 20 December 2017), and including Kushtdepdi singing and dancing to the Representative List of the Intangible Cultural Heritage of Humanity”.

In 2017, 584 [delegations at different levels visited Turkmenistan](#). 624 Turkmen delegations were sent abroad. 235 conferences, meetings and other events were organized in Turkmenistan and in other countries. Bilateral consultations between the representatives of the Ministry of Foreign Affairs of Turkmenistan and other countries were conducted on a regular basis. 226 bi- and multilateral international documents were signed. In 2017, Turkmenistan joined 6 international conventions. 47 bilateral political consultations, 18 meetings of Joint Intergovernmental Commissions, and 14 bilateral business-forums were organized.

On 29-31 March, Bangkok, the Turkmen delegation participated in the fourth Asia-Pacific Forum on Sustainable Development in the headquarters of the Economic and Social Commission for Asia and the Pacific.<sup>4</sup>

In June 2017, the UN Secretary-General Antonio Guterres visited Turkmenistan, and in September the Turkmen delegation participated in the 72<sup>nd</sup> UNGA Session, where the Permanent representative of Turkmenistan to the UN Mrs. A. Ataeva made a [report](#) and called the international community to be more involved in resolution of environmental issues, including water resource management issues (see [Secretariat](#)).

On 11-12 October, Ashgabat hosted the [1<sup>st</sup> Turkmen-Chinese Research and Innovation Forum](#) “Innovations, new technologies and their use in production environment” organized by the Academy of Sciences of Turkmenistan and the P.R.C. Ministry of Science and Technology. Main topics of the conference included technology development under the renewable energy; [farming innovations](#); modernization of gas-fired power plants to minimize negative effects on the natural environment; genetics and selection, veterinary and livestock breeding issues.

The MFA of Turkmenistan and Afghanistan adopted the Cooperation Program for the period of 2018-2019. On 13 October 2017, the Institute for International Relations of the Ministry of Foreign Affairs of Turkmenistan hosted the [Academic Forum](#) under the VII Ministerial Conference on the Regional Economic Cooperation for Afghanistan (RECCA). Under the energy cooperation, Turkmenistan's energy is supplied to the northern regions of Afghanistan on concessional terms. With the

<sup>4</sup> Report of the Fourth Asia-Pacific Forum on Sustainable Development - [https://www.unescap.org/commission/73/document/E73\\_31E.pdf](https://www.unescap.org/commission/73/document/E73_31E.pdf)

completion of additional facilities, the amount of energy supply would be increased.

ADB's Board of Directors has endorsed a 5-year [Country Partnership Strategy](#) for Turkmenistan for the period of 2017-2021 "Catalyzing Regional Cooperation and Integration, and Economic Diversification". [ADB has launched the country operations business plan](#) for 2018–2019. It is aligned with ADB's country partnership strategy over 2017–2021 for Turkmenistan. The plan has been agreed with the adopted five-year strategy. The credit program is estimated at \$950 million, of which \$150 million is for energy projects, \$600 million for transportation projects, and \$200 million for SMEs.

The 13<sup>th</sup> [EU-Central Asia](#) Ministerial Meeting was held in Samarkand on 10-11 November. The Turkmen delegation headed by the Deputy Chairman of the Cabinet of Minister and the Minister of Foreign Affairs attended the meeting. The participants signed the Joint Communiqué "EU and Central Asia: Working for a Safer and More Prosperous Future Together".

#### Sources:

Official sites of the Ministry of Foreign Affairs ([www.mfa.gov.tm/eng](http://www.mfa.gov.tm/eng)) and the Ministry of Justice of Turkmenistan ([minjust.gov.tm/ru/php/home.php](http://minjust.gov.tm/ru/php/home.php)); State Information Agency "Turkmenistan Today" (<http://tdh.gov.tm/eng>); On-line newspaper "Turkmenistan: the Golden Age" (<http://www.turkmenistan.gov.tm/>); 2017 Energy Charter Conference web-site (<http://www.energyashgabat2017.gov.tm/en>)



## 5.5. Uzbekistan Overview

### General information

**Population.** Beginning of 2018, the population was 32.6 million, 50.6% of which live in urban area, and 49.4% in rural area. From January to December 2017, the population increased by 533,400 people.

**Economy.** GDP at current prices amounted to more than UZ\$249.13 trillion and increased by 5.3% compared to 2016. At the end of 2017, GDP per capita was UZ\$7.69 million or 3.6% higher than in previous year. In terms of economic sectors, positive growth was recorded in agriculture, forestry, and fishery: from 18.1% in 2016 to 19.2% in 2017; industry and construction from 32.9% in 2016 to 33.5% in 2017. Small business and private entrepreneurship accounted for 53.3% or UZ\$119.3 billion in GDP. In 2017, the share of small business amounted to 39.6% in industrial production, 99% in agriculture, 65.1% in construction sector, and 88.4% in retail turnover. Small business accounted for 27% in the total exports, 50% in imports, and 32% in investments. In 2017, 81% of the total volume of GDP accounted for private sector and 19% for public sector. Exports increased almost by 15%.

### Reforming public administration bodies

Significant changes have taken place in the sector of state and public works of Uzbekistan. Two ministries have been established: the Ministry of Innovation Development and the Ministry of Pre-school Education. 17 ministries, agencies, and other institutions have been reorganized; and 21 state public and administration facilities have been established.

The relevant measures for fundamental improvement of work of the **Ministry of Agriculture and Water Resources (MAWR)** have been taken. It was decided to abolish the working groups on agriculture issues within the structure of Central Administration of MAWR; to establish a Center for agricultural and water investment projects implementation at MAWR; to re-organize the Lower Syr Darya, Lower Amu Darya, and Zarafshan Basin Irrigation System Administrations (BISA) into the Lower Syr Darya, Syr Darya-Zarafshan, Lower Amu Darya, Left-Bank Amu Darya, Zarafshan and Lower Zarafshan BISA; to establish district irrigation departments at BISAs, including transfer of a part of district irrigation facilities and relevant staff of the Irrigation System Administrations to

them, to transfer 1,324 operational staff members of operational water agencies at MAWR and establish administrative body to regulate district irrigation departments at BISAs (Decree of the President No. 5134 of 4 August 2017, Order of the President No. 3172 of 4 August 2017).

To increase the efficiency of the system of emergency warning and mitigation of natural disasters and technogenic consequences, the work of the **Ministry for Emergency Situations (MES)** has also been improved. The Center of Hydrometeorological Service (UzHydromet), the State Inspection Committee for control and supervision over technical conditions and safety of large and particularly important water facilities at the Cabinet of Ministers, the State Inspection Committee for Small Vessels, and the Service of urgent reports at the Institute of Seismology of the Academy of Sciences have been transferred to the MES (Decree of the President No.5066 of 1 June 2017, Order of the President No. 3029 of 2 June 2017).

The **Ministry of Innovation Development** has been established. One of the focus areas of the Ministry is introducing innovations into the system of environmental protection and natural resource use. Efficient introduction of ecologically friendly, resource- and energy-saving technologies, including wide development of alternative energy sources and water treatment and desalination are set as priorities of innovation development in Uzbekistan (Decree of the President No.264 of 29 November 2017).

The **State Committee for Environmental Protection** has been re-organized into the State Committee for Ecology and Environment Protection. These changes will increase consistency of work of public authorities and inspections in environmental protection and rational nature use; improve efficiency of inter-agency cooperation on the environmental and nature protection issues; protection of environmental systems; natural complexes and some other facilities (Decree of the President No.5024 of 21 April 2017).

To fundamentally **improve the system for protection of rights and legal interests of farm enterprises, peasant (dehkan) housefarms, and garden plots owners and more efficient use of irrigated land**, the following decisions have

been made: (i) re-organize the farmer councils into councils of farm enterprises, peasant farms, and garden plots owners; (ii) gradually re-organize farm enterprises into multi-profile ones over the period of 2018-2021; and (iii) strengthen control over land use. Those who have failed in efficient use of land or have not planted crops in full, and have not implemented agrotechnical operations in due time would be under strong actions including termination of their land rights (Decree of President No.5199 of 9 October 2017).

Specific tasks have been developed to improve training for **water and agricultural engineers**; to strengthen material-technical and scientific-technological bases of relevant high education institutions; to widely introduce modern pedagogical technologies and ICT into educational process, and to organize systematic professional development and re-training for academic staff and personnel (Order of the President No. 3003 of 24 May 2017).

## Agriculture and water management

**Data on irrigation system as of January 2017.** The total length of the inter-farm irrigation network in Uzbekistan is 27,868 km, of which 16,608 km is in earthen canal. The total length of the inter-farm irrigation network is 154,957 km, of which 120,120 km (77%) is in earthen canal. On the MAWR balance sheet, there are 1,665 pumping stations with 5,284 pumps having annual delivery of water 59.6 billion m<sup>3</sup> and total capacity of 3,644 thousand kW. They deliver water to more than 2.2 million ha. Pumping stations of the Karshi cascade have the total water discharge of 175 m<sup>3</sup>/s (+35 m<sup>3</sup>/s of reserve), pumping altitude 157 m, and purched area of irrigation is 335,000 ha. Pumping stations of the Amu-Bukhara canal have the total water discharge of 216.4 m<sup>3</sup>/s, pumping altitude of 115 m, and irrigate territory of 315,000 ha. The main and inter-farm canals are equipped with 27,372 hydraulic facilities and 19,694 gauging stations. The on-farm network is comprised of 73,182 hydraulic facilities and 61,006 gauging stations. The total irrigated area of Uzbekistan is 4,293,000 ha, while the drainage area is 3,050,000 ha. The length of the collector-drainage network is 141,469 km, including 1,089 km of main network; 25,923 km of inter-farm network; 6,662.5 km of inter-district network; 36,740 km of subsurface horizontal drainage, and 72,143.9 km of on-farm drainage network. The total number of drainage wells is 7,871, including 3,802 vertical drainage wells and 4,069 irrigation wells. There are 55 reservoirs, of which 23 are off-stream

reservoirs and 24 are in-stream reservoirs. The total water storage is 20,368 bcm, of which 16,272 bcm is useful storage.

Source: MAWR (2018)

Relevant measures are taken to **increase export potential** of some economic sectors and regions of the country, as well as to **reduce the territories given to cotton production**. From 1 June 2017, economic entities of Uzbekistan were given the right to export their own products without pre-payment, excluding fresh horticultural products, cucurbits, grapes, and raw products. Taking into account the plans to expand the export of horticultural products and, at the same time, increase provision of fruits and vegetables to the internal market, in 2017 Uzbekistan, for the first time, had organized year-round planting of crops. Annually, Uzbekistan grows about 20 million tons of horticultural products, of which 1 million tons are exported. At the same time, geographic coverage of export becomes wider. Currently, the country export market includes more than 80 countries. In 2016-2017, Uzbekistan exported agricultural products to 9 new markets, including Spain, Italy, Belgium, the Netherlands, Switzerland, Czech Republic, Israel, Lebanon, and Vietnam. According to official data, in 2016 Uzbekistan exported 818.5 thousand tons of horticultural products; this is 38% more comparing to previous year. Traditionally exported products include apricots, sweet cherry, raisins, grapes, legumes, tomatoes, herbs, peaches, and persimmons. The future aim is to increase export of these products and reduce dependence on cotton. According to the Program adopted for the period of 2017-2022, fruit- and berry-planted areas will be expanding and replacing cotton-planted areas. In 2017, the cotton area was reduced by more than 40,000 ha. In 2018, it is planned to free up 100,000 ha for growing of horticultural products. The fields with cereal planted in 2017, have been sown with imported potato seeds as a double-season crop (11,650 tons).

**Uzbekistan is experimenting with the planting of new crops, such as soya, red beans, saffron, and others.** Scientists are helping farmers in this process. The Government relies on agricultural diversification, increasing of private initiatives, and growth of export of new goods. The orders of the President (No.2832 of 14 March 2017 and No.3144 of 24 July 2017) provide relevant measures for organization of soya sowing and expansion of soybean production in the country for the period of 2017-2021.

Development of **greenhouses on the basis of hydroponics is underway**. It is planned to establish such greenhouses in rainfed areas throughout the country, including financial support from international investments. This will allow increasing fresh horticultural production in the country.

In 2017, Uzbekistan began introducing the **sustainable cotton farming standards** based on the principles of Better Cotton Initiative (BCI). This will allow growing cotton in a more environment - friendly way through significant reduction of water used, pesticide, and fertilizer inputs. Uzbekistan is planning to create its own specialized e-platform for cotton fiber trade. Today, global cotton fiber trade is regulated by prices offered by several world large exchanges. In exporting cotton, Uzbekistan is guided by quotations of the Cotlook Limited (Liverpool cotton exchange).

Uzbekistan has become a **member of the International Sericultural Commission** registered within the United Nations, the purpose of which is development of sericulture and silk industry.

The **Union of Young Uzbek Farmers has been established** at the Youth Union of the Republic of Uzbekistan. It is planned that the activity of the Union will support young farmers; raise awareness, and develop farming among young people in the country. Together with the Union of Young Farmers, it is planned to provide consulting services through such centres as "Consultant farmer" and implement the "Youth on the Way of Innovation Development" Project.

### Investments in agriculture and water management sector

The **Center for Implementation of Investment Projects in agriculture and water management sector has been established** on the base of MAWR's investment project units and their staff members. The main activity of the Centre includes implementation of investment projects in agriculture and water management.

The **World Bank's Board of Executive Directors has approved allocation of two loans in the total amount of \$294.9 million to Uzbekistan for implementation of water resource management and livestock sector development projects**. A \$144.9 million loan was provided to the Fergana Valley Water Resources Management Project - Phase 2, which would help to improve irrigation and drainage systems for the benefit

of 180,000 farmers. The World Bank also provided a loan in the amount of \$150 million for the Livestock Sector Development Project in Uzbekistan. By 2017, the portfolio of bilateral cooperation between Uzbekistan and the World Bank included 33 joint projects with attracted funding of the Bank in the amount of \$2.8 billion in energy, modernization of irrigation and sanitation networks, water supply, and development of production, transport, and social infrastructure.

**WB will allocate \$1 billion** loan to Uzbekistan for development and diversification of its agriculture.

**Loan agreements with ADB to allocate \$573 million for implementation of four projects have been signed**. The Small Business Financing Project (\$100 million) will expand the access to the financial resources for small businesses in rural areas and women entrepreneurs. The "Water Supply System Development Project in Tashkent Region" in the amount of \$121 million, which will improve living conditions of 3 million local people. \$154 million is designated for a project "Horticulture Value Chain Development" to create and rehabilitate the orchards; modern greenhouses and processing and storage facilities in all regions of the country. \$198 million is to be directed to the "Road Development Project in Kashkadarya Region", within which 77 km of provincial roads will be rebuilt and modernized.

The **International Fund for Agricultural Development intends to invest \$100 million in the agricultural development of the Fergana Valley**. The project will provide concessional loan (at low interest rates) and grants to organize the process of processing of agricultural products focusing on internal and external markets.

**MAWR and the Chinese Tebian Electric Apparatus Stock Co. Ltd signed a contract** for the amount of \$7.3 million to supply support equipment, pressure pipelines, and spare parts for assembling and disassembling as well as training. The loan agreement on co-funding of the project has been signed between the National Bank of Uzbekistan and the Export-Import Bank of China (Exim Bank). Under this agreement, the Exim Bank will provide a \$6.9 million loan, with a five-year of grace period. Additionally, to fund the project, \$14.3 million will be allocated from the State budget of the country. These funds will be used to improve irrigation in the Kashkadarya region.

**China's Jiangsu Jiujiu Silk Co. Ltd. plans to invest \$100 million in cultivation of prolific mulberry trees and cocoons;** and production of silk and creation of new jobs in Uzbekistan. JiujiuSilk has been operating in Uzbekistan's "Jizzakh" Free Economic Zone since 2013.

**Chinese Wanbang will invest \$500 million to implement agricultural projects in Uzbekistan.**

The Agreement has been signed by the Ministry of Agriculture and Water Resources and the Uzbekozikovkat holding company. The agreement envisages joint implementation of more than 15 projects, including production, processing and packaging of agricultural products, livestock products, as well as export, import and re-export of finished products.

**The Government of the Republic of Korea has approved a \$3.5 million grant for the Boosting Uzbekistan's Agriculture**

through Building of Cold Storage Facilities Project. The grant will support the supply of special cold storage equipment, materials and vehicles, as well as construction and operation of cold storage rooms with a total capacity of 1,000 tons in the territory of Agrolnnovatsiya, an enterprise of the Ministry of Agriculture and Water Resources of Uzbekistan in Yukorichirchik district of Tashkent region.

**The European Union will provide €21.5 million to Uzbekistan to develop innovative agriculture.**

The EU delegation visited Uzbekistan on 26-28 April. The parties discussed an agreement on possible funding "The Horticulture Development Project", under which Uzbekistan will be provided with the grant for agricultural research, access of farmers to relevant technologies, information, and sales markets, as well as for aligning the National Food Program with the international standards. On July 17, Uzbekistan and EU signed a Financial agreement to modernize and strengthen the material-technical base of research institutes under MAWR.

## Drinking water supply and sanitation

According to the Decree of the President of Uzbekistan No.5018 of 18 April 2017, the **State Inspection Committee for Control over Drinking Water Use was established** at the Cabinet of Ministers of the Republic of Uzbekistan. The Committee and its territorial branches form a single system for state control over water supply and sanitation.

On 21 April 2017, the Order of the President of Uzbekistan No. 2910 on the "**Program for Integrated Development and Modernization of Drinking Water Supply and Sewerage Systems for the period of 2017-2021**" was approved. The program provides construction and reconstruction of 10,200 km of water conduits and pipelines; 1677 water wells; and 1744 water towers and reservoirs, as well as installation of 1440 pumping facilities. The Clean Water Fund has also been established. Its funds would be provided for improvement and modernization of the whole water -supply and sewerage system and provision of population with quality water, especially in rural areas.

## Hydropower and renewable energy

By the Order of the President of Uzbekistan No.2947 of 2 May 2017, the "**Program of Measures to Further Develop Hydropower over 2017-2021**" has been approved. In line with the Program, hydropower potential of the country is to be developed through construction of 42 new HPPs and modernization of 32 existing HPPs, with the increase of environment-friendly hydropower capacity in 1.7 times by 2025. In this context, for the period of 2017-2021, Uzbekistan plans to implement 18 construction projects and 14 modernization projects on hydropower stations for the whole amount of \$2.65 billion.

According to the Decree of the President of Uzbekistan No.5044 of 18 May 2017, the joint stock company "**Uzbekgidroenergo**" has been established on the basis of HPPs, and other hydrotechnical and energy-related departments of the JSC "Uzbekgidroenergo" and the Company "Uzsuvenergo" under MAWR. This was done to increase efficient use of hydropower potential of the country, form a single water and energy resources management system; gradually increase the share of renewable hydropower resources in the energy production system; create new environment-friendly generating capacities; carry out technical and technological upgrade of the existing HPPs; mobilize foreign investments in hydropower development, and thus, fully meet the energy requirements of population and industry.

The "**Program on Further Development of Renewable Energy, Increase of Energy Efficiency in Economic and Social Sectors over 2017-2021**" was approved by the Order of the President No.3012 of 26 May 2017. The program sets targets for further development of renewable energy, including increase in the

share of renewables in the structure of generating capacities by 2025 from 12.7% to 19.7%, of which 15.8% will be from HPP, 2.3% will be generated by solar energy, and 1.6% will be generated by wind. The list of investment projects on development of renewable energy has been approved. The implementation of 810 projects worth \$5.3 billion over the period of 2017-2025 is expected under the projects. The priority directions for the development of renewable energy sources through implementation of innovative technologies, science and technical research, diversification of energy and fuel balance, reduction of energy intensity of the production have been set up.

**Over the period of 2017-2021, Uzbekistan is planning to implement projects on renewable energy for the total amount of \$1.9 billion.** In particular, it is planned to construct five solar photovoltaic stations with the total capacity of 500 MW in five regions of the country, with approximate total cost of \$1.1 billion. The program also provides modernization of 8 HPPs and construction of 13 new small HPPs, with the capacity increased by 154 MW and the total cost of \$724 million. Funding is to be made through the own funds of energy companies (\$854 million); foreign loans (\$804.6 million), loans from the Uzbek Fund for Reconstruction and Development (\$110 million), and loans from Uzbek banks (\$113.4 million).

**Uzbekistan and China have signed contracts on hydropower development for the amount of \$3 billion.** Uzbekistan has also attracted Chinese loans for modernization of 299 pumping stations. This project will allow Uzbekistan to save energy and ensure reliable and regular water supply to population.

**Uzbekistan has ratified the IRENA charter.** The President of Uzbekistan Mr. Shavkat Mirziyoyev signed a Law "On ratification of the charter of the International Renewable Energy Agency (Bonn, 26 January 2009)" on 1 June 2017. Legislative Chamber of Oliy Majlis (the Parliament) has adopted the law on 25 May 2017 and Senate approved it on 27 May 2017. Ratification of the agency's charter will strengthen the cooperation in the field of energy-saving technologies and renewable energy sources.

**Russian state atomic energy corporation (Rosatom) is working on two projects to supply mini hydro power stations to Uzbekistan.** Another ten hydro power stations are planned to supply in future. The Director for international activities of Atomenergomash (part of

Rosatom) Roman Murashov told that the company was working on two projects in Uzbekistan. He noted that one project envisaged supply of six 60 MW units and the second project - about 10 MW. Murashov said that 10 additional projects were planned in the nearest 2-3 years.

**The Government approved the Program to build 37 pilot micro- HPPs in four regions of Uzbekistan.** It is planned that all HPPs will be built on natural and artificial watercourses in the Djizzak, Namangan, Syr Darya, and Khorezm regions. The total capacity of HPPs will be 6,100 kilowatt; their total cost would be over \$8.5 million.

**The German Siemens and Uzbek State Investment Committee have signed a Memorandum of Understanding on scenarios of energy development in Uzbekistan.** Energy development will be focused on introduction of innovative technologies, creation of new jobs, localization of production and export opportunities. An integrated program to train young Uzbek engineers and graduates of the relevant universities and colleges to use Siemens equipment has been developed.

**The Asian Development Bank's (ADB) Board of Directors has approved a new \$450 million loan to help install additional generating equipment with the capacity of between 850 to 950 megawatts (MW) in the Talimarjan thermal power plant (TPP).** The project will help expand Talimarjan TPP's capacity through the installation of additional combined cycle gas turbine units with combined heat and power facilities. This will increase the aggregate capacity of Talimarjan TPP to approximately 2,600 MW and improve its thermal efficiency from 48% to 52%. Besides, ADB will allocate \$2 million for improvement of financial sustainability of the JSC "Uzbekenergo" and, strengthen power sector planning and tariff studies.

**ADB will provide Uzbekistan a \$2 billion loan to modernize energy sector.** Since the country joined ADB in 1995, Uzbekistan has received \$5.1 billion for 54 projects in agriculture, education, and modernization of energy sector and transport infrastructure. In addition \$65 million have been provided under technical assistance grants.

**Russian company is planning to modernize the HPPs in Uzbekistan.** In November, "RusHydro" and "Uzbekgidroenergo" signed a Memorandum on cooperation. Under the Memorandum,



the JSC "Lengidproekt" (a subsidiary of RusHydro) would implement the design of the 404 MW Pskem HPP in Uzbekistan. Based on invitation of Uzbekistan, the "Lengidproekt" would compete in the process of development of projects for upgrading the Tashkent cascade (HPP-1); Chirchik cascade (HPP-10) phase III; Samarkand cascade (HPP-2) phase III; and Andizhan cascade. The "Lengidproekt" has signed a contract with the joint stock company "Gidroproekt" (part of "Uzbekgidroenergo") to develop preliminary feasibility study for construction of the Pskem HPP in the Tashkent region. The work on preparation of feasibility study is planned to be completed by mid of 2018.

### Environment, ecology, and climate change

#### **The State Committee for Ecology and Environment Protection has been established.**

According to the Decree of the President of Uzbekistan No.5024 of 21 April "On Improving of the State Management for Ecology and Environment Protection", the State Committee for Environment Protection was re-arranged into the State Committee for Ecology and Environment Protection. The new Committee will be responsible for state control over ecology, environment protection, rational use and reproduction of natural resources. These changes will improve consistency of work of public authorities and environment protection inspections and rational nature use; improve efficiency of inter-agency interaction on the environment protection issues create conditions to achieve the environment-friendly ecosystem and its protection

**Uzbekistan has joined the Paris Agreement on Climate.** The Ambassador of Uzbekistan to the United States Bakhtiyor Gulyamov, on behalf of Uzbekistan, and Santiago Villalpando, chief of the treaty section at the Office of Legal Affairs of the United Nations have signed the Agreement.

The work on **increasing climate resilience of farming communities in the Republic of Karakalpakstan** under "Developing Climate Resilience of Farming Communities in the Drought Prone Parts of Uzbekistan" (UNDP and UzHydromet) Project has been continued. The project is funded by the Adaptation Fund under the Kyoto Protocol of the UN Framework Convention on Climate Change. In particular field seminars have been conducted in the districts of Karakalpakstan to practically

demonstrate various approaches and measures for increasing resilience of farmers communities to climate change and to know the possibility of introduction of agro- and water saving technologies.

On 27 December 2017, a **Framework agreement was signed between Goskom-ecology of the Republic of Uzbekistan and CAREC**. The document establishes the conditions for efficient cooperation and mutual support of the Parties in implementation of joint measures, including implementation of particular projects, initiatives, and events aimed at improving ecological situation and supporting sustainable development of Uzbekistan, as well as coordinating joint participation in regional and international processes.

### Aral Sea and Prearalie

The Order of the President No.2731 of 18 January 2017 envisages the adoption of the "**State Program for Development of the Prearalie Region for the period of 2017-2021**". The Program includes a set of measures aimed at improving the environmental and socio-economic settings, living conditions of people of Prearalie, and timely and efficient implementation of investment projects to mitigate the consequences of environmental disaster of the Aral Sea. The State Program sets targets for creation of new permanent jobs in 2017 and specific parameters for increase of population access to clean freshwater over the period of 2017-2021 in the Republic of Karakalpakstan and the Khorezm region. To ensure reliable and stable funding of measures on the further development of Prearalie as well as fundamental improvement of living conditions of population, the Prearalie Development Fund has been established at the Ministry of Finance of the Republic of Uzbekistan.

On 10 February 2017, a **Joint Program "Building the resilience of communities affected by the Aral Sea disaster through the Multi-partner Human Security Fund for the Aral Sea Region"** has been launched in Tashkent. A "bottom-up" approach will be used under this program financed by the UN Human Security Trust Fund. The approach will ensure that population would be given an opportunity to define the priority tasks of the communities, and thus, boost public participation in the decision-making processes at the local level. On October 12-14, the UN Resident Coordinator in Uzbekistan Helena Fraiser and Ambassador of

Switzerland to Uzbekistan Olivier Chave visited the Republic of Karakalpakstan to see the current situation in the region; the efforts taken by the government to eliminate the consequences of the ecological catastrophe; measures for adaptation to climate change, and the UN activity in the northern region of the country.

**Antonio Guterres will promote the project on water resources use in the Amu Darya.** President Sh.Mirziyoyev had a meeting with the UN Secretary-General Antonio Guterres in the UN headquarters in New York. The President of Uzbekistan has invited the UN Secretary-General to participate in the International conference on current issues of security and sustainable development in Central Asia, which would take place in the city of Samarkand on November 10-11, 2017. The UN Secretary-General Antonio Guterres assured that he would be fully dedicated to the promotion of the Conventions on use of Amu Darya and Syr Darya water resources and attraction of international attention to the mitigation of consequences of ecological catastrophe in the Prearalie Region.

### Foreign policy and international cooperation

2017 was a successful year for the foreign policy development in Uzbekistan. During this year, the President of the country Sh.Mirziyoyev three times visited Turkmenistan, twice Kyrgyzstan and one time Russia and Kazakhstan. The Heads of the above countries have also visited Tashkent. A significant package of agreements has been signed with each of the Central Asian states.

The Presidents Sh.Mirziyoyev and G.Berdymukhamedov adopted a joint statement and signed the Agreement on Strategic Cooperation between Turkmenistan and Uzbekistan, as well as opened two new motor-vehicle and railway bridges across the Amu Darya. During the further visits, an agreement on easy exitway through the Turkmen ports to the Caspian Sea has been signed.

At the end of the Uzbek-Kazakh negotiations during the meeting between Sh.Mirziyoyev and N.Nazarbayev, 13 interstate, intergovernmental, and inter-agency documents have been signed. New check points and motor-vehicle roads were opened at the border with Kazakhstan.

During the visit of the President of Uzbekistan Sh.Mirziyoyev to Russia, a record number of joint documents has been signed, including the documents on tourism development, labor migration, public health, education, and industry for the total amount of \$16 billion.

Given close cooperation and continued negotiations between the leaders of Kyrgyzstan and Uzbekistan, the Uzbek-Kyrgyz Agreement on demarcating of 85% of the Uzbekistan-Kyrgyzstan state border came into force in October 2017.

During the visit of the newly elected President of Kyrgyzstan S.Zheenbekov to Tashkent in December 2017, it was underlined that mutual trade increased by 56% and amounted to \$235 million during 2017.

Development of cooperation with Afghanistan should also be mentioned. During the visit of the President of Afghanistan Ashraf Ghani to Uzbekistan, 20 agreements on security and 40 commercial contracts have been signed. The opening of the first civil flight between Uzbekistan and Afghanistan is a big achievement in cooperation between the two countries.

The visits of Uzbek leader to USA, China, and South Korea were also very successful. In the end of September, Sh.Mirziyoyev visited USA. In his speech at the UN General Assembly, the President mentioned the key aspects of the new development strategy of Uzbekistan and recent significant developments of the country. At the end of the US visit, joint documents on trade and economy, and finance and investments for the total amount of \$2.6 billion have been signed (see section [Bilateral Water Cooperation between the states in Central Asia](#)).

#### Major information sources:

State Committee for Ecology and Environment Protection - <http://uznature.uz/ru/>;  
Ecological Movement of Uzbekistan <http://eco.uz/>;  
National information agency of Uzbekistan - <http://www.uza.uz/ru/>;  
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