HIGH LEVEL DEVELOPMENT FORUM
ACCELERATING REFORMS FOR SUSTAINABLE DEVELOPMENT
FORUM2019

HIGH LEVEL DEVELOPMENT FORUM

"ACCELERATING REFORMS FOR SUSTAINABLE DEVELOPMENT"

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List of abbreviations

Abbreviation	Equivalent [1]	Value
AI		Artificial Intelligence
ATR	**АТР**	Administrative-territorial reform
CASA		Central Asia - South Asia
CCCC	**ККПИК**	Coordination Commission on Climate Change Problems
CERT		Computer Emergency Response Team
CFC	**ЦКФ**	Climate Finance Center of the Kyrgyz Republic
CIF	**КИФ**	Climate Investment Fund
CIP	**КИП**	Climate Investment Program
CIS	**СНГ**	Commonwealth of Independent States
CTCN		Climate Technology Center & Network
DPCC	**КСПР**	Development Partners Coordination Council of the Kyrgyz Republic
EAEU	**ЕАЭС**	Eurasian Economic Union
EGDI		E-government Development Index
EIUS	**ЕИУС**	Unified information and management system of the Kyrgyz Republic for emergency and crisis situations
EPI		E-participation Index
EUR		Euro
FAO	**ФАО**	UN Food and Agriculture Organization
FDI	**ПИИ**	Foreign direct investments
FMC	**ЦСМ**	Family Medicine Center
FOCL	**ВОЛП**	Fiber optic communication line
GCF	**ЗКФ**	Green Climate Fund
GDP	**ВВП**	Gross domestic product
GGGI		Global Green Growth Institute
HAPS		High-Altitude Platform Station
HIV	**ВИЧ**	AIDS virus
HPP	**ГЭС**	Hydroelectric power plant
HTP	**ПВТ**	High technology park
ICT	**ИКТ**	Information and communication technology
IMT-2020		International Mobile Telecommunications-2020
INDC	**ПНОВ**	Estimated Nationally Determined Contribution
IoT		Internet of Things
ISO	**ИСО**	International Standards Organization
IT	**ИТ**	Information Technology
ITS		Intelligent Transport System
ITU	**МСЭ**	International Telecommunication Union
IWRM	**ИУВР**	Integrated water resources management
KCHE	**ККГЭ**	Kyrgyz complex hydrogeological expedition
KGS		Kyrgyz som
KR	**КР**	Kyrgyz Republic
LNOB		Leave No One Behind (SDG principle)
LSG	**МСУ**	Local self-government
MICS	**МИКС**	UNICEF multi-indicator cluster study
NAP	**НАП**	National Adaptation Program
NDA	**НУО**	National Designated Authority

1 Russian equivalents of the English abbreviation are given whenever they are in common use, or if they are in use in the Russian version of this document. This includes the Russian original forms of the abbreviated names of state institutions of the Kyrgyz Republic.

NDC	**НОВ**	Nationally determined contribution
NDS	**НСР**	National Development Strategy
NSC	**НСК**	National Statistical Committee of the Kyrgyz Republic
NSDI	**НИПД**	National spatial data infrastructure
OSI		Online Service Index
OXION	**ОКСИОН**	National comprehensive information and alert system
POS	**ФАП**	Paramedic-obstetric station (local first-line healthcare providers)
PPCR	**ППАИК**	Pilot Program for Climate Resilience
PPP	**ГЧП**	Public-private partnership
PWD	**ЛОВЗ**	Persons with disabilities
R&D		Research and Development
SAEPF	**ГАООСиЛХ**	State Agency for Environmental Protection and Forestry of the Kyrgyz Republic
SALSGIER	**ГАМСУМО**	State Agency of Local Self-Government and Interethnic Relations of the Kyrgyz Republic
SAWR	**ГАВР**	State Agency on Water Resources of the Kyrgyz Republic
SCIES	**ГКПЭН**	State Committee for Industry, Energy and Subsoil Resources of the Kyrgyz Republic
SCITC	**ГКИТС**	State Committee for Information Technologies and Communications of the Kyrgyz Republic
SDG	**ЦУР**	Sustainable Development Goals
SE	**ГП**	State enterprise
SECO		Swiss State Secretariat for Economic Affairs
SGP	**ПГГ**	State Guarantee Program (to provide citizens with health care)
SME	**МСБ**	Small and medium enterprises
UN	**ООН**	United Nations
UNCTAD	**ЮНКТАД**	United Nations Conference on Trade and Development
UNDP	**ПРООН**	United Nations Development Program
UNFCCC	**РКИК ООН**	UN Framework Convention on Climate Change
UNICEF	**ЮНИСЕФ**	United Nations Children's Fund
USA	**США**	United States of America
USD		US dollar
VAT	**НДС**	Value added tax
WEF	**ВЭФ**	World Economic Forum
WFP	**ВПП**	World Food Program
WGEO		World Green Economy Organization
WMO	**ВМО**	World Meteorological Organization
WUA	**АВП**	Water User Association

INTRODUCTION

In November 2018, the Government of the Kyrgyz Republic initiated the High-Level Development Forum. This Forum, which will be held on 19 November 2019, is a continuation of the previous High Level Development Conference "A Reform-Based Development Partnership 2013-2017" held in Bishkek on 10-11 July 2013.

The leading line of the 2013 Conference was to provide a joint Development Agenda to support the transformation processes that took place after the 2010 Revolution and the change of the country's political system into a parliamentary democracy. As a result of the Conference, a Development Agenda was elaborated for the period until 2017, according to the National Development Strategy for 2013-2017.

Since the previous 2013 Conference, the context of the Sustainable Development Agenda in Kyrgyzstan has changed significantly. There are several examples of such major changes over this period. In 2014, Kyrgyzstan joined the Eurasian Economic Union. In 2015, Kyrgyzstan, along with other UN member countries, adopted the 2030 Agenda and the 17 Sustainable Development Goals at the United Nations General Assembly, and took up the subsequent integration of the SDGs into its national strategic processes. The recent ratification of the Paris Agreement of the United Nations Framework Convention on Climate Change, adopted by Kyrgyzstan in 2015, demonstrates Kyrgyzstan's recognition of the overarching importance of climate change and its commitment to integrate climate change adaptation into its political processes.

Such comprehensive changes are reflected at the national policy level. In November 2018, Kyrgyzstan adopted the National Development Strategy of the Kyrgyz Republic, which aims to provide a long-term strategic perspective for the country's development until 2040. This long-term perspective was further complemented by the "Unity. Trust. Creation" Development Program of the Kyrgyz Government for 2018-2022. At the political level, issues began to gain importance that at the 2013 Conference were not yet of a strategic nature. Examples of such topics include the announcement of 2018 as the Year of Regional Development, and the subsequent announcement of 2019 as the Year of Regional Development and Digitalization of the Country.

Goals

In the light of the significant changes that have taken place in the context of the development of the Kyrgyz Republic, the High-Level Development Forum represents an important opportunity for a high level dialogue on various areas of the country's development strategies and programs between the Government of the Kyrgyz Republic and development partners. Thus, in order to conduct this dialogue, the High-Level Development Forum pursues three main objectives:

1. To discuss the main changes in the development of the country during the period 2013-2018 after the previous 2013 High-Level Development Conference;
2. To set a number of strategic priorities and programs on the development agenda of the Kyrgyz Republic for the next four-year period until 2022;
3. Through the Conference resolution, to adopt a set of joint principles and approaches that will further govern relations between the Government of the Kyrgyz Republic and the development partner community, as well as to confirm mutual commitment to key intersectoral issues, such as the rule of law, gender equality, the cross-sectoral nature of administrative reforms and climate change.

Structure and preparation

The 2013 High-Level Development Conference was organized along sectoral lines. This approach is reflected in the structure of the 2013 Conference document, where the entire width of the spectrum of the development agenda of Kyrgyzstan is organized into 19 relatively narrow chapters.

Compared to the agenda of the 2013 Conference, today it is becoming more relevant to discuss development issues in a broader, intersectoral and interagency perspective. Many of the country's current development priorities, such as digitalization, regional development, or climate change, going beyond sectors and institutional boundaries and cannot be discussed in relation to only one sector or government agency. Many of the modern administrative approaches are necessary for the integrated management of important resources in an increasingly complex environment, such as, for example, Integrated Water Resources Management (IWRM), are inherently cross-cutting, cross-sectoral in nature.

Also, important cross-cutting development challenges outlined in the 2013 document remain relevant to this day. The list of such cross-cutting issues includes reforms in the context of digitalization, administrative and territorial reforms, structural reforms to ensure transparency and the rule of law, and to strengthen public and private institutions and interdepartmental political processes at different levels. It also includes the promotion of gender equality in all areas, which remains

a priority in 2019, as well as the implementation of the principle “leaving no one behind” as one of the fundamental principles of inclusive development and SDGs. Other cross-cutting topics that have remained relevant for the current period are the mobilization of domestic financial resources for development and the continuation of political dialogue between the state, private sector and civil society at all levels.

To achieve this broader perspective, the High-Level Development Forum was prepared by a Steering Committee, established in May 2019 under the leadership of the Government of the Kyrgyz Republic and the Development Partners Coordination Council (DPCC). The Steering Committee, in turn, identified the following six areas in the role of the leading sectoral lines of this Forum:

1. Digitalization;
2. Regional development;
3. Investment climate;
4. Human capital;
5. Integrated Water Resources Management;
6. Climate change and disaster risk management.

For each of these thematic areas, the Steering Committee appointed a Working Group. Each of these six working groups was composed of representatives of several representatives of government agencies, as well as representatives of the Development Partners, under the joint leadership of one representative of each of the parties. From May 2019, these working groups prepared thematic reports to prepare for this Conference based on the following approved structure:

1. Sector analysis since 2013;
2. Existing challenges;
3. Summary of government policies and programs for 2019-2023;
4. Priority reforms in need of support.

The thematic reports of the working groups were completed in September 2019 and submitted to the Government of the Kyrgyz Republic for reworking. They provide the basis for this Forum background paper, which is divided into six thematic sections for each of these six topics. Each section, in turn, is organized according to the above structure. The thematic reports also serve as the basis for the preparation and conduct of discussions at the Development Forum.

According to the results of the Forum, they are expected to serve as the basis for discussing new programs and initiatives on the six thematic areas in the near future. The results should also provide a joint framework and baseline for the government and the development to assess progress in the years to come.

1. DIGITALIZATION

1.1 Sector analysis since 2013

The use of information and communication technologies (ICT) is one of the key factors and catalysts for accelerating and promoting sustainable development and timely achievement of **all 17 Sustainable Development Goals (SDGs)** and related tasks. Realizing this, the Kyrgyz Republic for the period since 2013 has taken a number of initiatives and programs in order to obtain the transformational effect of the use of ICT for the successful socio-economic development of the country.

1.1.1 Digital State

According to the level of e-government development, according to the **UN Global Survey on e-government for 2018**, Kyrgyzstan ranked 91 out of 193 UN member states and has a high level in the E-Government Development Index (EGDI): 0.5835. The Online Services Index (OSI) is 0.6458 and has a positive trend. According to the e-participation index (EPI), Kyrgyzstan ranked 75th in the world out of 193 countries. The country's commitment to using ICT to address issues of public administration efficiency was confirmed by the adoption at the end of 2018 of the Digital Transformation Concept **"Sanarip Kyrgyzstan" ("Digital Kyrgyzstan")**, when large-scale work on the digital transformation of the activities of government bodies was launched.

Thus, today, about 60 government services and facilities are provided in electronic format, and by the end of 2019 it is planned to increase their number. The state portal of electronic services has been launched, the state system of electronic payments (E-pay) has been developed, which allows online payments electronic services. The "Tunduk" electronic interagency interaction system has been fully launched, to which more than 60 government agencies have already been connected, and the number of transactions has already reached more than five million. The "E-Kyzmat" system has been launched and is expanding, providing a unified database of government and civil servants, and also the efficiency of data processing, relevance, completeness and reliability in making managerial decisions, to which 56 central offices of state bodies are already connected. In total, 256 organizations are connected to the system, including territorial and subordinate units, the data of more than 11 000 employees is digitized. On the basis of this system, the introduction of the state electronic document management system has already begun.

Earlier in the Kyrgyz Republic, a national campaign on biometric registration of the population was held, as a result of which 3 369 361 citizens of the Kyrgyz Republic were registered. The data obtained were used in the course of the election processes at all levels, up to the presidential elections. A project was also implemented to issue passports of a new eID type, with the ability to use electronic authentication and signature. To date, about 1.4 million passports of the new type have already been produced and issued. Passports of the eID format are used by citizens to obtain a range of electronic public services in electronic format.

As part of measures to introduce digital infrastructure in the activities of the judicial and law enforcement agencies, on 1 January 2019, the unprecedentedly large-scale automated information systems "Unified Crime and Misconduct Register" (russ. ЕРПП), as well as "Unified Register of Violations" (russ. ЕРН) were launched. Currently, from the moment of launch, the former has registered about 100 000 entries, and the latter, about 350 000 entries. In general, these projects have a positive effect on strengthening the work of supervisory authorities, entailing a reduction in the time for considering criminal cases, simplification of investigative procedures, reduction of concealment of criminal cases, and also allowing strengthening control over the activities of investigative bodies, openness and transparency for applicants.

1.1.2 Digital Skills Development, Innovation and Research & Development (R&D)

According to the 2018 UNDP Global Human Development Index, the Kyrgyz Republic is included in the group of countries with an average level of human capital development. The level of development of digital skills among the population of the Kyrgyz Republic remains at a rather low level - the country takes the 83rd position in the world.

According to the global innovation index, in terms of government spending on education, Kyrgyzstan is a leader among the EAEU countries and occupies 22nd position in the world (6 % of GDP). Even though the quality of the higher education system still remains inadequate (69th out of 126 countries) and universities in Kyrgyzstan are not included in the international ranking of universities, Kyrgyzstan is still strong among the Eurasian Economic Union (EAEU) countries in terms of the level of cooperation between universities and business in the field of Research and Development.
In terms of the level of development of innovations and research, Kyrgyzstan is ranked 94th (out of 126 countries) and inferior to Tajikistan and Armenia (leader in the EAEU) in terms of innovation efficiency. R&D spending is only 0.1 % of GDP.

1.1.3 Development of “smart” sustainable cities

Given the processes of urbanization and the problems arising from it, issues of the development of “smart” cities, where ICT plays a decisive role, are urgent due to the promotion of innovations such as intelligent transport systems, “smart” water use, “smart” energy and “smart” waste management. “Smart” sustainable cities are one of the most important areas of application of the Internet of Things (IoT) technologies, the integration of which into urban systems allows these systems to be displayed in the virtual world, contributing to a better understanding of how complex urban ecosystems behave. Internet of Things technologies, big data analytics, machine-to-machine interaction, etc. are already widely used in practice in the field of disaster risk management (monitoring and forecasting, prevention and elimination).

Modern ICTs are actively being introduced into the processes of monitoring climate change and mitigating its impact and consequences. In the local self-government bodies of Kyrgyzstan, the first digital projects of safe city, electronic ticketing by public transport, hybrid mail, etc. are being implemented or are just starting. Since the implementation of the “Safe City” project, a decrease in road accident deaths in the city of Bishkek has been recorded compared to the same period last year - by 45.0 %, and in Chuy Oblast - by 36.7 %. The approved concept of “smart city” is not yet available, although the city halls of the cities of Bishkek and Osh are under discussion and some developments are already available.

1.1.4 Digital Economy

In 2016, the EAEU adopted the EAEU Digital Agenda until 2025. According to this document, the economic effect of its implementation will increase the EAEU GDP by 2025 by approximately 10.6 % of the total expected growth of the aggregate GDP of member states by 2025, and will ensure an increase in employment in the ICT industry in the EAEU space by 66.4 % by 2025, or a million new jobs in the field of ICT. In turn, employment growth in the ICT industry will provide an additional growth of total employment by 2.46 % by 2025. At the same time, it is possible to achieve an increase in labor productivity up to 1.73 % by 2025. However, according to the WEF Global Competitiveness Index, in 2018 Kyrgyzstan took 97th position in the world out of 140 countries. Factors that impede development include poor innovation, low level of technology adoption, underdeveloped infrastructure, small market size, and underdeveloped institutions and businesses.

In terms of ease of registering a business, Kyrgyzstan is in the top 30 countries of the world, but the country takes one of the last position in terms of growth of innovative companies (134 out of 140). At the same time, in terms of the export of ICT services, Kyrgyzstan is in the top 50 countries and occupies the 35th place in the world out of 126 countries, mainly due to the activities of the High Technology Park (HTP) of the Kyrgyz Republic. Exports of ICT services exceed imports by three times (as a percentage of total trade). The government provided tax incentives for IT companies resident in the High Technology Park to implement digital innovations, but there are no such benefits for IT companies that are not part of the HTP. There is a need for large-scale implementation, including in the public sector, of the international quality standard ISO 9001, because Kyrgyzstan in this direction holds one of the last positions in the world (124 of 126). In terms of the growth of patents and patent applications in the field of ICT, the country is at the initial level.

The introduction of an electronic system of fiscalization of tax procedures has been implemented by the government since 2016, including as part of the EAEU digital initiative to improve interstate traceability of goods. Currently, the project is being actively implemented by authorized state bodies, a number of priority regulatory legal acts have been signed, and a national infrastructure segment of this system is being created. It is planned to create a national database on a unified electronic labeling of goods, a traceability system for goods from the manufacturer to the end consumer, launched the use of electronic invoices, as well as virtual cash registers, introduced electronic tax reporting, electronic patent, and electronic registration of legal entities.

For a more objective measurement of the development level of electronic commerce in the Kyrgyz Republic, virtually no data are available, and an accounting system has not yet been formed. The statistical accounting system for measuring the digitalization level of traditional sectors of the Kyrgyz economy requires significant modernization, since currently only some statistics on the number of computer equipment and standard software at enterprises are collected by national statistical authorities, which today is not enough to fully assess the digitalization level of the economy.

1.1.5 Development of digital ICT infrastructure for the period 2013-2019

For the successful progressive development of the digital economy, the access to a modern digital ICT/IT infrastructure is a basic requirement. Since recently, important components of the digital infrastructure are not only digital telecommunication networks, including fifth-generation networks, but also data centers, cloud computing services, the Internet of things infrastructure, etc. Telecommunications operators and Internet providers in Kyrgyzstan make a significant contribution to the development of telecommunications structure of the country’s and for the access to advanced communications services. The government has launched the “Digital CASA - Kyrgyzstan” project, which includes, inter alia, a component for the construction of fiber-optic lines, increasing cross-border connectivity and introducing new PPP mechanisms. According

to a preliminary study, today less than 20 % of the population of the Kyrgyz Republic have access to high-speed access to the Internet via fiber optic communication lines. In turn, as a result of the implementation of the "Digital CASA – Kyrgyzstan" project, more than 1 200 km of fiber-optic communication line (FOCL) will be laid across the country to provide more than 60 % of the population (mainly rural), as well as more than 4 000 social facilities of the republic to high-speed Internet access.

Also, measures are being taken to provide educational institutions with access to the Internet. So, today more than 600 educational institutions already have a physical connection. During the implementation of this project, OJSC "Kyrgyztelecom" connected in parallel 288 municipalities, 580 medical institutions (hospitals, clinics, family medical centers [FMC], parametric-obstetric stations [POS]). Work is underway to connect post offices. According to the 2018 ITU Global Cybersecurity Index for the Kyrgyz Republic, the country ranks 111th out of 193 in the world and 8th out of 9 in the CIS region. Regarding the development of cybersecurity, Kyrgyzstan belongs to the category of countries with a low level of state obligations. Since the National Cybersecurity Strategy of the Kyrgyz Republic was adopted only at the end of July 2019, practical systematic work on its implementation has only just begun.

1.2 Existing challenges for digitalization

1.2.1 Change management issues in the public administration system of the Kyrgyz Republic

Digital transformation requires, first of all, effective change management mechanisms based on the 80/20 principle, where 80 % is accounted for by changing business processes and models, and only 20 % is by technology. Currently in Kyrgyzstan the process of digital transformation is only beginning to affect the processes of changing the system of government. The level of professionalism, competencies and skills of civil servants is insufficient for the effective functioning of the state apparatus in the digital environment. The system of training, skills upgrading and hiring of civil servants so far does not fully meet the current needs and challenges of digital transformation. Another issue is the low salary level, which makes it difficult for the public sector to compete with the private sector for skilled ICT professionals and retain them. This, in turn, jeopardizes capacity development efforts aimed at building the ICT skills of public servants, and thus the system as a whole.

The digital state strategy implies a variety of interaction models in which the participation and services of third parties in the service supply chain is allowed and encouraged. In 2019, the SCITS initiated the platform approach "Government as a platform" and has already begun implementation of the first projects with commercial structures of the Kyrgyz Republic. The full-scale functioning of the newly launched Open Data Portal of the Kyrgyz Republic with about 200 state datasets already uploaded, and this is a confirmation of a new "platform" approach in providing government services.

Even though political decisions have been taken by the country's leadership and projects have been initiated, the implementation of the digital agenda requires additional momentum. In practice, the departmental approach still prevails in ministries and departments, interdepartmental and intersectoral coordination is insufficient, and insufficient attention is paid to unification and standardization issues. In order to better manage and implement digitalization projects at an appropriate level in government bodies, the existing ones were reorganized and additional state enterprises and institutions operating in the IT sector were created. However, further consolidation of these efforts requires new approaches and reforms.

1.2.2 Digital Skills

Globally, due to robotization in the industrial sector and the introduction of artificial intelligence technologies and others in the social sector and the services sector, huge labor resources are being released, which contributes to imbalances in all sectors of the economy. There is a flow of labor and consumers into the digital economies of third countries and into the digital ecosystems of global digital platforms. Therefore, in order to ensure the country's readiness for global challenges, the development of digital skills among the population, retraining in accordance with the new requirements of the labor market is one of the key tasks of the state.

1.2.3 Development of digital telecommunications infrastructure

The data of global ICT development indices confirm the urgent need for further accelerated implementation of broadband access throughout the country, especially fixed, including remote rural settlements, and the need to lower prices for the population of ICT services and products. Thus, according to the ITU Global ICT Development Index for 2017, Kyrgyzstan ranked 109th out of 193 countries and the last place (10th) in the CIS region.

It is well known from international practice that 70-80 % of capital investments in the construction of new communication

lines are spent on construction and installation work on laying communication cables, and the cost savings in the joint construction and use of fiber optic links between telecom operators and infrastructure owners is about 55 % of all invested funds. The introduction of mechanisms for joint construction and joint use of infrastructure will significantly reduce capital investment in the construction and laying of communication lines, which will result in a significant reduction in the cost of communication services for end users. The implementation of such an initiative will require efforts to improve related sectoral legislation in terms of implementing the principles of mandatory access for telecom operators to any infrastructure, both in the planning, co-financing and in the implementation and use.

A review of technical norms and standards, requirements for the design and construction of infrastructure facilities is required. The same applies to the norms and requirements for the design and construction of buildings and structures in order to initially lay the construction of telecommunications infrastructure in the construction of new real estate, which will significantly increase access and use of broadband services. In addition, significant efforts will be required for cross-sectoral coordination between authorized government bodies and industry regulators. Telecommunications operators also experience significant difficulties in interacting with local self-government bodies in coordinating and allocating land and obtaining building permits. A package of draft legal acts on the simplification of obtaining permits for the construction of communication lines and land transformation has already been prepared.

The affordability of communication services is an important indicator of the inclusiveness of the information society development, as it allows equal access to ICT infrastructure to the most vulnerable sectors of society. According to ITU, the indicator of telecommunication costs as part of income in the Kyrgyz Republic is one of the highest in the CIS region. Thus, there is a need to further reduce the cost of communication services for end consumers, especially in terms of fixed broadband.

The prices of equipment and standard software, both for telecom operators and retailers, and for end consumers (especially for vulnerable groups of the population) also require efforts to further reduce them in order to ensure their affordability. Because since ICT/IT equipment is mainly imported into the country, government policy measures aimed at improving tax administration in terms of providing tax preferences for the ICT/IT sector will ensure faster growth of the sector and accelerated development of the country's digital economy.

1.3 Government strategies and programs

The full-scale use of the achievements of digital technologies is referred to as a red thread through all components of the National Development Strategy of the Kyrgyz Republic until 2040, approved by Decree of the President of the Kyrgyz Republic no. 221 dated 31 October 2018. As noted in this document, Kyrgyzstan will actively carry out reforms to create a competitive digital economy through the creation of truly attractive conditions for entrepreneurs, the use of innovative and environmentally friendly technologies. The widespread adoption of information technology in production and management should become a priority of development policy.

The Development Program of the Government of the Kyrgyz Republic "Unity. Trust. Creation", approved by the Resolution of the Jogorku Kenesh of the Kyrgyz Republic no. 2377-VI dated 20 April 2018, also recognizes the cross-cutting nature of the technological aspects of national development priorities that affect all aspects of the life of institutions and citizens of the country.

The digital transformation concept **"Sanarip Kyrgyzstan" ("Digital Kyrgyzstan")** 2019-2023, approved by the Decision of the Security Council of the Kyrgyz Republic dated 14 December 2018, more focusedly defines the country's medium-term priorities in the field of digital transformation in accordance with NDS 2040 and sets the following priority tasks:

1. creating new opportunities for the population through the development of digital skills;
2. providing high-quality digital services, increasing the efficiency, effectiveness, openness, transparency, accountability and the fight against corruption in the public administration system, increasing the level of citizen involvement in state and municipal decision-making processes through the digital transformation of the state and municipal government system;
3. ensuring economic growth through the digital transformation of priority sectors of the economy, strengthening international partnerships, and creating the new economic clusters.

1.4 Priority program areas in need of support

1.4.1 Development of digital skills and digital education, innovation and R&D

1. Development and implementation of the National Strategy for the development of digital skills;
2. Development and implementation of professional and educational standards in the field of ICT and development of digital skills;
3. Digital skills development for state and municipal employees;
4. Creating a network of centers of excellence / professional excellence in digital development;
5. Support for the establishment and operation of non-governmental training centers and professional certification;
6. Conducting national and regional competitions in the field of innovation, including piloting digital innovations using the latest technologies aimed at stimulating entrepreneurship among young people;
7. Support for innovative projects to create jobs, including for vulnerable groups of the population - people with disabilities, youth, women, and pensioners;
8. Promoting partnerships between academia and industry;
9. Development and implementation of the state program for the creation and use of digital content and digitization of the cultural and scientific heritage of the Kyrgyz Republic.

1.4.2 Digital State

10. Implementation of the Concept and Action Plan “Sanarip Kyrgyzstan” (“Digital Kyrgyzstan”), including the provision of digital state and municipal services, further development of the “Tunduk” interdepartmental e-interaction system, etc.;
11. Development and implementation of the comprehensive “Digital Justice” Strategy and Action Plan for its implementation;
12. Development and implementation of the comprehensive “Digital Parliament” Strategy and Action Plan for its implementation;.
13. Further development of the legislative basis for creating a stimulating environment for sustainable innovative development, strengthening of trust and security for digital technologies;
14. Implementation of the roadmap of the “Digital Kyrgyzstan” concept for 2019-2024.

1.4.3 Digital Economy / Digital Business

15. Implementation of “digital finance” - the provision of digital financial services by the non-banking sector through the mechanisms of “regulatory sandboxes” in the provision of financial services (fintech);
16. Development of venture financing;
17. Development of e-commerce and creative economy;
18. Implementation of e-fiscalization system;
19. Development of “digital entrepreneurship” through the creation and support of the activities of IT hubs/business incubators, etc.;
20. Providing conditions for the rapid development of the telecommunication and IT sectors through tools to improve tax administration and the provision of tax preferences for all companies operating in the field of ICT/IT;
21. Introduction of the latest digital technologies in priority sectors of the economy (tourism, construction, agriculture, mining and light industry, healthcare, education, etc.).

1.4.4 Accelerating the development of “smart” sustainable cities

22. Development and implementation of the “Smart Cities” Development Concept;
23. Development of technical standards and building codes for the development of “smart” cities; while doing designing and urban planning, integrating the digital telecommunications infrastructure in various types of urban infrastructure (water and sewage, waste management, energy and road transport networks, lighting, etc.) with a single architecture and integrated planning, design and management of urban infrastructure using the latest digital technologies;
24. Development and implementation of mechanisms for practical cooperation of LSG bodies with the business sector to improve access to digital infrastructure, develop digital skills among the population, support initiatives to develop digital entrepreneurship locally, provide digital municipal services;
25. Introduction of modern ICT in the field of climate change and emergency response.

1.4.5. Measuring the development of the digital economy and society of the Kyrgyz Republic

In 2019, SCITC carried out work on the development of a draft national index for measuring the level of development of the digital economy and society of the Kyrgyz Republic, which is proposed to be evaluated in terms of five main dimensions, 205 indicators have been proposed, and responsible government bodies have been identified. Further comprehensive systematic work is required to unpack these indicators from the point of view of reviewing the entire chain of their formation, starting with obtaining reliable and relevant data from the source and their further aggregation and analysis, changing reporting forms of the National Statistical Committee (NSC) and much more. Thus, there is a need for a significant modernization of the system of statistical indicators of the Kyrgyz Republic, the introduction of tools of the latest digital technologies for their collection and analysis;

1.4.6 Connectivity, Access, Price, Availability and Security

1.4.6.1 Digital Infrastructure and ICT Services Price Availability

26. Development and implementation of the National Broadband Development Strategy and an action plan for its implementation;
27. Conversion and efficient use of the radio frequency spectrum, including for the effective development and use of the latest radio technologies;
28. Encouraging the sharing of infrastructure - cross-sectoral interaction, regulation and coordination with the sectors of the electric power industry, the road transport and gas sectors, water supply, sewage, waste management, etc. for the joint construction and use of fiber optic lines, antenna and mast structures, cable ducts, etc. ;
29. Development of a network of data centers, unified digital platforms and cloud computing services;
30. Development/improvement and implementation of technical standards, requirements and rules for the design and construction of fiber optic lines and building regulations for real properties, including for the purpose of sharing infrastructure;
31. Ensuring the affordability of communication services and equipment for end consumers through tax preferences for telecom operators, retailers and Internet providers for the import of equipment and software, transit and termination of traffic, and mechanisms for sharing infrastructure both within the sector and with external infrastructure owners (electric power, gas and water supply, auto and railway sectors, etc.);
32. Creation and development of a national spatial data infrastructure (NSDI);
33. Accelerated implementation of the latest digital technologies, including IMT-2020 (5G) networks, the Internet of Things (IoT) infrastructure, “intelligent” transport systems (ITS), the use of Artificial Intelligence (AI) technologies, stratospheric platform solutions (HAPS), etc.

1.4.6.2 Cybersecurity and Personal Data Protection

34. Implementation of the National Cybersecurity Strategy Action Plan;
35. Establishment of national and sectoral computer emergency response teams (CERT);
36. Creation of testing laboratories and cybersecurity certification centers;
37. Improving national legislation in the field of cybercrime and forensics (computer forensics, cybercrime investigation, digital evidence, etc.), procedural rules;
38. Development of national technical standards, requirements and instructions in the field of cybersecurity;
39. Implementing an initiative to protect children in the online space;
40. Partnership development at national, regional and global levels;
41. Creation and operation of an authorized state body for the protection of personal data.

2. REGIONAL DEVELOPMENT

2.1 Sector analysis since 2013

Today, the Kyrgyz Republic aims at the development of the economic potential of its regions in the context of Eurasian integration. It is an important priority of the Government and President that could provide new momentum to address several issues related to socio-economic development and the deepening of regional disparities in the republic.

From 2013 to 2017, the nominal growth of gross regional product in the country amounted to 111.3 %. Growth rates have surpassed the republican level in Chuy Oblast (by 16.2 %), Osh city (by 14.2 %), and the Issyk-Kul Oblast (by 13.3 %), but in other regions of the country growth lagged the republican level. The country's gross regional product per capita amounted to 89.3 thousand KGS in 2017. The highest gross regional product per capita is in Bishkek and equals to 196.8 thousand KGS. The Issyk-Kul Oblast (138.0 thousand KGS), the city of Osh (112.5 thousand KGS) and Chuy Oblast (98.2 thousand KGS) all exceed the national average. Today, the lowest level of gross regional product per capita is in Osh Oblast (31.1 thousand KGS) and in Batken Oblast (38.9 thousand KGS).

Most of the regions need to develop effective sets of measures to attract investments and financing. In 2018, almost half of all foreign direct investments were attracted to the city of Bishkek (43.1 %), a third – to Chuy Oblast (29.3 %) and a sixth of them – to Jalalabad Oblast (15.1 %).

740 000 Kyrgyz citizens are currently registered as migrants in foreign countries, and numbers have been increasing in recent years. The rural areas in the regions are disproportionately suffering from the loss of able-bodied labor force and at the same time dependent on the remittances sent by the labor migrants.

The level of poverty is one of the important indicators to measure poverty in the region and is defined as the proportion of the population with income below the subsistence level. The overall poverty level declined from 37 % in 2013 to 22.4 % in 2018. The highest levels are in the city of Osh (35.5 %), in Batken Oblast (33.8 %), in Jalalabad Oblast (32.2 %) and in Naryn Oblast (30.6 %). The most prosperous regions in terms of socio-economic development are Bishkek (15.4 %) and in Chuy (15.6 %), Issyk-Kul (21.5 %) and Talas Oblasts (22.1 %). Significant differences in the structure, level and pace of development of the regions mainly result from deficiencies in the system of regional management in the country. In view of Kyrgyzstan's commitment to the SDGs and the principle of leaving no one behind, the development of the regions, therefore, became a core priority for Kyrgyzstan's development strategy.

2.2 Existing Challenges for Regional Development

Regional development requires multi-sectoral, multi-level governance and multi-objective (social, economic, environmental) strategies. The key challenges for regional development in Kyrgyzstan are linked to limited economic and private sector development in the regions, weak local and regional governance systems, as well as to the absence of systemic funding mechanisms to stimulate and support regional development.

To address these challenges, the Concept of Regional Policy of the Kyrgyz Republic for 2018-2022 identifies 20 Growth Point Cities as engine for regional socio-economic development. A number of key challenges remain regarding the implementation of the policy. For instance, the growth points should provide the basis for different economic production clusters. So far, integrated production clusters (covering entire value chains from raw material production to processing and marketing/sales in designated target markets) have been developed mainly around Bishkek and in Chuy Oblast. Also, growth points and economic clusters require an enabling environment with good-quality public services at the level of municipalities, cities, oblasts and central administration for their development. This relates to questions about the coordination and cooperation of different municipalities in growth point and cluster areas as well as about responsibilities, capacities and funding of the different levels of government to provide effective services to ensure an enabling business environment and investment climate (see also dedicated chapter on investment climate for a deeper analysis). At a country-wide level, additional questions relate to income, inequalities and disparities in the distribution of productive assets, public and private investments and wealth between different regions and municipalities and may benefit from further analysis and measures.

Based on the above, the following sections will provide analyses on the situation, regarding economic cluster development in the regions, the institutional arrangements for regional development and the funding mechanisms for regional development.

2.2.1 Economic clusters

The cooperation among and between the state and private sector can be improved. This challenge covers the full range of actors, from smallholder farmers and individual entrepreneurs to SMEs and larger companies, and can hinder the strategic development of growth points and economic clusters. Measures taken by the Government of the Kyrgyz

Republic on aspects of business development and investments in regional platforms and Business Service Centers do not meet all the needs of businesses on the ground. Also, complex bureaucratic procedures and corruption risks lead to some entrepreneurs having a negative attitude towards public institutions making them unwilling to formalize any cooperation with the state.

There is room for improving both quality and availability of existing services along the developing value chains in the regions. Essential high-quality professional advisory services for the private sector need further development to fully employ innovative production and processing technologies, including for veterinary support, processing, logistics, technical advisory, testing and certification, credit, marketing and others. This has an impact on sales of products, on its processing, sorting and packaging preventing private companies from entering new markets. Often trade and processing infrastructure (slaughterhouses, vegetable storage facilities, trade and logistics centers, etc.) are not developed based on comprehensive value chain analyses, which would need to take place in partnership with private businesses around existing or developing production and cluster centers in the regions.

Infrastructure constraints remain regarding roads, irrigation, electricity and water supply, and limited access to related information (e.g. legislation, subsidies, export opportunities) restricts business growth. The present infrastructure for production and social services is not always being used effectively, and sometimes in contradiction to existing rules of zoning and land management. While in the industrial areas of the cities the basic conditions for development are there, there can be shortages of electrical power. At the same time, in the capital and in the regional capitals the concentration of businesses leads to a rise in the costs of production factors and to a shortage of land.

Private sector needs and local production realities are not always systematically taken into account when developing national strategies and programs. Existing strategies and programs already outline approaches and measures to promote the economic development of the regions. These are often developed in a top-down manner, at times with limited consideration of the actual needs of the private sector and the local production realities, although the national strategic documents highlight the importance of the private sector in the socio-economic development of the country. More support might be catered or the organic growth of production clusters, which should reflect the needs and priorities of local communities and/or vulnerable groups. In addition, some programs do not yet sufficiently consider the continuously changing requirements, and the opportunities and limitations of the markets in which the country's economy has a competitive advantage in. Additional state support is needed to raise equity and fairness for smallholders and farmers. The policies could be more explicit regarding functions/areas of responsibility and interactions of the involved governance bodies.

Good practice shows that the promotion of regional economic development should build on strategies that reflect the requirements of the private sector, provide flexible solutions to tackle complex and changing market conditions, creates openings for both public and private sector stakeholders to enter new markets, and to increase competitiveness and maximize the prospects for economic cluster development.

2.2.2 Institutional mechanisms

Institutional arrangements and governance structures are not yet strong enough to support regional development efforts. In addition to the economic aspects for regional development, it is crucial that the interactions and alignments of local self-government systems with rayon, oblast and central government administrations, are well designed and defined to allow for an effective and sustainable implementation of regional development efforts. To this end, it is essential to establish effective systems for intergovernmental relations and to ensure competent local self-governments. This section describes the challenges regarding intergovernmental relations to regional development.

Roles and responsibilities need further clarification. There are several state partners responsible for various areas related to regional development, however, the coordination among them is challenging. There is no clear delineation between tasks and functions of the central state and the municipal authorities, which can lead to information gaps, duplication of efforts, as well as limited implementation of necessary tasks due to deficiencies in the legislation.

Alignment of state planning with local planning remains challenging. Processes to align state planning with local planning are highly complex and depend on strong coordination. The programs that are produced by state organs at the national level are not systematically aligned with the local programs for socio-economic development that are being produced by LSGs. In addition, it is also a challenge for municipalities to translate the objectives of centralized sectoral and regional programs into local socio-economic development plans, since there are no dedicated implementation mechanisms for these programs at the local level, and no earmarked funds are available for their implementation. Municipalities often do not have the necessary skills to apply modern methodologies to ensure socio-economic and spatial planning based on data, and even at the national level there is not yet a model for data-based planning and forecasting. Furthermore, planning at all levels is mainly focused on the top-down implementation of infrastructure projects often without thorough analyses of the local needs and priorities. There is currently no systemic dialogue platform and interaction mechanism between the hundreds of LSGs and the Government to facilitate and coordinate budget and strategic planning for the local and regional levels.

Accountability of local authorities. According to legislation, the relationship between local authorities and the population is based on transparency and accountability. In practice, local authorities often operate without citizen oversight. Local council deputies are often not aware of the importance of being accountable to their electorate, and this, in turn, can lower their responsibility for implementing their obligations. Citizens, and in particular women, interior migrants, ethnic minorities and other vulnerable groups, often do not have the possibility to involve local leaders in the solution if important questions and decisions in the life of the community.

The existing system of fiscal relations at the various different budget levels can be improved to better promote development of the regions and local governance. The existing equalization system does not incentivize local governments to increase their revenues, since any increase will automatically result in the reduction of their equalization grant from the republican budget. Thus, increasing local tax revenues does not necessarily lead to a real increase in local budget expenditure on regional development priorities, improvement of local services, or addressing community priorities. In addition, there are some transparency issues with the equalization formula. Neither municipalities nor the public have access to detailed information on how equalization grants are allocated, which may increase the risk of corruption and makes it difficult for municipalities to plan their budget. Furthermore, LSGs spend human and financial resources on implementing functions that are delegated to them by state-level structures, in many cases without proper funding from the republican budget, which can negatively impact their ability to fulfill their mandatory core functions. In addition, the list of issues of local significance has been expanding, but financing schemes have not been adjusted yet to fund these additional tasks.

Service delivery and private sector development at the local level should be made more effective to support regional development. The current situation on the delineation of functions among state bodies and LSGs leads to differences in the understanding of responsibility lines between governance levels and structures regarding regional development. The existing administrative and territorial structure with 453 rural municipalities and 31 cities, all of them with different size and capacity, is also a challenge for effective regional development. In addition, low capacity and high staff turnover make it difficult for LSGs to promote regional development in a strategic and comprehensive way. Low levels of compensation as well as low quality of life in the regions contribute to this high staff turnover. Finally, LSGs often have limited experience or mechanisms to support and effectively interact with the private sector. Municipal enterprises, such as drinking water supply providers, often face efficiency constraints and are hard to make profitable.

2.2.3 Funding mechanisms

The existing funding mechanisms do not allow for country-wide strategic investments to promote regional development. Regional development depends on private sector initiative but support from Government is needed to relieve binding constraints on development and growth. Constraints include a lack of local infrastructure, market facilities, services to support businesses, access to financing, and absence of a supportive policy environment. Effective investment programs to alleviate these constraints on private sector growth should be developed and funded.

There are significant disparities among the existing regional development funds. The existing system for financing regional development in the Kyrgyz Republic builds on seven Regional Development Funds (RDFs) and 36 District Development Funds. These development funds are primarily funded by resource extraction industries[2] and distributed by the Ministry of Finances of the Kyrgyz Republic but regional disparities in natural resource development has led to vast differences in the level of resources dedicated to regional development priorities in different regions.

The current dependence on financing of international development partners to implement infrastructure projects is unsustainable. Most state bodies and local self-governments do not have enough funds to cover repair and rehabilitation of infrastructure let alone fund new capital construction. Transfers to local governments from the republican budget are not enough to finance priority projects for regional development such as water/wastewater treatment, energy, roads, educational and health, and public buildings and facilities. In addition, local governments lack the capacity to identify which projects are most needed to enable development of local areas and to ensure accountability that funds are used well.

Allocation procedures for state funds to support regional development can be made more effective. Since 2018, regional development has been a major priority for the Government. Since the beginning of 2019 there are 512 million KGS in the regional development funds allocated for the support of development projects of local authorities and local communities. Two billion KGS have been allocated from the republican budget to promote SME development in the regions, however, it takes considerable time to implement the funds. In addition, at the local level there is a deficit of well-grounded projects that will contribute to real development.

2 A Decree of the Government of the Kyrgyz Republic no. 633 on the "Order of formation of regional funds" dated 10 November 2014 was adopted with the intention to facilitate the transfer of resources from extractive companies to support regional development. According to this Decree, subsoil users make regular transfers of two % of their revenues to the national budget. Additionally, there are flat payments from extractive companies when they obtain licenses.

2.3 Government Strategies and Programs

In 2017, Kyrgyzstan completed the implementation of the National Development Strategy of the Kyrgyz Republic for 2013-2017, in the framework of which the development of each region was linked to the implementation of 77 national projects that are directed towards the development of the economy of the country and regions. Special focus was put on agriculture: the efforts were aimed at addressing the lack of irrigation water, the development of transport infrastructure, implementation of the projects related to exploration and production of gold and other mineral resources at existing mineral deposits and those being prepared for development as well as the implementation of large-scale projects to ensure energy security of the country.

The National Development Strategy of the Kyrgyz Republic for 2018 has identified a priority direction of the regional policy focused on building the basic infrastructure of settlements that will improve the living conditions of the population. The administrative and territorial reform is planning to assess the correlation between the administrative boundaries and functional areas.

The medium-term program of the implementation of the national strategy for the period 2018-2023 provides for the implementation of 155 investment projects in the regions for a total amount of 13.1 billion USD. The projects aim to develop the following 12 areas: drinking water supply, irrigation, energy, industry, transport and logistics, mining, environment, processing of agricultural products, animal husbandry, crop production, horticulture, trade and logistics centers, information technologies, and social sphere.

The development of regions has become a central priority of state policy since 2018. The years 2018 and 2019 have been announced by the Decree of the President as the years of regional development and digitalization. The Concept of Regional Policy of the Kyrgyz Republic for 2018-2022 was approved by the Government resolution no. 194 dated 31 March 2017. An Action Plan has been implemented in the framework of these documents. It consists of 152 tasks and measures aimed at developing the regions, including the construction and launch of new enterprises, the development of transport infrastructure, construction of irrigation facilities, rehabilitation of drinking water supply and sanitation system as well as infrastructure development in healthcare, education and culture.

On 24 September 2018, the President of the Kyrgyz Republic issued decree no. 189 “On measures to conduct an administrative and territorial reform (ATR) in the Kyrgyz Republic,” in order to support more effective territorial administration and regional development. Government regulation no. 461 was issued on 28 December 2018 to adopt a Roadmap for a gradual reform of the administrative and territorial organization of the country.

In the framework of the priorities and tasks of the unified state policy of the country, sectoral program documents aimed at regional development have been implemented by joint efforts of the Government of the Kyrgyz Republic and international development partners.

In addition, a number of strategic documents are being implemented with the aim of creating an enabling environment and providing the state support to entrepreneurs:

- the Export Development Program of the Kyrgyz Republic for 2019-2022,
- the State Irrigation Development Program of the Kyrgyz Republic for 2017-2026,
- the Program for the creation and development of trade and logistics centers for agricultural production in the Kyrgyz Republic for 2019-2023,
- the Concept of development of the agricultural cooperatives’ movement in the Kyrgyz Republic for 2017-2021,
- the Concept for creation and launch of service centers for entrepreneurs for 2019-2022,
- and the Concept for the development of organic agricultural production for 2017-2021.

To solve issues related to local self-governments and the needs of the population in the regions the following programs/strategies are being implemented:

- the Program for Local Self-Government Development for 2018-2023,
- the State program to ensure the security and socio-economic development of particular border areas of the Kyrgyz Republic,
- the Strategy for development of drinking water supply and sanitation systems of settlements of the Kyrgyz Republic until 2026,
- the Program for the development of the irrigation system of the Kyrgyz Republic for 2017-2026,
- the Program for the development of master plans for cities and settlements of the Kyrgyz Republic for 2017-2030,
- the Government Program for Tourism Development for 2019-2023,
- and the Concept for Digital Transformation “Digital Kyrgyzstan 2019-2023”.

In addition, the National Development Strategy of the Kyrgyz Republic for 2018-2040 notes that Kyrgyzstan will strive to achieve the Sustainable Development Goals (SDGs). Kyrgyzstan is committed to mobilizing efforts to end all forms of poverty, malnutrition, fight inequality and tackle climate change while ensuring that no one is left behind.

2.4 Priority program areas in need of support

To address the key challenges for regional development in Kyrgyzstan identified in Chapter II, additional targeted and strategic efforts are needed by the national, regional and local stakeholders, as well as by the national and international business community and international development partners. It is important that the efforts are focused on key priorities for reform and change and are well aligned among all stakeholders. Thus, the Kyrgyz Government and the international development partners are committed to strengthen their efforts and collaboration to promote regional development, namely in the areas of: a) economic cluster development in the regions; b) institutional arrangements for regional development; and c) funding mechanisms for regional development. The paragraphs below outline the identified reform orientations to be considered for following up as a result of the Development Forum.

2.4.1 Economic clusters

The Government and the Development Partners together with the private sector and civil society acknowledge the need to develop an implementation framework for economic clusters as drivers of regional economic development. The government with development partners, civil society and the private sector should develop such a framework with the following key principles in view:

Market-Driven Economic Cluster Development. Markets with Kyrgyz competitive advantage should be identified and mapped, the opportunities and requirements of these markets should be benchmarked, and the consequential actions and interventions should be developed keeping these requirements in mind. This is to ensure that private stakeholders have access to realistic business opportunities where they are able to create jobs and increase income.

Private-Sector-Led Economic Cluster Development. The business interests and market opportunities of private stakeholders should be the key driving force in the development of a given cluster. This will ensure a sustained impetus for development that is carried by the private sector and not dependent on (or limited to) public funding or changing political priorities. In fact, the cluster should ensure sustainable growth of regional economies through the formation of effective combination of multiple value chains as catalysts.

Private-Sector-Focused Enabling Business Environment. Government institutions should further focus on the needs and opportunities of the private sector as a starting point, and strive towards providing the necessary legal framework, needed services and required infrastructure with special focus on the vulnerable groups, including smallholders, with regard to social and environmental resilience to promote development.

Gradual, Bottom-Up Economic Cluster Development. Bearing in mind the complex and constantly changing market requirements, private stakeholders (with government support) should avoid planning 'from the end', but rather begin small and evolve in scope and complexity with lessons learned and needs identified. This also allows for a gradual growth in trust between cluster stakeholders, thus providing the time and opportunity for social capital to grow towards increased business co-operation and mutual learning.

Enhanced Cooperation and Competition ('Co-opetition') Between Stakeholders of Economic Clusters. While cooperation is crucial among the private stakeholders to achieve e.g. the quantity, quality and time needed to comply with the requirements of advanced markets (e.g. large retailers in the EAEU), an element of competition – both between producers, processors and service providers - should be maintained to ensure that there is an intrinsic motivation for all to perform to the best of their ability. A special attention should be given to the needs of the small entities, whereas the current policy is mainly oriented to the big actors.

2.4.2 Institutional mechanisms

The Government and Development Partners acknowledge the need to establish an inclusive consultation mechanism to advise on improving institutional arrangements to support regional development, which should include civil society and the private sector. The consultation mechanism should serve as dialogue platform to assess and address challenges and limitations related to institutional arrangements, including both horizontal and vertical issues within the public sector. This should include a clear delineation of duties and responsibilities at different governance levels with a view to regional development are important prerequisites for the design and implementation of the planned administrative and territorial reform as a key instrument of regional development.

Based on identified priorities and need for action, development partners could provide technical assistance at the request

of the Government to support the revision of ineffective institutional arrangements and preparing the ground for an administrative and territorial reform.

Core issues with a need to be discussed and addressed in the consultation mechanism relate, for instance, to the following:

Designation and confirmation of clear responsibilities for regional development within relevant and involved state bodies. The concept of the "region" and subsequent functions and responsibilities for regional development should be translated into the existing administrative and territorial structures (municipality, rayon, oblast, and national level) of the Kyrgyz Republic.

Harmonization of state planning with local planning, as well as local socio-economic planning and spatial planning based on the interests and needs of local population. Social and economic planning should be based on a national spatial and governance model that links the various levels of governance. It should ensure the implementation of national programs and interests, while also considering the consideration of the interests and needs of local communities. The development of mechanisms for building dialogues or interactions between local governments and the national level (including through municipal associations) should receive support. This is also highly relevant in view of monitoring the achievements of the SDGs. To ensure sustainable effects, the strategic planning and local development should take climate change dimension into consideration. Climate change will foremost affect the water resources which are a crucial resource for food production, energy security and for economic growth. Thus, coordination by the water agency, basin authorities and other national stakeholders and involvement of affected communities and municipalities in integrated water resource management planning processes needs to be applied (see also dedicated chapter on water resources for a deeper analysis). The implementation of the Agenda 2030 in Kyrgyzstan builds on a strong ownership and guidance from the national Government and the civil society but involving regional and local stakeholders will be critical as many of the efforts are needed at the subnational level.

Improvement of the accountability of local governments. An enabling political environment should be created for strengthening accountability to the citizens. Good interaction practices of local governments with the local population should be replicated and replication mechanisms established or strengthened by the Government, with the support of development partners and civil society. Mechanisms and practices of public monitoring and evaluation of LSG work should be further developed and promoted. Capacity and competence of local council members should be strengthened by introducing a compulsory training system on their functions and mandates.

Improvement of the budget equalization system. There is need for support from the development partners in improving the budget allocation formula for equalizing grants, so that new budget policies can be formulated at the local level. This will include development budgets in all rural municipalities of the Kyrgyz Republic, with dedicated funding sources. The Ministry of Finance and the LSGs should promote, and the development partners should support, gender-responsive and socially inclusive budgeting.

Promotion of management structures for effective service delivery and private sector development at the local level. The Government, with support from development partners as needed, should seek to optimize the governance structures and better delineate the functions between state bodies and LSGs as well as specify the list of issues of local significance (incl., through the development of the LSG Code). Development partners should support the Government also to assess the capacities of the regions for managing regional development (e.g. through inter-municipal cooperation, territorial consolidation, or assessment of functional areas[3] to inform an administrative and territorial reform). Some service delivery functions should be transferred to a regional level, e.g. waste disposal and environmental protection. Mechanisms should be established by key stakeholders (LSGs, civil society, state agency) to improve the capacity and motivation of local government employees through horizontal interaction and knowledge exchanges, including through unions and associations. A comprehensive performance evaluation of state bodies, including local self-governments, should be introduced to assess achievement of development indicators. Specific formats and platforms for public-private dialogue should be developed.

Support to the development of the 20 growth point cities within the framework of the implementation of the regional development concept. It is important to continue working towards the production and implementation of programs for the socio-economic development of the growth point cities. From the development partners' side, support can be directed towards reforming the municipal administrations, as well as towards direct investments into key economic objects that will give an impulse to the development of growth point cities.

3 The term 'functional area' refers to the understanding of a space – whichever this may be (municipalities, regions etc.) – because of how various interactions happen within that space: how it is used by inhabitants, and how various government or economic entities collaborate within it. The identification of functional areas based on the interests of citizens might be a good basis for consolidation of territories during the administrative-territorial reforms.

2.4.3 Funding mechanisms

The Government and the Development Partners acknowledge the need to establish a program-based system to finance the operation and maintenance of the country's assets and ensure effective investment in the regions with civil society participation and public oversight. The Government should continue its efforts to establish a program-based system with dedicated funding sources to fully fund the operation and maintenance of the country's infrastructure and effectively allocate funds to investment projects needed to support regional development. A programmatic approach to financing regional development would dedicate sector revenues sufficient to ensure sustainability without depending on uncertain annual budget allocations. The current budget allocations and domestic sector revenues are based on fees, user charges, taxes and utility tariffs. The existing system often does not allow for infrastructure cost recovery and makes it hard to ensure sustainability in most sectors, especially with regards to maintenance, rehabilitation and new investments into infrastructure. The steps needed to develop a fully funded sector program are as follows:

Identification of sector revenues. As a first step to rationalizing and stabilizing funding for regional development, existing sector revenues, such as for agriculture, tourism, and transport, should be ring-fenced to help stabilize sector financing and clearly expose the financing shortfalls in each key sector.

Establishment mechanism to program regional development projects that is integrated into a national system of comprehensive planning. Government financing for regional development needs to flow through sector and regional programs that are transparent and accountable. Existing regional development funds could be adapted to this purpose or a new regional development program could also be established. In either case, the regional development programs need to be aligned with the National Development Strategy of the Kyrgyz Republic till 2040 and regional development strategies and coordinated with other ongoing investments. Whatever the mechanism, the Government needs to establish a transparent and accountable system to plan, prioritize and select regional development projects based on sound economic analysis. Full application of the planned technical assistance for program-based budgeting by the Ministry of Finance with support by development partners will be a critical milestone. Efforts to digitalize financial management and planning processes should be further promoted as basic tools allowing to improve comprehensive planning.

Increased domestic financing to ensure sustainability and fund regional development projects. After the operations and maintenance needs of existing infrastructure are estimated and the highest priority investment to support regional development are identified, a government strategy to balance funding needs and revenues should be developed. The initial program may incorporate development partner financing for new investment, but domestic resources should cover operations and maintenance needs of each sector to ensure sustainability. Sectors that require ongoing subsidies to be sustainable, such as energy, transport and water will need to identify reliable domestic funding sources.

Establishment of a local funding share to finance local projects which could vary by Oblast to provide high subsidies to poorer regions and lower national transfers for wealthier Oblasts. Local government contributions and involvement improve ownership and local accountability for regional development. However, to more effectively use resource extraction royalties to promote the development of the regions, the funds of regional development funds or other regional development initiatives, should be pooled nationally and allocated strategically in line with the development strategies and based on need rather than concentrated in the Oblast in which the resources are extracted.

A transition away from development partner financing for investments is a longer-term proposition. But establishing a system for ensuring that existing investments are sustainable will provide a structure that can scale and grow with the economy of the Kyrgyz Republic, in order to take over an increasing share of future investment needs.

3. INVESTMENT CLIMATE

3.1 Sector Analysis since 2013

There are some common factors that potential investors consider when deciding which country to choose for their investments. As a rule, they concern macroeconomic indicators, security, political and financial stability, market size, access to world markets, legal environment, taxation requirements and etc.

In 2015, Investment Climate Project of the World Bank Group carried out a survey of foreign investors in the Kyrgyz Republic. Similarly, in 2016 and 2018, the Chamber of Commerce and Industry of the Kyrgyz Republic conducted a survey among its members on the topic "What stands in the way of your business development?". The survey included 112 participants. The results of these surveys are almost similar and the main internal barriers for investors are the following:

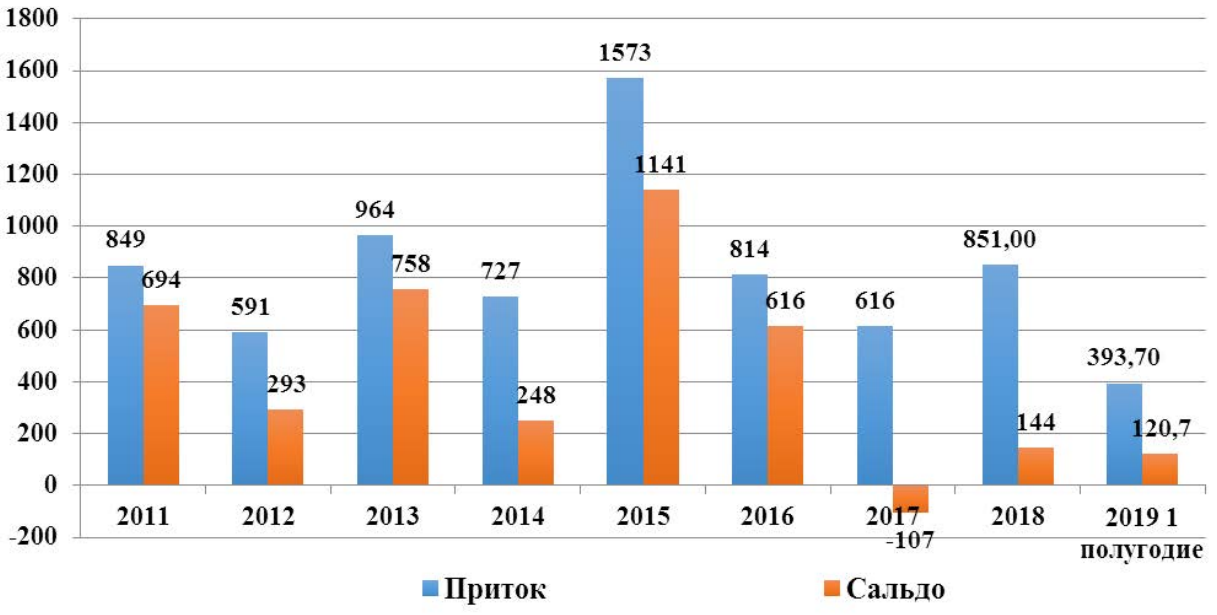
- the high level of corruption;
- excessive red tape in doing business;
- underdeveloped infrastructure;
- shortage of skilled labor, and others.

Another problem concerns the actions (or, in part, inaction) of state authorities regarding the settlement of investor complaints. One of the reasons for this are the frequently changing and sometimes intransparent rules for submitting documents and obtaining licenses, as well as frequent changes in legislation. As a result, as of 1 August 2019, according to data from UNCTAD's Investment Dispute Settlement Navigator, the Kyrgyz Republic was involved as a defendant in 14 publicly known arbitration disputes: six cases were resolved in favor of investor, three cases were settled, two cases were dismissed, and three cases are still pending. Apart from the question of the impact on the investment climate, such international trials are also an expense for the budget of the Kyrgyz Republic.

However, it should be emphasized that these surveys were conducted four years ago, after which the Government managed to make significant efforts to address the problems, as evidenced by the international recognition and statistics. For example in Doing Business 2020 Kyrgyzstan entered the top 20 reformer countries, thanks to improvements on the indicators: "Getting Electricity", "Paying Taxes" and "Getting Credit". In the World Bank Doing Business 2020 ranking for 2018-2019 period, Kyrgyzstan was placed 80th, a ten-place drop. By comparison, it had been placed 70th in Doing Business 2019 and 77th in Doing Business 2018, respectively.

Investment climate improvements are evidenced by the growth of foreign direct investment inflows: at the end of 2018 it amounted to 851.7 million USD, and compared with 2017 it increased by 38.1 percent. At the same time, the inflow exceeded the outflow by 144.2 million USD.

Figure 1. FDI inflow for 2011-2018 and the first half of 2019 (in million USD)



3.2 Existing investment climate challenges

In spite of measures undertaken by the state to improve the investment climate in the country, there are certain barriers to foreign investment inflow that adversely affect the investment image of the state and have an impact on investor interest in doing business in the Kyrgyz Republic. One contributing factor is the sometimes imperfect implementation and enforcement of existing laws. Whenever gaps exist between legislation and the regulatory framework on the one hand, and their implementation and enforcement on the other, it places major constraints on long-term investments. Other contributing factors are the significant levels of corruption and excessive red tape. This, in turn, results in the growth of the shadow economy, depriving the state of budget revenues. Yet other barriers have to do with the difficulty to prepare good feasibility studies and business plans, especially for infrastructure projects, and the difficulty of acquiring long-term financing for such projects.

3.2.1 Corruption and red tape

The high level of corruption and excessive red tape that investors complain about when launching and doing business are caused by the following factors:

- **Lack of investor confidence in government agencies regarding investor protection and rights.** Investors do not trust the current system for complaint handling by judiciary, and they also experience discrimination in rendering pre-trial and judicial decisions. In addition, there are reports about a lack of guarantees from the state in terms of protection of property and in matters of tax administration, including the return of VAT on exports. There is room for improving the coordination between different levels of government, as well as the implementation of laws and regulations as well as the enforcement of agreements.
- **Interference of law enforcement and fiscal authorities in the operation of business entities**, which results in departure of entrepreneurs into shadow sector, increased corruption, loss of tax revenues, reduced business activity and, ultimately, net capital outflow from the country.
- **Difficulties associated with obtaining connections to utilities (power, heating, other utilities), as well as long procedures of land transformation.** In practice, investors are faced with bureaucratic red tape and spend a lot of time and effort to overcome administrative barriers. The main processes delaying the start of construction are associated with obtaining permits and access to utilities, as well as land transformation. As a result, it can take one to three years for an investor to prepare the necessary documents and launch a production enterprise.
- **Lack of communication with the local population, and conflicts caused by poor awareness about the future project and its possible benefits.** Conflicts of investors with local population are becoming a real obstacle to direct investment inflow. The main reasons why local communities are protesting can be explained by the presence of environmental risks, by the deterioration of infrastructure facilities (such as roads), by a lack of local community awareness of the technologies being used, and by pressure on natural resources, such as, for instance, cutting down especially valuable tree species during implementation. Conflict situations between foreign companies and local population arise not only from environmental risks, but may also stem from differences in cultural practices, traditions and mentality between the representatives of foreign investors and the local population that compound over the years. As a result, protests of the population sometimes even lead to clashes, and the state is not always capable of providing security for the investors.

3.2.2. Infrastructure projects and funding

There is strong competition for attracting investment into long-term infrastructure projects in the world. Holders of foreign capital have wide choices, and they normally prefer to invest in more mature and larger markets and into countries with developed infrastructure and skilled labor. In order to be able to compete better, the Kyrgyz Republic should try to overcome the following challenges:

- **Lack of quality business plans and feasibility studies to attract investors to infrastructure and other investment projects.** One of the main obstacles to attracting foreign investment is the fact that potential investors or representatives of foreign capital mostly do not yet receive specific proposals for investment projects that are already accompanied by feasibility studies and business plans that conform to the requirements of financial and lending institutions. Only for public-private partnership projects has this issue been partially resolved, thanks to the identification of clear requirements and and the standardization of a project preparation sequence, as well as through the introduction of tools to finance the preparation of feasibility study preparation for PPP projects (by the Law of the Kyrgyz Republic “On Public-Private Partnership in the Kyrgyz Republic”, no. 95 of 22 July 2019 and by the recently-established Fund for financing the preparation of PPP projects).

However, even if for PPPs the issue of supporting the preparation of feasibility studies and business plans has been partially resolved, in the case of direct investment projects this problem remains unsolved.

- **Sources of funding.** Currently most government investments are funded by the development partners and other donors, mainly through concessional loans to the government and, to some extent, through grants. However, such financial support through loans has strong limitations because of the threshold for maximum external debt enshrined in the fiscal policy of the government of the Kyrgyz Republic.

  The limits of the state budget in the Kyrgyz Republic therefore remain an obstacle also to the development of PPPs and attracting foreign investment. There are practically no domestic sources for private infrastructure financing, and the weak economic basis of the country means that the Government only has limited options to issue long-term securities to finance infrastructure.
- **Lack of long-term funding of the private sector.** The structure of lending is dominated by short- and medium-term lending, and debt financing comes at a high cost. With high interest rates on loans, projects are harder to make profitable, as the requirements of servicing the debts incurred for the initial investment are higher.

3.3 Government strategies and programs

The following strategic documents in the Kyrgyz Republic address the objective of improving the investment climate.

1. In order to improve the investment climate within the framework of the National Strategy for Sustainable Development 2018-2040, a range of tasks was included, including improving the judicial system and anti-corruption policies, diversifying the economy, stimulating the development of the private sector, promoting formalities and ultimately reducing poverty. The role of domestic and foreign investors is identified as key in this strategy.
2. In the Program of the Government of the Kyrgyz Republic “Unity. Trust. Creation” approved by Resolution no. 2377-VI dated 20 April 2018, the formation of legislation acceptable to the investor and the minimization of investment risks are defined as the basis of the investment policy of the country. At the same time, the Government provides access to economic information and implements the principle of an investment package or lot for an investor, which will include basic infrastructure (transformation and allocation of land, connection to water, electricity, etc.). The introduction of new tools of fiscal and administrative stimulation of the economy through the introduction of tax preferences, changes in the audit system, as well as simplification of reporting forms in priority areas are also presented in the Government program, thus aiming to stimulate the improvement of the country's investment climate.
3. The program for public-private partnership development in the Kyrgyz Republic for 2016-2021 also aims at makes a contribution to improving the investment climate in the Kyrgyz Republic. Thus, the Decree no. 327 of the Government of the Kyrgyz Republic, dated 16 June 2016, clearly defines the requirements and the sequence for preparation of projects, as well as the tools for funding the preparation of a feasibility study for PPP projects (Law of the Kyrgyz Republic “On Public-Private Partnership in the Kyrgyz Republic” no. 95 dated 22 July 2019, and the Fund for Funding the Preparation of PPP Projects).

3.4. Priority reform areas in need of support

Based on the identified problems and challenges, the following reforms and solutions are proposed to improve investment climate in two priority areas that deserve attention. It is important that these reforms will be aligned with state policies and strategies in the field of regional development, in particular with regards to attracting investment to the development of economic clusters in the regions

3.4.1 Creating favorable conditions

It is recommended to conduct a set of reforms to create favorable conditions for attracting investments and to strengthen protection mechanisms and guarantees for investors. In particular, it is recommended to:

1. Develop a national investment program or strategy for attracting investments;
2. Broaden the functions of the state organ with the mandate to protect investors' rights with respect to complaint handling. It should have the right to coordinate government bodies, including local governments;
3. Develop efficient mechanisms for extrajudicial dispute settlement through institutions of mediation, such as the business ombudsman, but also others;

4. Implement reforms in the judicial system: economic and investment cases should be considered by individual courts (for example, an arbitration court may be an alternative court), thereby increasing the impartiality and professionalism of the national judicial system;
5. Eliminate legislative provisions that provide loopholes for, or sometimes even stimulate, interference by law enforcement and fiscal authorities in the operation of business entities;
6. Strengthen the responsibility of state organ tasked with explaining to investors the requirements for compliance with environmental and technical standards, so that compliance is assured before production activities are started. This also includes corporate social responsibility, so as to ensure that a company's operations are flanked by initiatives resulting in positive social effects;
7. When granting the right to develop investment projects, the relevant state authorities should include elements of corporate social responsibility of investors already in the tender documentation;
8. Develop a program or instructions for entry of foreign nationals planning to stay in the Kyrgyz Republic with work or investment visa and for working with the local population.

3.4.2 Infrastructure projects

It is recommended to stimulate the implementation of infrastructure projects in social and real sectors by various investment mechanisms. In particular, it is recommended to:

9. Establish a Kyrgyz Fund for Infrastructure Projects, or merge existing Funds at the central level to provide long-term borrowings in national currency, due to limited ability to provide such funding by the domestic banking sector. Possible sources of financing the operation of the Fund may include the state budget, financial development institutions, pension funds and social insurance funds, the capital market and so on;
10. Enshrine in law the function of the state organ mandated to prepare business projects and feasibility studies for investment projects, after these projects have been initiated and proposed by line ministries and state institutions, so that the projects comply with the requirements of financial institutions;
11. Make an inventory of the availability of land by district and region, and designate "free" plots or lands that do not have agricultural value for quick and immediate transformation for implementation of any investment project (industry, construction of renewable energy facilities, etc.), where potential investors will be attracted; simplify the procedures for land transformation at the legislative level.

Develop a program for providing educational services for school, vocational and higher education within the framework of public-private partnership.

4. HUMAN CAPITAL

4.1 Sector analysis since 2013

4.1.1. Dynamics of SDG 1, 3 and 4 for the period from 2013 to 2018

The development of human capital means that citizens should have access to services that improve the quality of life and allow them to develop skills. This especially includes modern skills that will allow them to be competitive and effectively participate in labor or other socially recognized activities. Within the framework of the Development Forum, the Human Capital sector encompasses issues related to education, health and social protection.

In general, it should be noted that the population growth rate of Kyrgyzstan in 2018 amounted to 1.9 %. Out of a total population of 6.3 million people, the proportion of children aged 0-18 years is 42 %, 59.8 % of the population is of working age, and 7.5 % are over working age. The total fertility rate is 3.9 births per woman, while the percentage of mothers under 20 in 2018 was 5.0 % (according to NSC). According to UNDP, Kyrgyzstan ranks 122nd out of 189 countries and is included in the group of countries with an average Human Development Index, while in 2013 it ranked 125th out of 186 countries.

SDG 1: End poverty in all its forms everywhere

For the period 2013-2018, this indicator shows a positive dynamic is noted for this indicator: the **poverty rate** has decreased from 37.0 % to 22.4 %; extreme poverty decreased from 2.8 % to 0.6 %; the poverty level among the employed population decreased from 30.2 % to 15.5 %, with indicators of 16.6 % for men and 13.6 % for women.

The share of **informal sector employment** decreased from 72.0 % to 68.5 % (74 % for men, 59.7 % of women), and for children aged 5-17 years involved in child labor, it decreased from 27.8 % to 26.7 % (33.6 % for boys, 19.0 % for girls).

Labor productivity (gross value added per employee) increased from 172 247 to 250 827 KGS, the overall unemployment rate decreased from 8.3 % to 6.2 %, and the average nominal **monthly wage** increased by 39 %, from 11 341 to 15 778 KGS. The guaranteed **minimum income** increased by 40.6 %, from 640 to 900 KGS.

SDG 3: Ensure healthy lives and promote well-being for all at all ages

Over the current period, the average **life expectancy** of the population in Kyrgyzstan increased from 70.2 years in 2013 to 71.3 years in 2018: with the expected life expectancy, the probability of surviving to retirement age is 90 % for women and more than 70 % for men. **Child mortality** under the age of five years decreased from 23.3 deaths per 1000 live births in 2013 to 17.3 cases in 2018, and the MDG goal of reducing child mortality by 2/3 compared with 1990 was achieved in 2015. **Maternal mortality** per 100 000 live births decreased from 50.1 cases in 2014 to 30.4 cases in 2018. At the same time, 92 % of women aged 15-49 are covered by different types of health insurance. **Infant mortality** per one thousand live births also decreased from 19.9 cases in 2013 to 14.8 in 2018. However, the main causes of death of children under the age of one year in 2018 (affecting more than 50 % of newborns who died) were diseases and conditions that occur in the perinatal (postpartum) period.

Mortality from **cardiovascular diseases** decreased from 308.2 cases in 2013 to 265.7 in 2018. The incidence of tuberculosis from 102.4 cases per 100 thousand of the population in 2013 to 83.0 cases in 2018. Mortality from **tuberculosis** decreased from 8.1 cases per 100 thousand of the population in 2013 to 4.6 in 2018. At the same time, the **HIV indicator** increased from 8.4 per 100 thousand in 2013 to 13 in 2018. There has been an increase in cases of sexual transmission of HIV infection, which makes up 46.7 % of all new cases, compared to the parenteral transmission route at 41.3 %.

SDG 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

According to the 2009 Census, the literacy rate of the population aged 15-24 was 99.3 %, while the literacy rate among women was 0.1 % higher than among men. Nevertheless, functional literacy of youth remains a problem. The total **educational enrollment rate** for the population aged 7-24 years increased from 70.4 % in 2013 to 76 % in 2018.

The number of **kindergartens** has increased from 819 in 2013 to 1 497 in 2019, providing pre-school education coverage from 17.5 % to 26.2 %, respectively. The number of variable forms of providing early child education in the form of short-term kindergartens is expanding. Preschool education has been introduced, which covers almost 100 % of children aged 6-7 years. In total, according to MICS, 40 % of children are covered by all forms of early child education.

Since 2013, there has been an increase in **school enrollment** for children of the corresponding age (grades 1–11) from 90.2 % to 98.8 % in 2018, or from 1 012 000 students to 1 268 000. The gender disaggregation of the net indicator "Attendance at a basic general school" remains at 50/50. At the same time, at the high school level (in grades 10-11) a decrease in attendance is observed to 87 %, and among girls this indicator is 85 %.

Primary **vocational education** is attended by 10.2 % of the population aged 15-17 years, 70 % of them men and 30 %

women. Secondary vocational education is attended by 22.5 % of the population aged 17-20 years, among which men make up 43.8 % and women 56.1 %. Higher educational institutions are attended by 19.6 % of the population aged 17-24, among them 47.1 % are men and 52.8 % are women.

25.74 % of the total population are youth (aged 14-28 years).

4.1.2. The most important changes in the sectors for the period 2013-2018

In order to alleviate poverty and improve the situation of socially disadvantaged citizens, the Government of the Kyrgyz Republic is actively using the provision of state social benefits and services, taking into account the real capabilities of the state. Despite the economic difficulty, the state fully implements its social obligations. According to MICS-2018, 52 % of all households are covered by various benefits. For the period 2013-2018, measures were taken to improve state support for socially unprotected categories of citizens, by increasing the size of social benefits (low-income benefits, benefits for people with disabilities), by introducing new types of support (personal assistant, baby bonus [balaga suiunchu]), by developing a market for social services, creating conditions for obtaining education and training, employment, social services etc. The state has implemented a system of procurement of social services from the non-state sector that has shown good effects for vulnerable groups. For the period 2013-2018, the volume of financing of state social procurement increased from 13.8 million to 36.0 million KGS.

In 2019 Kyrgyzstan ratified the UN Convention on the Rights of Persons with Disabilities, which will expand the participation of people with disabilities in the civil, political, economic, social and cultural life of the country. Drafts of the Priority Action Plan for the implementation of the provisions of the Convention on the Rights of Persons with Disabilities for 2019-2022 and the “Accessible Country” Program have been developed. In the field of eradicating gender and family violence, legislation has been toughened regarding early and forced marriages, and a comprehensive set of measures (including legislation) have been taken to guard and protect against domestic violence, including work with perpetrators of violence.

In order to create the conditions necessary to protect and strengthen the health of the population, the “Den Sooluk” National Program for Health Care Reform of the Kyrgyz Republic for 2012-2018 was implemented. Its objective is to reach the entirety of the population, regardless of social status and gender. In the field of food security, a Food Security and Nutrition Program in the Kyrgyz Republic for 2019-2023 was adopted.

The state adopted competency-based educational standards, safety standards for the educational environment, and a Concept for the development of inclusive education in the Kyrgyz Republic. In order to support young people, a youth policy development program is being introduced. A number of initiatives are related to digitalization and innovation, such as the electronic queue for kindergartens, electronic enrollment of children in 1st grade, pilot sites for multilingual education, innovative schools, both state and independent accreditation, digital educational platforms for the supplementary education of schoolchildren, and a national repository of open educational resources. 94.7 % of schools have Internet access, 60 % provide hot meals. The salaries of teachers became equal to the mean salary in the country and have received another 30 % increase (on average) since 1 October 2019. Private kindergartens and schools are exempt from income tax, and 50 % of educational institutions of primary vocational education have been reconstructed with facilities for people with disabilities. Electronic licensing of educational activities is being introduced, and seven research institutes at the country's universities have been created to accumulate scientific potential.

4.2. Existing human capital challenges

Key issues that still need improvement are the limited financial resources, corruption risks, coordination, and access to basic public and social services.

4.2.1 Management, coordination and financing

68.9 % of the population’s income is generated from labor activity. This indicator is associated with a high share of employment in the informal sector, which is characterized by low quality jobs, low wages and lack of access to social protection. Unfortunately, despite the growth of labor productivity, its level continues to be quite low, which explains the low growth rate of real wages, as a result of which poverty among the employed population is still a problem that needs to be addressed.

At the same time, violations of labor legislation are also observed, and there are wage arrears. In addition, the wages of public sector employees are two times lower than the general wage level in the economy. The minimum wage is almost ten times lower than in other CIS countries. The overall unemployment rate among women is higher than among men: 8.9 % versus 5.6 %, and the average ratio of women's wages to men's is 71.6 %. Young people make up a significant part of the unemployed population and do not have the opportunity for decent work, which forces many of them to migrate to

other countries in search of work. Among workers, more than 1000 citizens annually report a violation of their labor rights, and about 130 accidents are investigated annually in different industries.

Early marriages remain a problem in the country. According to the results of MICS-2018, every 11th teenage girl aged 15-19 years is currently married. About 13 % of women aged 20-24 years first entered into a civil or official marriage before the age of 18 years. According to the results of the "Gender in the Perception of Society" survey in 2016, bride abductions are still very widespread. The issue of violence against women remains relevant. According to the results of MICS-2018, 35 % among women aged 15-49 in rural areas and 22 % in urban areas consider it justifiable when a husband beats his wife.

The State Guarantees Program in the field of health care (SGP) does not cover all expenses, which is compensated by cash payments to the population.

Despite the high coverage of children in educational institutions, the main challenges for the education sector remain the lack of funding, highly qualified teachers and the need to improve the management of the sector. Schools are financed at 86.6 % of the minimum standards for normative financing, which corresponds to a deficit of two billion KGS per year. The minimal funding requirements of schools for computers are covered to 10 %, the professional training of teaching staff to 42.5 %, ongoing repairs to 24 %, and school meals to 84 %. Equipping schools with furniture and laboratories is not financed from the republican budget at all, while in about 30 % of those schools that do not offer hot meals there is no water supply and sewage. 30 % of professional lyceums need new material and technical equipment.

The volume of funds allocated to science as a percentage of GDP decreased from 0.12 % of GDP in 2013 to 0.08 % of GDP in 2018. In scientific institutions basically only two protected items of expenditures are financed: wages and social security payments. No funds are available for equipping scientific laboratories and conducting quality research.

4.2.2 Access and coverage of services in education, health and social protection services

A significant part of citizens continues to experience difficulties with access to services, especially in remote regions, as well as in slums. In addition, some groups of the population, such as HIV-positive persons, are faced with stigma and discrimination when applying for social or medical services.

The mechanisms for involving low-income and needy families in active measures for employment promotion need further development. Here more men are living below the official poverty line than women, at 26.3 % vs. 25 % respectively. The employment rate for people aged 15 years and older is significantly higher for men than for women, representing 71.1 % and 41.9 %, respectively. There remains a negative dynamic of the share of women in the economically active population, which dropped from and 43.0 % in 2014 to 39.1 % in 2017. The systems for preventing and lowering the risks of disability is still need improvement. In particular, people with disabilities often do not have physical access to receive the necessary services.

Despite existing state policies of support for families with children, protection of children's rights and interests, there are problematic issues that require a more integrated approach. For example, the MICS-2018 study shows that 12 % of children have at least one parent abroad among migrant workers. However, the share of all crimes committed against children where the children had been abandoned by labor migrants is 47 %, and the share of crimes committed by children of migrants among all crimes committed by children is 28 %. 47.5 % of children had been subjected to physical punishment at least once, and 5.4 % of children to severe physical punishment. One of the problems here is related to decentralization, because in the system of protecting families and children, the district administrations of the respective ministries do not have a primary representative (such as a social worker) in the municipalities. The financial and human resources that are available at the district level are not sufficient to cope with the burden of identifying, tracking and monitoring the situation of children in difficult life situations and their family, making it hard to implement measures to guard and protect against family and gender-based violence.

The State Guarantee Program does not provide the level of effective universal access to quality health care that would be necessary to achieve significant improvements to public health indicators. In particular, there is not yet an optimal network of medical institutions with a clearly defined interaction of primary, secondary and tertiary levels. Medicines in the health care system are not adequately managed, which affects the health of the population and the achievement of goals in financial protection and universal health coverage. The incidence rate among the main classes of diseases with a newly diagnosed disease is higher among men than among women (58.5 % versus 41.4 %). The incidence of anemia is higher among women (64 %) than among men (36 %).

According to the MICS-2018 study, 12 % of children in Kyrgyzstan under the age of five years are stunted due to chronic or periodic malnutrition. 26.7 % of children are involved in child labor. Moreover, the prevalence of child labor is higher among boys, representing 33.6 %, than girls, representing 19 %. 73.8 % of children aged 3-5 do not have access to early childhood education due to the lack of places in kindergartens. It is necessary to build at least 162 kindergartens

for a total cost of 11.3 billion KGS. The gender ratio in children participating in the Early Learning Programs, according to MICS-2018, is 38 % of girls to 40 % of boys.

Out of 2265 schools in the republic, 385 require major repairs, another 198 are classified as dilapidated and require new construction. From 2012 to 2018, the number of three-shift schools in the country increased from 66 to 158 with coverage for almost 30 thousand children. According to demographers, a stable population growth will continue until at least 2035, which will constantly increase the burden on the education system. The textbook requirements of schools are covered to 73.4 %, the computer requirements to 57.9 %.

In order to be able to systematically teach people with disabilities, there is a need for extra resources for changes in school infrastructure, for introducing medical staff in educational institutions, as well as for creating training and resource centers for trainings and education of students with special educational needs.

4.2.3 Quality of services in the field of education, healthcare, social protection

The quality of services in the field of social protection, education, and healthcare is negatively affected by high staff turnover and the resulting weak institutional memory, as well as by a lack of employee motivation due to low wages and high workloads. It would be important to implement a monitoring and evaluation system in management, but it has not yet received proper implementation in all state bodies, although some positive changes have occurred in the education system and in the social protection sphere.

There is no specialization of social workers on child protection in the republic. This function has to be performed by social workers who provide home services to the elderly, single citizens and persons with disabilities, which leads to a weakening of the child protection system.

In terms of quality of health care services, access to quality primary health care services and laboratory diagnostic services in rural and remote areas remains limited. The maternal mortality rate remains one of the highest in the region. Access to contraceptives and quality family planning services remain insufficient.

Despite the high enrolment rate among children, education quality remains one of the main challenges for the educational sector. National and international surveys demonstrate low levels of school students' functional literacy. This is especially the case for math (64.9 % of which is below basic), for reading and text comprehension (51.5 % below basic) and natural sciences (76.6 % below basic level). There are also reports about a gap in terms of education quality in general education institutions in different regions of Kyrgyzstan, as well as between rural and urban schools.

In the labor market, the outdated workplace equipment, as well as the absence of strong links between the employer and educational institutions make it hard for graduates to obtain professional competencies demanded in the labor market. As a result, there is a higher risk of unemployment. The poorly developed methodology and tools of labor market research makes it difficult to analyze the market and forecast recruitment needs in advance. The lack of a national qualifications system makes it difficult to understand the level of competencies of job applicants and workers. Moreover, it does not allow comparing the level of their qualifications, especially for those who goes abroad. Conducting research in higher education institutions is complicated because of wear and tear of scientific equipment, scientists' unfavourable working conditions and resulting lack of motivation, and the lack of joint research and development centers with business.

4.3. Government strategies and programs

The National Development Strategy of the Kyrgyz Republic for 2018-2040 states that human development is the basis of public policy. The measures are aimed at improving Kyrgyzstan's human development rating by implementing activities in accordance to SDG targets. Accordingly, in the field of labor and social development the main emphasis will be made on strengthening and developing the institution of family, motherhood, fatherhood and childhood, as well as ensuring a minimum basic level of social protection guaranteed by the state. This list of social protection services includes:

- care of children and families in difficult living situations, including children without parental care, working children, children of migrant workers;
- reduction of child poverty and investment in early childhood;
- application of more efficient measures to implement the right of children to a family environment;
- security and protection from gender and family violence;
- addressing the problems of people with disabilities;
- protection of rights and improving the quality of life of elderly people;
- promotion of quality employment and creation of conditions for decent work, including by reducing the share of employment in the informal sector,

- introduction of social contracts system with recipients of state benefits who have labor potential,
- development and implementation of new norms and rules, standards for labor protection and safety, working conditions, the introduction of international classification of occupations, including occupations in social services.

The following priority steps were identified in the education sector:

- increase the preschool education enrolment rate;
- improve education quality and teacher motivation;
- create a system “educational institution - production”, organization of the educational process built around scientific research;
- integration of computer technology, software and online services into the learning process;
- ensuring coordination between vocational education system and the labor market;
- formation of a multilingual learning environment;
- ensuring maximum inclusion of people with disabilities and special educational needs.

In December 2018, the Government of the Kyrgyz Republic approved a new Health Development Program until 2030 in accordance with NDS-2040, whose motto “A healthy person means a prosperous country” is intended to emphasize the importance of healthcare as an investment into achieving economic development. The Program identifies the following priority areas with key objectives.

- ensuring quality of services rendered on prevention, monitoring, health protection and promotion;
- development of primary health care, updating the ambulance system, strengthening protection of motherhood and childhood. Rationalization and optimization of hospital system and laboratory services. Creating a system to manage and regulate prices for vital medicines and medical devices;
- increased medical staff provision in remote regions; increase coverage of health insurance, including those employed in the informal sector, more targeted provision of benefits to patients in difficult living situations.

4.4. Priority program areas in need of support

The SDGs concern important elements of human well-being and opportunities that underpin human development. Kyrgyzstan has achieved significant results in these vitally important areas, but in order to accelerate the progress, it must address a number of key issues by implementing the following development priorities.

4.4.1 Ensuring adequate access and quality of services for human development

Ensuring adequate access and quality of services for human development involves a range of priority areas that cover a wide range of different departments. Since the very theme of human capital is inherently interdepartmental in nature and echoes with other topics, such as digitalization, regional development or investment, these reforms should also be implemented on a broad interdepartmental basis. These include, but are not limited to, the following reforms:

1. **Creating a safe environment for people** at a wide intersectoral level to preserve and develop human capacity (including environment, ecology, safe roads, waste disposal, etc.), making efforts to ensure capacity enhancement of services recipients in terms of their rights and guarantees, planning their life, human development in the field of safety and resilience to shocks and emergencies of natural, social and technogenic nature, maintaining psychological balance of the population;
2. Support to attract **investment and PPP projects** in the sphere of education, health and social protection, liberalization of service providers market by procuring services from the private sector;
3. Introduction of **innovative information technologies** – electronic education, healthcare and electronic social security services, as well as enhancing ICT competencies of all people who should provide these services;
4. Development of **efficient and fair systems of social protection of the population**, especially for persons affected by social risks (disability, single-parent family, loss of parents, placement in boarding institution, old age). The systems should stimulate economic activity of the able-bodied population, while helping to get out of a difficult living situations through social contracts, and the development of a social services market based on the population’s actual needs;
5. Creation of conditions to improve the quality of social protection services by regulating the processes of service provision, introducing the “single window" principle, increasing the level of information transparency, and optimizing organizational structures;
6. **Prevention of gender-based violence**, achievement of gender equality, ensuring wider coverage, quality and expansion of service providers network in the field of security and protection from family and gender-based violence,

especially in rural areas;

7. Expanding **sound and cost-effective public health measures**;
8. **Optimization and rationalization of medical services provision**, including hospital networks, modernization of in-patient care, ensuring an adequate supply of key medicines through an integrated approach to drug policy, strengthening primary health care, improvement of care of mothers and motherhood services, including family planning, and universal application of combined HIV prevention methods;
9. Implementation of measures to ensure **access to safe drinking water and food for the population, informing the population about proper nutrition**, especially at an early and reproductive age to prevent stunting and high prevalence of anemia, as well as bringing access to hot meals in schools in the Kyrgyz Republic to 100 %, which will require addressing problems related to water supply, sewage and replacing obsolete equipment in schools;
10. Broader **access to education at all levels for persons with disabilities**, especially to school and primary vocational education.
11. Education quality Improvement through the **introduction of competency standards**, implementing the program "New School / School of the Future". Sectoral labor market research should be conducted by industry. Centers of excellence should be created in the regions to implement the concept of on-the-job training, developing short-term training and retraining programs for adults.
12. Providing young people with educational opportunities, access to health services and decent work, **enabling young people to participate in the workforce** for sustainable development.
13. Equipment and renovation of **scientific and research laboratories** at higher education institutions to develop the exact sciences, in order to create opportunities for students and teachers to conduct experiments and research.

4.4.2 Sector management, coordination and financing

In addition to these questions of sectoral content, the intersectoral nature of human capital issues also requires a number of changes in management. The following reforms can be attributed to this complex:

14. Implementation of efficient **mechanisms to facilitate intersectoral interaction** in the social sphere (health care, social protection, education, local government) through the digital transformation of management and financing, which will ensure a transparent operation of government bodies and reduce corruption risks. This also includes the broad implementation of monitoring and performance evaluation;
15. Implementation of a coherent **policy for human resources management** for persons involved in social protection, education and healthcare, while strengthening the administrative capacity of the relevant government agencies;
16. **Reforms to teaching** through a set of measures, including changing the systems of payroll accounting, training, retraining and advanced training for teachers;
17. Introduction of **standards for decent work** (decent wages, decent employment, social partnership) as the basis of human well-being and development of the country;
18. Strengthen the **financing systems** for social protection, education and health sectors on a programmatic basis, with the aim of achieving 100 % cost coverage in accordance with the minimum requirements;
19. Creation of new **approaches to strengthen disease prevention** and to develop the public health system;
20. Strengthening the **autonomy and professionalization of educational and health institutions**;
21. Creation of a national system of **qualifications and professional standards for priority professions** and specializations with participation of employer associations;
22. Implementation of **state procurement in science** based on decentralization principles (depending on the needs of regions and industries in development and digitalization).

4.4.3 The strategic importance of human development

In general, human development is of key importance, since investments into human capital are a necessary prerequisite to achieve all 17 Sustainable Development Goals. The social sector should be considered as a **sector into which it is necessary to invest**, and not just one that costs the budget money. This is because economic, regional, infrastructural or any other progress cannot be achieved without human capital. Only a clear understanding that right now is the time to invest in human potential and concrete steps will allow us to achieve sustainable economic growth, create a workforce ready to occupy jobs requiring high qualifications in the future, and effectively compete in the global economic arena.

5. INTEGRATED WATER RESOURCE MANAGEMENT (IWRM)

Despite the abundance of water resources, about 50.0 km³ per year, Kyrgyzstan periodically faces water shortages for the agricultural, energy sectors and for drinking needs. Due to **irrational use and pollution of water resources**, degradation of river ecosystems and a decrease in the hydrobiological diversity of water bodies are noted. Due to the importance of water resources for the livelihoods of the population, ecosystems, development of the state, the vulnerability of water resources to the consequences of Global climate change, this issue is included for consideration at the High-level Development Forum.

5.1 Sector analysis since 2013

5.1.1 IWRM: definition and relevance for Kyrgyzstan

Water resources and ecosystems are under pressure, mainly due to anthropogenic factors. This is a serious problem that needs to be addressed through intersectoral cooperation and collaboration at both the national and local levels. Integrated Water Resources Management refers to a comprehensive system of measures, norms and rules that ensure the development, rational use, protection of water resources and the environment, the protection of human health, as well as the protection of settlements, industrial territories and all types of property from the dangerous effects of water.

The word "integrated" in this context refers to the integration of various different aspects of managing the same resources under a common approach. The scope of this document is IWRM in the Kyrgyz Republic. The discussion of IWRM here is unrelated to other issues of managing resources in a transboundary or regional Central Asian context.

The **relevance of applying IWRM** within the Kyrgyz Republic increases as a result of the following threats.

- **Effects of climate change.** A change in the mode of precipitation, accumulation and distribution of precipitation, a decrease in its amount is predicted, which will reduce the population's access to water and **may limit the country's economic development**. Also, an increase in the number of floods and landslides can lead to economic damage. So, annually about 80 thousand people suffer from floods, and the expected annual economic losses due to floods are estimated at 70 million USD;
- **Water security.** An increase in air temperature, a decrease in glaciers and a decrease in river flow are expected, which together will entail a shortage of water for irrigation, agriculture, hydropower and ecosystems;
- **Energy security.** Vulnerability of rich hydropower potential from changes in the hydrological regime of rivers. Hydropower will satisfy more than 90 percent of domestic needs, while energy is characterized by high losses (installed capacity of hydropower plants (HPPs) is approximately 3 030 MW);
- **Food Security.** The increase in demand for water resources due to an increase in population and the development of sectors of the economy at the national and regional Central Asian levels. The need to address the challenges of providing drinking and irrigation water;
- **Depreciation of infrastructure and irrational use of water resources.** Depreciation of infrastructure reaches 70 %, which reduces efficiency and increases losses. The ratio of the volumes of water taken and used indicates a **large volume of losses (up to 40 %)**, which can be considered as an additional volume of water resources. Over the past five years, the total water withdrawal from surface water bodies in the republic amounted to 7.30-8.32 km³ and 0.108-0.344 km³ (according to NSC) from the underground horizon, the total volume of use is 4.67-5.20 km³ per year, or 64 % of the water intake.

5.1.2 IWRM-based Water Code - basic elements

In spite of the adoption of the Water Code in 2005, the slow pace of the implementation of the Code has resulted in a **fragmented sectoral approach** (drinking water, irrigation, disaster risk reduction, glaciers, Hydromet, quality and quantity, hydropower). This is although it is impossible to manage water as a resource, with its movement in nature and its omnipresence in all aspects of human life, with a fragmented approach. It is no longer possible to postpone the implementation of a comprehensive approach to water management, because the risks related to climate change in the short and long term are becoming ever more urgent.

The adoption of the Water Code of the Kyrgyz Republic created the legal framework for the implementation of IWRM, which provides for:

1. Creation of a **State body for water resources management** and its basin structures. It is important that the creation of the State body for water resources management will allow for the efficient coordination of the activities of ministries

and departments involved in the management of the water fund and more efficient use of investments and financial resources allocated to the sector. As part of the implementation of the provisions of the Water Code, it is planned to develop and adopt the **National Water Strategy 2040**, which will determine the main necessary areas of activity in all areas of the state related to water resources for the long term;

2. **Implementation of the basin approach** (basin administrations, basin community councils, basin plans) will contribute to an integrated approach to water resources management, which means rational management, use, improving the quality of water resources and the state of ecosystems, reducing damage from the effects of mudflows, landslides, and preventing conflict over water. In essence, the basin approach means moving away from a fragmented approach, when often one spectrum of water issues can be addressed to the detriment of another, which is especially unacceptable in the face of climate change. Also, an important condition for the implementation of IWRM is to involve the public in the decision-making process through the creation of Basin Councils, in which women are represented within 10 % of the total composition, which is an indicator of insufficient consideration of gender potential.
3. The practice of water use should be based on a **permit system and on the principles of economic value of water** as a natural resource, which will contribute to the rational and economical use of water and accounting for water resources. In this context, work is underway to create a unified water information system that also has the goal of raising awareness among all sectors of society.

5.1.3 Why is the Kyrgyz Republic's Water Code not implemented?

The **insufficient pace of implementation of the provisions of the Water Code** is explained by the fact that the goals and objectives set for that period of time by the provisions of the Water Code were distinguished by ambitious objectives, contrasted by a lack of awareness about IWRM and climate change, weak political will, lack of a mandated structure, and a lack of financial and human resources.

As a result, the Kyrgyz Republic continues to use a fragmented, sectoral approach to water resources, which are viewed mainly through the prism of infrastructure, although the Water Code, based on the principles of IWRM, provides an appropriate basis.

The performance of water management functions is entrusted to the **recently created State Agency on Water Resources** under the Government of the Kyrgyz Republic (SAWR, established by government order no. 383 dated 30 July 2019), under whose leadership it is planned to re-establish a permit system for water use and establish a fee for the use of surface water resources as a natural resource. Based on the fact that the SAWR is the Secretariat of the National Water Council, it is planned to coordinate the necessary work to monitor surface and groundwater, climatic parameters, and improve the licensing system for the use of water resources.

5.1.4 IWRM in the documents of the Development Forum and in the reform agenda

At the High-Level Conference in 2013, water resources were considered in terms of the state of infrastructure. It was noted that Kyrgyzstan ranks second in Europe and Central Asia among the countries most vulnerable to climate change. The need was also expressed to strengthen water management institutions: the National Water Council and the Kyrgyz Hydromet. At the time of the Conference, the concept of **IWRM was not fully integrated** in the documents of the country's development; there was no clear understanding yet of the need to implement the principles of IWRM.

In recent years, a number of projects have been implemented in Kyrgyzstan with the support of development partners, within the framework of which strategic documents have been prepared. Most of these **documents still show a fragmented, sectoral approach**, which also determined the **sectoral approach that used to be common in development partner support.**

5.2 Existing water challenges

5.2.1 Legal and strategic framework

The main current regulatory documents in the field of water resources are the Water Code, the Laws "On Water", "On Subsoil", "On Drinking Water", "On WUAs", "On the Interstate Use of Water Objects, Water Resources and Water Management Facilities of the Kyrgyz Republic", Presidential Decree "On the basis of foreign policy of the Kyrgyz Republic in the field of water resources of rivers formed in Kyrgyzstan and flowing on the territory of neighboring countries", and others. In connection with the transition to IWRM principles, there is a **need to align the provisions of the current legislation** with the provisions of the Water Code, or **to develop a new unified Code** covering all sectors, as well as to correct the contradictions, the controversial provisions of the Water Code and to modify some of the wordings. It is necessary to provide,

both in the legal acts and in strategic documents, a mechanism for the **participation of women** in decision-making and assessment of the water needs of the most **vulnerable groups**.

The National Water Strategy, the Roadmap for the implementation of the Water Code and the Basin plans (BP) for the development, use and protection of water resources covering all aspects of water resources are considered as the main documents on water resources management in the republic.

5.2.2 Institutional framework

The creation of the **State Agency for Water Resources (SAWR)** under the Government of the Kyrgyz Republic, dated 07/30/2019, will help to solve the accumulated issues of protection, planning, use of water resources taking into account forecasts of changes in river flow due to Global Climate Change and to fully fulfill the role of the Secretariat of the National Water Council. The Department of Drinking Water Supply was included in the SAWR. It is important that the work of the SAWR is also aimed at the implementation of the SDGs (these are goals 1.5, 2.4, 3.3, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6). In the future, the **status of the SAWR needs to be increased** so that executive functions cover all aspects of water resources. This vision will require continued discussions and appropriate decisions.

Currently, the Kyrgyz weather service (Hydromet) and the Kyrgyz complex hydrogeological expedition (KCHE) state enterprise under the State Committee on Industry, Energy and Subsoil Resources (SCIES) are funded on a residual basis, which does not allow carrying out the necessary key functions in the water sector, such as monitoring and forecasting, in full. Therefore, it is imperative that the mandate and equipment of these organizations be strengthened.

Inadequate funding of all institutions in the sector has negative consequences on the **qualitative and quantitative composition of human resources**.

5.2.3 Infrastructure

Regarding the infrastructure, it should be noted its insufficient quantity, unsatisfactory condition, as well as **poor equipment of the material and technical base**.

5.2.3.1 Drinking water supply

In all areas under consideration, all facilities were built before the 80s of the last century and **have a high degree of wear**: water supply systems by more than 70 %, while up to 40 % of rural water supply systems are in critical condition, 226 drinking water supply systems (21 %) do not meet sanitary requirements norms; 14 do not have water treatment and purification complexes; 178 of them do not disinfect drinking water supplied to the population; more than 4 000 water standposts (13, 3 %) are malfunctioning. In order to ensure drinking needs on the territory of the republic, more than 15 thousand wells were drilled, thousands of springs and under-drain drains were captured, of which about 4.0 thousand wells were used, **80 % of which require rehabilitation** and re-drilling.

The Ministry of Health **monitors the quality of sources of centralized water supply,** the laboratory base of which also requires additional equipment, a regular supply of necessary devices, consumables, and reagents.

Waste water. The current state of centralized waste water and sewage facilities remains extremely unsatisfactory, as only 21 % of the country's population is provided with central sewage systems. The issue of the effectiveness of the treatment facilities is very acute; today municipal water treatment plants in cities need rehabilitation and reconstruction. Due to the fact that there are no treatment facilities at all in small towns and regional centers of the republic, there is a need for their construction. A growing problem is the pollution of groundwater due to the construction of house septic tanks, the construction of which should be regulated by the regulatory framework, which is currently absent in the republic.

5.2.3.2 Irrigation

The existing State Irrigation Fund of the republic is aimed at providing irrigated land with irrigation water, about 1.02 million hectares. Despite the measures taken, there is still an urgent need for major repairs, rehabilitation and modernization of irrigation infrastructure. About 1700 wells were previously operated for irrigation, currently 70-80 % of them do not work, this is a huge reserve for irrigation, especially in those areas where there is no surface water.

5.2.3.3 Surface water monitoring

The monitoring system of the Hydrometeorological Service until 1992 consisted of 148 gauging stations on rivers, 7 on lakes and reservoirs; 78 weather stations. To date, 78 (53 %) gauging stations on rivers are active; 5 on lakes and reservoirs. Out of 78 hydrological posts on rivers 8 (10 %) require full restoration; outposts and devices of 20 gauging stations (26 %) are in disrepair, about 30 % of office premises require complete restoration. The construction of new gauging stations is also required. No funds are allocated from the republican budget for annual maintenance and purchase of devices, and **allocated funds for capital repairs account for less than 1 % of the needs**.

5.2.3.4 Water Quality

Monitoring of **surface water quality** by Kyrgyz Hydromet is carried out only on the Chu River and under an incomplete program due to the lack of consumables, fuel and lubricants and vehicles. The central laboratory is not accredited due to the emergency condition of the building. The laboratories in Osh and Cholpon-ata, on a research vessel, fell into complete decline. Rehabilitation of the entire Kyrgyzhydromet infrastructure, expansion of the network, re-equipment and stable financing are required to maintain the technical and technological base in accordance with the WMO technical requirements, sufficient funding for on-site work and ongoing expenses, and sufficient supplies of Kyrgyzhydromet laboratory facilities.

Monitoring of **water resources** by the State Agency for Environmental Protection and Forestry (SAEPF) also covers mainly the basins of the Chu River and Issyk-Kul Lake, since today only two laboratories in Bishkek and Cholpon-Ata are fully operational. For the full-fledged work of the environmental laboratory in Osh, re-equipment and overhaul of the building of the laboratory building is required. In addition, it is necessary to restore the environmental laboratory in Jalalabad.

Monitoring of the **state of groundwater** is carried out by the KCHE, the monitoring objects are 15 thousand wells and more than 1000 sections of natural pinch-out of groundwater within 147 deposits of fresh drinking and mineral-thermal waters. Due to insufficient funding, 90 % of the observed network requires rehabilitation, cleaning, pumping, and rebuilding. The need to strengthen monitoring of groundwater is associated with the pollution of groundwater within a number of the most exploited deposits, especially in the capitals of the Kyrgyz Republic. Only one analytical laboratory of the SCIES is operational, there is a need to open similar laboratories in the regions; there is no laboratory for the determination of pesticides. Express laboratories are unpromising for large volumes of water samples and a large list of defined chemical ingredients. Among the problems of monitoring, it should be noted the high prices for the production of chemical analyzes and transportation costs, the lack of vehicles in the required quantity, the weak influx of young specialists and the insufficient potential of specialists.

5.2.4 Economic sustainability of sectors and services

In almost all sectors, there is a **chronic shortage of financing and investment,** which leads to:

- instability of management bodies and their structural divisions;
- deterioration of the state of infrastructure, which negatively affects the quality of surface water and groundwater, the state of ecosystems, and public health;
- use and application of outdated, imperfect technical means and technologies;
- weak laboratory, material and technical base, insufficient supply of consumables (filters, spare parts, etc.), fuels and lubricants and vehicles;
- low salaries, high staff turnover, insufficient staff qualifications, weak influx of young specialists;
- poor development of information systems;
- insufficiency of the monitoring network for the state of surface and underground waters, their quality, climatic parameters;
- weak pace of water management reform
- poor development of scientific research, etc.

5.2.4.1 Funding

To **maintain and develop the water supply,** in 2014-2018 9.83 million USD (688 million KGS) was allocated from the republican budget under the article “Capital investments”. Currently, for the construction and rehabilitation of drinking water supply systems for villages in the Kyrgyz Republic were attracted and are being attracted USD 510 million. Funds in the amount of 275.0 million USD (19 227.85 million KGS) were attracted and are being attracted for the construction and rehabilitation of drinking water supply systems of cities.

The actual funding from the state budget of the **Department of Water Resources and Land Reclamation** over the past five years amounted to 10.7-19.3 million USD (0.751-1.349 billion KGS) per year. On the other hand, the economists engaged in projects supporting the reform agenda estimate that amount of funding required is, in fact, three times higher or more than 50.0 million USD per year. In addition to the state off-farm irrigation network, the assessments also cover the necessary funds for the rehabilitation of the on-farm network, where the demand amounts to about USD 250 million, including 180 million USD on the balance of Water Users Associations. About 4 million USD are allocated annually for WUAs to operate the on-farm network, and experts estimate 3 times as much needed.

Until 2017, the **KCHE** was financed from the budget of the republic, for the last two years, through special resources for the development and reproduction of the mineral resource base of the Kyrgyz Republic. In total, for the year 2019, 210 thousand USD (15.0 million KGS) were allocated for ten directions in accordance with existing projects in accordance with geological tasks issued by the State Committee for Electricity and Energy. Development partner investments in the industry

were not attracted. The necessary funding for the development of the industry is about 6.0-7.0 million USD (450-500 million KGS), i.e. 33 times higher than the factual.

The total amount of budgetary funding of the **Agency for Hydrometeorology** for 2013-2017 amounted to 9.7 million USD (681.8 million KGS), the total amount for investments was 4.06 million USD (284.3 million KGS). The necessary funding for the Agency on Hydrometeorology is about 10-12 million USD annually.

The actual annual budget of the SAEPF for 2013-2017 amounted to 9.0-12.0 million USD (627.3 - 829.0 million KGS), while the amount needed was 14.0 million USD (960.0 million KGS).

5.2.4.2 Tariff policy

In general, the lack of funding is also partly due to the **level of tariffs** for the provision of services for the supply of irrigation, drinking water, and electric energy. It should also be noted that there is practically no systematic analysis of the effectiveness of the use of financial resources.

Tariffs remain a politically sensitive topic, because they must allow for cost recovery, but they must also be socially acceptable. In the drinking water supply sector, the cost of supplying drinking water is 1.5 times higher than existing tariffs. In the irrigation sector, the annual fee for irrigation water supply services over the past five years covers only 6-10 % of the actually allocated funds from the country's budget.

The Water Code contains **economic management tools** that are not fully implemented. There is no charge for using water resources as a natural resource. The recently approved Roadmap for the implementation of the Water Code states that a properly functioning permit system can generate up to 328.0 million USD (2.3 billion KGS) annually in the medium term.

An example is the **experience of France** where economic instruments ensure the sustainability of industries. Thus, six basin administrations in France form their budget in the amount of 12.6 billion EUR for five years only on the basis of fees for water use and water pollution without subsidies from national and local budgets. The French basin administrations fund scientific and international activities in addition to co-financing municipal infrastructure.

5.3 Government strategies and programs

The 17 Sustainable Development Goals (SDGs), which are reflected in the NDS 2040 of the Kyrgyz Republic, and the main directions of which coincide with the Government Program for 2018-2022 “Unity. Trust. Creation” form the basis of state strategies and programs in this area. Kyrgyzstan **did not provide data on the implementation of the IWRM progress indicator in the framework of the SDGs** for 2018, which, apparently, is due to the lack of a single state body for water resources management. With the creation of the new Agency, more active promotion of IWRM principles and reporting on the SDGs is expected.

One of the objectives of SDGs (6.8) is the additional introduction of new irrigated lands on an area of 27 thousand ha, increasing the water availability of existing irrigated lands on an area of 40 thousand ha, transferring conditionally irrigated to irrigated lands on an area of 2.80 thousand ha, building 12 storage installations and others (Global SDG 2.4).

Task 7.19 is to implement IWRM at all levels and to develop the Basin water resources management system. Technologies will be introduced for the efficient use of water resources, increasing the efficiency of water use, and the use of storage tanks (Global SDG 1.5).

Task 7.16 is the full provision of clean drinking water to the population, the construction and rehabilitation of wastewater systems in 653 villages, including the construction and rehabilitation of water supply and wastewater systems in 26 district centers and 22 cities (Global SDG 6.1).

In order to improve the ecological state of natural systems, preserve water and land resources, as part of adaptation to Climate Change, an increase in afforestation is planned from 5.6 % to 6 % of the total area (Global SDGs 1.5, 6.6).

By the Decree no. 440 of the Government of the Kyrgyz Republic, dated 21 July 2017, the **State Program for the Development of Irrigation** of the Kyrgyz Republic for 2017-2026 was adopted. Implementation of the State Program will allow (with financing of about 1.0 billion USD (58.8 billion KGS) to introduce 66.5 thousand hectares of new irrigated land, increase water supply of land by 51.08 thousand hectares, 9.5 thousand hectares transfer from machine to gravity irrigation, improve land reclamation state by 50 thousand hectares.

By the Decree No. 155 of the Government of the Kyrgyz Republic dated 28 March 2016, the **Strategy for the Development of Drinking Water Supply and Sanitation Systems of the Settlements** of the Kyrgyz Republic until 2026 and the Plan for its implementation in four directions were adopted. According to preliminary estimates, the volume of required investments for the rehabilitation of drinking water supply systems in the cities of the republic (with the exception of Bishkek and Osh) exceeds 140.0 million USD (9.79 billion KGS), the volume of necessary investments in rural water supply and sanitation infrastructure, in the range of 920 million USD (KGS 64.7 billion). Thus, the total volume of necessary investments is estimated at about 1.1 billion USD (80.0 billion KGS).

5.4 Priority program areas in need of support

The priority areas for the development of IWRM in the republic are divided by time and are determined by the following main documents.

5.4.1 Long-term objectives

A comprehensive conceptual framework for the strategic steering is the **Development Strategy of the Kyrgyz Republic 2040**, which defines the following priority tasks:

- rational management of water resources;
- land resources management;
- updating irrigation infrastructure and new irrigated areas;
- regional development and infrastructure.

The **National Water Strategy and Action Plan** that will be developed in the coming year will define how the water-related priorities from the 2040 Strategy will be achieved. The national water strategy will, in particular, be dedicated to the following topics:

- Improving the legislative and regulatory framework;
- Improving the administrative system of water resources and water management;
- Rehabilitation and development of water management infrastructure;
- Development of infrastructure and technologies for monitoring water resources;
- Improving the economic policy of regulating water relations, water use and water management, both at the national and interstate levels;
- Prevention and liquidation of the consequences of the negative impact of water resources;
- Development of interstate water relations.

5.4.2 Short-term measures

The short-term priorities are related to the creation of the institutional and economic base of IWRM within the framework of **Code Implementation Roadmap 2019-2022** and the upcoming **National Water Strategy**. The Roadmap, approved at the second meeting of the National Water Council (05/14/2019), provides for activities in the following areas:

- Change in the structure of the water sector;
- Basin water management;
- Introduction of the system of water use permits and contracting, financing of water sector operations;
- Management, operation and maintenance of irrigation systems;
- Water Information System, protection of water resources and the environment.

5.4.3 Priorities and summaries

On the basis of the strategic documents mentioned above (Strategy 2040, Code Implementation Roadmap, and National Water Strategy), the following priorities can be distinguished:

1. The initiated reforms should be continued in the coming years, and support should be **given to the recently created State Agency for Water Resources** under the Government of the Kyrgyz Republic and to its structures: **building up human, technical and informational capacity for the introduction of the basin approach in water resources management**, which will allow moving away from an administrative, fragmented approach to solving issues of use, planning and conservation of water resources, especially relevant in the context of Global Climate Change, which requires appropriate its financing from the state, as well as assistance from investors;
2. Implementation of activities of **Basin plans** (attraction of funding for basin plans) of both the main river basins and small rivers, which shall be considered as strategic guidelines for activities aimed at improving the qualitative and quantitative state of water resources, ecosystems, adaptation measures to the effects of Global Climate Change;
3. **Sustainable financing of all sectors and institutions** involved in the water sector, which requires the introduction of **economic instruments for water use,** both at the national and interstate levels, which will allow rational use of water resources;
4. In order to rationalize the use of water resources, work is needed to **establish adequate tariffs for water supply** in the drinking water supply, irrigation, and hydropower sectors.

5. No less significant is the planning and implementation of measures to improve the **monitoring of the quantitative and qualitative state** of surface and groundwater, climatic parameters, and also accounting for the volume of water use. Such measures involve financing of operating and capital costs.
6. The **deteriorating quality of surface and groundwater resources at present** has a lower priority than the amount of water. However, quality is becoming an increasingly important issue and needs to be addressed. Measures must be taken to eliminate pollution of surface water bodies and groundwater aquifers by industrial and domestic wastewater, as well as pollutants, agrochemicals and urban wastewater, which adversely affect public health, sustainability and development.
7. **Gender dimensions and the SDGs** need to be more clearly expressed in the legal, institutional and strategic frameworks of this area. The role of gender in governance is ignored and underestimated. Gender reporting is mainly limited to treating women as users / beneficiaries, but not as managers. More research and knowledge on how to mainstream gender in the water management domain is necessary and gender shall be effectively integrated in the upcoming National Water Strategy.

6. CLIMATE CHANGE AND DISASTER RISK REDUCTION

Kyrgyzstan is a landlocked mountainous country in Central Asia with limited economic opportunities and rich natural ecosystems. The relatively low level of socio-economic development in Kyrgyzstan, deteriorating infrastructure and strong dependence on climate-sensitive sectors make the country highly vulnerable to climate change, extreme weather events, and natural hazards. While environmental problems, such as air, water pollution, and waste management must be acknowledged in this context, the working group focuses primarily on climate change and natural disaster risk reduction.

Climate change threatens the achievement of all Sustainable Development Goals (SDGs). In addition to the Goal 13 on climate change, the Goals 12 and 17 also include climate change mitigation measures. Climate change will have a direct impact on the achievement of the 10 SDGs. Thus, the transition to sustainable development makes it necessary to include the climate factor and issues of adaptation to climate change in the system of basic economic indicators of development and integration in all aspects of planning.

It is estimated that by 2050, 6.6 million people in the Kyrgyz Republic will be at risk from its impacts. As a result, migration outbound and internally may increase. Within the framework of the Third National Communication of the Kyrgyz Republic (2016), on the UN Framework Convention on Climate Change (UNFCCC) an assessment of the expected economic losses due to climate change in the absence of adaptation actions was carried out for each priority sector. According to this, the most severely affected sectors will be water, energy, agriculture, and public health and the losses amount more than 1.2 billion USD.

Temperatures have increased steadily over recent years. Forecasts for the future indicate continued warming of approximately 2.0 to 5.7 °C in annual mean temperatures by 2085 in the region. It is expected that summer precipitation will decrease in the country, and droughts may accelerate the process of desertification. The total area of glaciers in the region over the past 40 years has already decreased by more than 10 %. This trend will accelerate and threaten the region's water resources. Scarcity of water resources due to climate change can lead to the degradation of agricultural land, strike to crop production, a shortage of clean drinking water. This threatens the country's food and energy security.

Climate change will impact Kyrgyzstan's rich ecological capital, its forest ecosystems and biodiversity. The degradation of natural resources and the loss of biological diversity reduce the ability of ecological systems to self-repair. The restoration and conservation of natural landscapes, ecosystems and biological diversity is the basis for favorable environments to human life. Natural ecosystems and forests of Kyrgyzstan are powerful centers of climate stabilization. In Bishkek, the negative consequences of inadequate energy production and consumption become noticeable every winter, which should be recognized as an emergency situation. Coal has a significant impact on carbon emissions and climate change and contributes to air pollution.

Over the past few decades the increase in natural hazards such as earthquakes, mudflows, floods, avalanches, large fires and landslides can be determined by seismic events, climate change and population growth. The total annual damage to the population and the economy amounted to 60 million USD as a result of flood damage and 2.6 million USD as a result of landslide damage. Vulnerable groups, such as women and children suffer most from climate change, environmental degradation and natural hazards.

At present, the existing socio-economic system in the Kyrgyz Republic is not resilient to either climate change or the growing risk of natural hazards. Thus, the implementation of mitigation and adaptation measures to climate change is becoming increasingly relevant and necessary. It is urgent to take preventive measures, to change behavior and to adapt all sectors to the effects of climate change.

International funding is available but requires also changes and decisive action from the Kyrgyz Government. Some of the necessary reforms may seem costly or painful in the short run, but they are necessary and economically sound in the long term.

6.1 Sector analysis since 2013

Climate change was not directly addressed at the previous High-level Conference on Development of the Kyrgyz Republic in February 2013. However, many issues closely related to climate change, such as agriculture, food security, water supply, disaster preparedness were discussed and the high vulnerability of the Kyrgyz Republic to climate change was noted.

6.1.1 Climate change

In November 2012 the Coordination Commission on Climate Change (CCCC) was established by a government decree. The chairman of the commission is the First Vice-Prime Minister, who oversees environmental issues, among others. The permanent working body of the Coordination Commission is the State Agency for Environmental Protection and Forestry

(SAEPF). The main objective of the CCCC is to provide leadership and coordination of the activities of ministries, departments and organizations in fulfilling the obligations of the Kyrgyz Republic under the UNFCCC.

The Paris Agreement of the UNFCCC was signed by the Kyrgyz Republic in September 2016 and ratified by the Kyrgyz Parliament in October 2019. In order to fulfill the reporting obligations to the UNFCCC, three national communications on climate change have been prepared and submitted to the Convention Secretariat. Currently, the Fourth National Communication on Climate Change is prepared. The Kyrgyz Republic, under the Paris Agreement, has committed voluntarily to reduce greenhouse gas emissions by 2030. Therefore, in 2015, the Intended Nationally Determined Contributions (INDCs) were developed and then approved by the CCCC. With the INDCs, the country has committed to reduce greenhouse gas emissions by 11.49–13.75 % on its own. With international support the emission reduction is targeted to reach 29.00–30.89 % relative to the business as usual scenario compared to the base year 2010. In 2017 the Kyrgyz Republic has joined the NDC Partnership. Due to the recent ratification of the Paris Agreement, the INDCs will have to be replaced by the NDCs, setting new goals for greenhouse gas emission reduction.

With regards to funding from the international Climate Financing System, the Kyrgyz Republic has made some efforts to better use this enormous potential. In May 2015, the Kyrgyz Republic joined the Pilot Program on Climate Resilience (PPCR) of the Climate Investment Funds (CIF). As part of PPCR, a Climate Investment Program (CIP) was developed and approved by the CCCC in 2017, without giving it the status of a regulatory legal act. Given the large volume of expected activities in the field of climate change, as well as the objective need to strengthen institutional capacity and coordination, the Government of the Kyrgyz Republic officially established the Climate Finance Center of the Kyrgyz Republic (CFC) in August 2017. The National Designated Authority (NDA) to interact with the Green Climate Fund (GCF), the most important fund for climate financing, is SAEPF. Since September 2017, within the GCF-FAO readiness project, work has been carried out to strengthen the capacity of the NDA (SAEPF), to develop a climate finance coordination mechanism and the Country Strategic Program, which includes a list of projects in priority sectors and is being developed taking into account GCF rules and procedures.

In 2018, the GCF approved the first climate change adaptation project to be implemented in the Kyrgyz Republic together with WFP (9.8 million USD). Other applications to the GCF of a bigger dimension are pending.

The Green Economy Concept and the Green Economy Development Program in the Kyrgyz Republic for 2019-2023 were developed. Activities under the Green Economy Development Program also cover climate activities but also numerous others such as water management issues, adaptive agriculture, energy efficiency, education and awareness raising. Currently, a Green Economy Coordinating Council has been established. The Kyrgyz Republic is at the moment preparing for the accession to the World Organization of the Green Economy (WOGE) and plans to establish the Global Green Growth Institute (GGGI).

In the end of 2018 norms and regulations for low carbon development and energy efficiency in construction and other fields were introduced. In July 2019, amendments were introduced to the Tax Code of the Kyrgyz Republic and the law on the use of renewable energy sources, on tax and tariff preferences and the establishment of a grace period to stimulate the use of renewable energy sources. The Environmental Code of the Kyrgyz Republic, which has been discussed since 2009 and includes polluter-pay, precautionary and prevention principles, has still not been adopted.

The process of a Forest Sector Reform was started in June 2015 by SAEPF with the support of several development partners. It aims at increasing the total forest area, its environmental functions, as well as economic benefits through sustainable management of forests and pastures. In May 2019 the Government approved the by decree the Concept for the development of the forest industry of the Kyrgyz Republic for the period until 2040.

6.1.2 Disaster risk reduction

The Kyrgyz Republic participates to the implementation process of the Sendai Framework for Disaster Risk Reduction 2015-2030 through a series of 54 activities aiming to reduce risks of disasters.

The Ministry of Emergencies of the Kyrgyz Republic, with the support of several development partners has implemented a number of disaster risk reduction projects. Much attention is paid to the formation and education of a “safety culture” among the population of the republic through lectures, trainings, and simulation exercises on disaster risk reduction; posters, brochures, and videos on emergency situations are issued.

Important steps were taken to introduce and develop the Unified Information Management System of the Kyrgyz Republic in emergency and crisis situations (EIUS), the components of which are:

1. Crisis Management Center;
2. The national comprehensive information and warning system for the population (OXION);
3. The unified state duty dispatch service 112 (system -112).

These measures allowed to respond to 889 cases of emergencies and saved 156 lives.

In order to improve the provision of high-quality hydro-meteorological services and early forecasting of natural hazards caused by hydro-meteorological phenomena, a number of measures were taken to institutionalize and strengthen the capacity of the hydro-meteorological service. The automation of meteorological stations, the improvement of hydrological services, the increase in the number of gauging stations, and the improvement of the agrometeorological service are planned.

Currently, measures are being taken to create and develop a system of integrated monitoring and forecasting of emergency situations, which will unite the efforts of all services of the republic involved in monitoring and forecasting natural, man-made and environmental processes. Draft regulatory acts have been developed that regulate the functioning of the integrated emergency monitoring and forecasting system. Work is underway to create a data processing center, an online portal for the exchange of monitoring and forecasting data on hazardous natural processes. Also, mobile monitoring stations for hazardous natural processes are introduced as well as improved means of automation, communication and data transfer.

In 2018, at the initiative of the Kyrgyz Republic an updated Resolution of the UN General Assembly "The role of the international community in the prevention of radiation threats in Central Asia" was adopted and an Environmental Remediation Account for Central Asia (ERA) was established in 2015, with the aim to address uranium tailings.

Measures are being taken to develop disaster risk insurance and stimulate domestic investment in disaster risk reduction. In order to improve the system of timely response to natural and man-made emergencies, fire and rescue services have been created, equipped with modern fire, special and emergency rescue equipment for extinguishing fires and conducting rescue operations.

6.2 Existing Challenges for Climate Change and Disaster Risk Reduction

Despite the progress since 2013, there are still numerous challenges to the effective implementation of mitigation and adaptation measures to climate change and disaster risk management:

1. **Lack of awareness, understanding of the seriousness and the possible consequences.** The importance and the seriousness of the problem are not fully recognized at all levels of the government, as well as in the private sector, in the media and in the population. Research, education and awareness raising are the most important prerequisites for decisive action and acceptance of painful reforms by the population.
2. **Lack of a systematic, integrated and coordinated approach.** Given that climate change issues are cross-cutting, cross-sectoral and affect almost all sectors of the economy, it is necessary to structure climate change mitigation and adaptation policy in a comprehensive, holistic and systematic manner similar to the integrated water resources management (IWRM) approach in the Kyrgyz Republic.

Already in the document of the conference in 2013, it was noted that the present separation and isolation of issues is problematic. Today a strong government leadership in the field of climate change policy is still needed. Also a better alignment of development partners would be beneficial. The climate change mitigation and adaptation measures are still being considered from a narrow sectoral point of view, and the activities are being implemented in a pointwise, fragmented way. **This is reflected by the lack of coherence between various sectoral strategies and programmatic documents.**

The coordination of the work of key ministries and departments on climate change issues is still weak. There is no efficient mechanism for the selection, approval and monitoring of climate change projects. Each ministry and department promotes narrow departmental interests, which leads to low project implementation efficiency, duplication and inconsistency of ongoing activities as well as low information sharing. At the same time, issues of a cross-sectoral nature remain unresolved. The platform of the Climate Change Coordination Commission (CCCC), formed for the inter-sectoral and interagency coordination of government bodies and institutions, is underutilized.

Currently, the Government of the Kyrgyz Republic has launched a number of initiatives to improve and optimize the institutional management structure and coordination mechanism of climate and green financing issues to solve these problems. Thus, it is planned to unite the Coordination Commission on Green Economy with the Coordination Commission on Climate Change and to form a single Coordination Council on Climate Change and Green Economy with a higher status, chaired by the Prime Minister of the Kyrgyz Republic. The Climate Finance Center will become the working body of the Commission ensuring its activities. In addition, the Ministry of Economy of the Kyrgyz Republic was determined as the National Designated Authority (NDA) in the GCF, and the CFC as the Secretariat of the NDA. The CFC will interact with the GCF as Focal Point.

3. **Accountability and Transparency.** The adequate use of funds is not always assured. An easy access to information for the population and development partners is necessary. In order to be better protected from corruption, transparency and openness have to be promoted.

4. **Financial resources and budgeting.** The Kyrgyz Republic has been weak in attracting climate finance funding from the relevant global sources. Structural reasons seem to exist. Also, the use of own Kyrgyz funds for Climate Change or Disaster Risk Management is not always sufficient, efficient and properly monitored. When forming, considering and approving departmental budgets, criteria related to climate change and the environment should be taken into account.
5. **Insufficient capacity.** The capacity, competency, knowledge and education in the administration is a serious limitation. Also, specific knowledge on climate change and emergency response is not highly developed. If data is available and shared, the necessary analysis is often not possible due to technical or institutional shortcomings.
6. **Tariff policy, financial incentives and environmental standards.** Existing tariff policy and the weak financial management in the water and energy sectors are problematic. The tariff policy for electric and thermal energy does not correspond to the costs of energy companies and impedes the development of the country's energy sector, which is heavily subsidized. Low tariffs make savings of energy or water and investments in new technologies and renewable energy not very attractive. There is also a lack of economic and financial incentives for businesses to introduce new innovative energy-efficient "green" technologies. The effectiveness of instruments used for monitoring of economic entities' activities in terms of assessing their potential environmental impact is extremely low. Environmental standards, norms and rules also do not meet the needs and international requirements.

All these challenges can be addressed at the national level. However, given that climate change and emergencies have a regional and global dimension, regional and transboundary cooperation needs to be strengthened to achieve sustainable results.

6.3 Government strategies and programs

The National Development Strategy of the Kyrgyz Republic for 2018-2040 includes environmental issues, adaptation to climate change and disaster risk reduction. In pursuance of this national strategy, the development program for the period 2018-2022 "Unity. Trust. Creation", was approved in April 2018. In this program, the environmental aspect of development, including climate change issues is defined as a cross-cutting direction.

In January 2018 the Concept of protecting the population and territories from natural and man-made emergencies for 2018-2030 and the first stage of an action plan for implementing the concept until 2022 were adopted.

The Water Code of the Kyrgyz Republic, approved in 2005, is not fully implemented (see section 5.1.3 above). It regulates water relations in the field of use, protection and development of water resources for a guaranteed, sufficient and secure supply of water to the population, environmental protection and the rational development of the country's water resources.

A Program and an action plan for adaptation of agriculture and water management to climate change for 2016-2020 is in place. Other sectoral adaptation plans had been developed in the past, but are outdated.

An application for financing and development of the National Adaptation Program (NAP) and adaptation plans of two sectors (emergencies and agriculture) was sent to the GCF for approval in 2017. The application is under consideration. The expected period of the project: 2019-2022.

Based on the adopted Green Economy Concept in the Kyrgyz Republic, the Green Economy Program for the period 2019-2023 will be adopted in the near future. It determines the transition to a "green economy" in seven areas that are directly related to the problem of climate change.

6.4 Priority program areas in need of support

6.4.1 Climate change

1. It is necessary to **create favorable political and institutional conditions** for attracting climate financing and effective implementation of measures to adapt and mitigate the effects of climate change in the country.

   In order to comprehensively address structural and institutional problems, it is necessary to rethink how climate change issues in the Kyrgyz Republic are managed and how the relevant institutions for this are set up. Reforms for optimization of coordination mechanisms of interconnected cross-cutting issues: achieving sustainable development goals, climate change, water resources management and introducing a green economy will be continued. The mechanism for the selection, approval and coordination of projects in the field of climate change, environmental protection and green economy will be reviewed

   Equally important is also improving coordination, interaction and coherence also among development partners in the design and implementation of climate change policies.

2. **Awareness, and awareness raising, on climate change issues** is needed for both the population and decision makers.

   It is extremely important to implement systemic measures to raise awareness and strengthen the capacity of employees of state bodies, local self-government bodies, business and the public, with special emphasis on educational institutions. The population will accept painful reforms only if it realizes the seriousness and importance of the problems and challenges.

3. There is a need for **reform of regulatory systems to stimulate green actions**, investment and technology: sustainable financing, tariff and fiscal policies, reforming subsidy policies, green public procurement, implementation of binding environmental safety standards, construction and other norms and regulations. All these areas have to set incentives for government bodies, businesses and the population in order to contribute to improvements and progress.

   It is necessary to strengthen the system of environmental impact assessment, monitoring and control and to ensure the effective functioning of state control instruments.

4. The **strategic orientation needs strengthening**. For a clear strategic orientation, it is important that national and sectoral programs be developed and successfully implemented, taking into account the existing relationship between them. The Government of the Kyrgyz Republic and development partners should join efforts to effectively implement the following programs:
   a. National Adaptation Program (NAP) and sectoral adaptation plans: agriculture, water, emergencies, energy, health, forest and biodiversity. The institutionalization of the national adaptation planning process is important;
   b. Nationally determined contribution (NDC) of the country as part of the obligations under the Paris Agreement;
   c. Roadmap for the implementation of the Water Code, as well as the adoption and implementation of the National Water Strategy;
   d. The Green Economy Program of the Kyrgyz Republic for the period 2019-2023;
   e. Climate Investment Program (CIP).

6.4.2 Disaster risk reduction

1. It is necessary to further **develop a system of integrated monitoring and forecasting** of dangerous natural processes and phenomena, which will include:
   a. improving the regulatory framework aimed at determining long-term goals in the field of monitoring and forecasting emergencies, integrating disaster risk reduction into sustainable development planning;
   b. creation of a glaciological research and monitoring service for lake outbursts and a system for monitoring and forecasting slowly developing threats (drought and low water, etc.).
   c. early warning systems that involve local communities and are connected by an online network for early warning of the population against threats of lake outbursts and floods;
   d. automated early warning system for atmospheric aridity, drought, mudflows and agricultural land degradation;
   e. mudflow monitoring. Monitoring, typing and cataloging of mudflow hazardous foci to select a method for protecting and minimizing geo-risks in the most dangerous supporting river basins of Kyrgyzstan.
   f. monitoring of flooding of territories. Inventory of territories with a high level of groundwater rise and the creation of the foundations of a monitoring network and cadastre of areas of flooding in the Kyrgyz Republic.
2. It is necessary to **develop mechanisms for redistributing risks**, including insurance against natural disasters, expanding the mechanism for using financial and humanitarian assistance, and developing mechanisms to stimulate domestic investment.
3. It also required to **reduce risks from radioactive and chemical pollution** and land degradation in adjacent areas, and rehabilitation of tailings of the former uranium mining industry.
4. Support is needed to **reduce risks from slope processes and land degradation** in the context of adaptation to climate change and to reduce disaster risks in Kyrgyzstan.
5. It is also necessary to **strengthen the technical potential** of the emergency response forces.