



2018

Review «Environmental Financing

with a Focus on Biodiversity and
Climate Change Adaptation
Measures in Jalal-Abad Province:
Political and Institutional
Framework and Analysis of
Public and Private Expenditures»

Environmental Financing with a Focus on Biodiversity and Climate Change Adaptation Measures in Jalal-Abad Province: Political and Institutional Framework and Analysis of Public and Private Expenditures

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INTRODUCTION

The Kyrgyz Republic, while accepting international commitments to protect the environment and to adapt to climate change, recognized that environmental issues that determine country's development and viability of society require the structural revision. Thus, these commitments were reflected in the key national strategic documents (primarily in the National Sustainable Development Strategy (NSDS), the Transition to Sustainable Development Programme (SDAP), and now in the Programme of the Government of the Kyrgyz Republic "Unity. Trust. Creation"). The achievement of national development goals is determined by many factors, including institutional, political and financial.

Since December 2015, the Kyrgyz Republic is part of the UNDP Biodiversity Financing Initiative (BIOFIN), managed by UNDP in partnership with the European Commission and the governments of Germany, Switzerland, Norway and Flanders. The Global Initiative brought together 31 countries that were involved in the development and piloting of the BIOFIN methodology.

The first phase of the BIOFIN initiative involves the financing plan of biodiversity development based on a study of the political and institutional framework for biodiversity financing, and in Kyrgyzstan on environmental protection (EP), with a focus on biodiversity (BD) and climate change adaptation (CCA).

UNDP implements the "Biodiversity Financing Initiative (BIOFIN)" Project at the national level, the OSCE Program Office in Bishkek works at province level. In 2017, the Policy and Institutional Framework Review and the Public and Private Environmental Conservation Expenditures for the Environment in Issyk-Kul province were developed.

In 2018, the OSCE Program Office in Bishkek supported research on the political and institutional framework for EP financing with a focus on BD and CCA in Jalal-Abad province. The findings are presented in this Review *"Environmental Financing with a Focus on Biodiversity and Adaptation Measures to Climate Change in Jalal-Abad Province: Political and Institutional Framework and Analysis of Public and Private Expenditures"*.

The Review is expected to provide state bodies, municipal authorities, enterprises, organizations and the public with information on financing the nature management and environmental protection. It can be the basis for developing measures to reduce financial deficit of the environmental sector.

Information provided in this Review is based on official data of territorial and regional executive authorities operating in the environmental management and protection, state statistics, documents of local governments of Jalal-Abad province.

This Review establishes basic context of the existing policy, economic, fiscal and institutional framework, namely:

- analyzes strategies and trends in the field of environment, biodiversity and adaptation to climate change in Jalal-Abad province;
- identifies sectoral linkages and driving forces in the field of environment, with a focus on biodiversity and climate change;
- defines the current financial framework in the field of environment, biodiversity and climate change, including existing mechanisms and key entry points for better financing;
- describes the institutions important for financing EP, BDC and CCA in Jalal-Abad province;
- provides an analysis of environmental expenditures from the main sources, i.e. state budget, private sector, funds of development partners.

This document is the result of peer review and is not exhaustive. It can be expanded and supplemented by other environmental research at the local level.

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I. Overview of the Political and Institutional Framework

1. Vision, Strategies and Trends in the Sphere of Environment, Biodiversity and Adaptation to Climate Change at the National Level

Every citizen of the country has the right to an environment favorable for his life and health and to compensation for damage caused to health. This is enshrined in the Constitution of the Kyrgyz Republic.

Kyrgyzstan adopted the course on sustainable development, which includes environmental development, with the approval of the National Sustainable Development Strategy of the Kyrgyz Republic for 2013-2017¹ and the Transition to Sustainable Development Programme of the Kyrgyz Republic for 2013-2017².

The strategic goals in the sphere of environment, biodiversity and climate change are set out in the following key documents:

1. The Concept of Environmental Safety of the Kyrgyz Republic³ until 2020, adopted in 2007, is a framework document that defines state policies in the field of environment, including adaptation to climate change and biodiversity conservation.

2. The Priorities on Adaptation to Climate Change of the Kyrgyz Republic⁴ until 2017, adopted in 2013, include the sectoral programmes of ministries and departments developed under this document, which cover adaptation measures in the sectors of water resources, agriculture, public health, emergency situations, forest resources and biodiversity.

3. The Priorities on the Biological Diversity of the Kyrgyz Republic up to 2024 and the Action Plan for their implementation for 2014-2020⁵, adopted in 2014, define the programme, principles, policies and activities of the Government of the Kyrgyz Republic in the sphere of biodiversity conservation.

5. The Programme of the Government of the Kyrgyz Republic “Unity. Trust. Creation” until 2023 determines the key actions for the sustainable development of the country.

The environmental safety component, being an integral part of the country's sustainable development goals, provides for the following priority areas of the government activities:

- forming a long-term vision of national measures to mitigate climate change and enhance climate resilience; implementing measures to adapt to climate change. One of the elements of this vision will be the Forest and Biodiversity Adaptation Programme, which offers measures to involve the international community in the conservation and restoration of natural lands.

- ensuring the environmental sustainability of the country. The policies include the following measures: introduction of strict environmental requirements in the implementation of investment projects, preservation of the country's unique ecosystems, promotion of green technologies (through customs duties, green procurement, green investments, introduction of standards and eco-labeling of products), development of measures to optimize subsidies potentially harmful to biodiversity, introduction of subsidies beneficial to biodiversity, as well as the development and implementation of other financial mechanisms for biodiversity conservation.

- restoration of natural ecosystems in Kyrgyzstan through afforestation.

¹ KR Presidential Decree of 21 January 2013, No. 11

² KR Government Resolution of 30 April 2013, No. 218

³ KR Presidential Decree of 23 November 2007, No. 506

⁴ KR Government Resolution of 2 October 2013, No. 549

⁵ KR Government Resolution of 17 March 2014, No. 131

6. The Programme of Sustainable Development of Jalal-Abad province for 2015-2017. The programme formulates policy of a balanced principle of sustainable development based on the economy, social development and ecology. The ultimate goal of sustainable development is *to reduce poverty through the development of the agrarian sector and to ensure recognition of the region as an ecologically clean area.*

1.1. The State and Trends of Environment, Including Biodiversity and Climate Change. Contribution to Sustainable Development⁶

The world practice proves that nature and its components are one of the main factors for sustainable socio-economic development of the country. This is especially true for Kyrgyzstan.

However, at present resource-destroying technologies prevail in the country's economy. Economic entities, exploiting nature, do not take into account the negative costs and do not put economic restrictions on the excessive use of natural resources. As a result, there is a degradation of natural resources, environmental pollution and loss of biological diversity, which reduces the self-regeneration of ecological systems.

General Characteristics of the Nature of Jalal-Abad Province

A substantial part of Jalal-Abad province is located in the South-West of Tenir-Too, and a small part (Toguz-Toro and Ketmen-Tube valleys) - in the Inner Tenir-Too.

The ridges are composed of ancient crystalline rocks (granites, porphyry), and the mountain slopes and intermountain valleys of rocks of Carboniferous, Devonian and Paleogene-Neogene age.

The province is rich in fuel and energy resources. The following hydroelectric power station cascades were built on the Naryn river: Kurp-Say, Tash-Komur, Shamaldy-Say, Uch-Korgon and Kamar-Ata. The coal is mined in Kok-Zhangak and Tash-Kumyr, and oil and natural gas in Changyr-Tash, Mailuu-Suu, Isbasken, Kochkor-Ata. In addition, there are deposits of antimony (Terek), polymetallic (Sumsar), manganese (in the lower the Kara-Alma river), etc.; non-metallic deposits - ozokerite (Mailuu-Sai), gypsum (Suzak district), etc. There are thermal and mineral springs in Jalal-Abad, Mailuu-Suu, etc. Jalal-Abad province is rich in recreational resources that attract a lot of tourists: Arstanbap, Kyzyl-Unkur, Kara-Alma, Sary-Chelek, Pachata.

Climatic conditions are formed by general factors (geographic, radiation and circulation) typical for the whole Fergana part of the region. However, the orographic structure of the mountains contributes to mitigating the influence of cold arctic and continental air masses. In the warm period of the year, high mountain ranges significantly reduce the adverse effects on the desert species of the Middle and Central Asia.

Ecosystems of Jalal-Abad province. The state and trends

Ecosystems of Jalal-Abad province are diverse and unique. The forests area, the diversity of ecosystems, flora and fauna are so significant that in order to preserve them, the most extensive network of protected areas (PAs) in Fergana Valley region has been created.

Water ecosystems. The largest river of Kyrgyzstan - Naryn river - flows through the territory of Jalal-Abad province. It gives 31% of the total surface runoff of the republic. The Kara-Darya, Kugart, Kara-Unkur, Chatkal rivers, which fall within the Fergana Valley and irrigate large land areas, are also important. In total, the river network in Jalal-Abad province consists of 824 rivers with total length of 9815 km. The main rivers are Naryn and Chatkal, which total length and catchment area are 541 km and 67,000 km² respectively. The predominant source of rivers is glaciers and snow.

One of the largest lakes of the Fergana Valley is Sary-Chelek. This is a fresh lake located

⁶ In developing this section, we used materials from the WELCOME.KG portal and the Environmental Management Plan of the Jalal-Abad Province, 2011.

on the southern slope of Chatkal range near the junction with the At-Oinok range. The rest lakes are small with fresh and running water.

Mountain ranges are accumulators of moisture and give rise to the rivers of the Syr-Darya basin. Fergana and Talas ranges have limited glaciation areas. The total area of glaciers is 154 km². The glaciers are located in separate foci of small forms of modern glaciation and are found on the slopes of Fergana and Chatkal ranges. Fergana Range includes 270 glaciers (total area 88.2 km²), Chatkal Range - 181 glaciers (61.8 km²).

In Jalal-Abad province, on the Naryn river the reservoirs that are water storage facilities during the non-growing season, which regulate water supply for irrigation, both in the Kyrgyzstan and neighboring countries.

Problems. An increasing volume of hazardous polluted wastewater with nitrates, chlorides, chromium, sulfates, petroleum and petroleum products, and heavy metal salts is dumped without purification into open reservoirs and watercourses.

Sanitary and epidemiological surveillance services conducted the laboratory research of water samples of the Mailuu-Suu river. They showed an MPC excess for iron (2-12 MPC) and manganese (1.6-2.5 MPC). The highest MPC exceedances were noted in spring and autumn by 7-8 elements and in the winter - by 4 elements.

The monitoring of water quality has not been carried out since 1990, therefore the data on the quality of surface water are not available. The main polluted areas are wastewater discharge sites of sewage treatment plants, which do not work in places of discharge from irrigation fields due to contamination with mineral fertilizers and pesticides.

The wastewater treatment plants are in extremely poor condition. Many regional centers do not have these plants and sewage systems, therefore wastewater discharges from hospitals, baths, canteens dumped on the terrain and drainage channels. In addition, wastewater discharges from small businesses (cafes, canteens, etc.) also have negative impact. Wastewater is discharged into pits that are built without complying with environmental legislation requirements.

Forest ecosystems of Jalal-Abad province are of particular importance for biodiversity conservation, water circulation, protection the soil from erosion, environmental sustainability and climate formation.

According to the Forest Code, all forests of the Kyrgyz Republic being highly valuable, are given exclusively environmental status, pursuing mainly environmental and sanitary, hygienic, health and other protective purposes with the prohibition of industrial timber harvesting. Forests are the repository of the gene pool and the variety of species and forms of trees and shrubs.

The forests of the province are unique. They have a great ecological value as accumulators of moisture. Growing along the mountain slopes, they help prevent mudflows, landslides and snow avalanches in the mountains, regulate the river water flows, making them uniform throughout the year. So, the regulation of water balance by forests is hardly overestimated, both for the people of Kyrgyzstan and for the entire Central Asia, where farming is based on irrigation.

The forests of Jalal-Abad province are the element of the earth's surface, they participate in the global water, oxygen and carbon cycles. This is the only natural carbon dioxide absorber in the atmosphere, its excess leads to global warming.

According to the National Statistics Committee the forests of Jalal-Abad province cover 12.0% or 338.9 thousand ha. The main types of forest ecosystems include: walnut, deciduous shrubs, juniper, spruce forests.

Spruce forests. Tien Shan spruce is represented by small forest areas in Kyrgyzstan. As of 1 January 1998, the area of spruce forests was 111.6 thousand ha. In the spruce zone, in addition to the Tien Shan fir, there were the pine ordinary (2.3 thousand ha) and Siberian larch (1.6

thousand ha). Semenov fir is growing in 3.6 thousand ha.

Nut and fruit forests. At the southern slopes of the Fergana and Chatkal ranges, at an altitude of 1500-2300 meters above sea level, there are arrays of walnut trees, Kyrgyz and Sivers apple trees, cherry plum (Sogdian plums), and maple of Turkestan on a total area of 630.9 thousand ha, including 35 thousand ha of pure nut forests and pistachio on 33 thousand ha. The forests of the nut-bearing zone are characterized by a large variety of tree and shrub species, comprising more than 120 species, including 40 species of trees and shrubs.

Considering their value and economic importance, the forests have status of the State Forest Fruit Reserve with a special regime of use.

The reforestation works are conducted since 1948 to support the nut forests in good state.

Juniper forests (juniper) are located mainly in the south of the Kyrgyz Republic, in the Alai and Turkestan ranges. Three forms of juniper grow there: Zeravshan, hemispherical and Turkestan. In addition, the archa of elfin forms grows on steep slopes. The total area of juniper forests is 264.3 thousand ha.

Floodplain tugai forests are located on the floodplains of large and small rivers. The following forest types are formed in the floodplains: willow, poplar forests, sea buckthorn and other shrubs. The floodplain forests are located closely to settlements, therefore they are subject to destruction that causes desertification of the river banks.

The main problems of the forests in Jalal-Abad province: deforestation, forest fires, intensive nature management, intensive tourist load, reduction of natural forest ecosystems, environmental pollution.

The **fauna** of the province is diverse. According to the research of the National Academy of Science of the Kyrgyz Republic the following rare species live on the territory of Jalal-Abad province: mountain sheep, snow leopard, Turkestan lynx, brown bear, golden eagle, falcon-balaban, the flora - the Kaufman and Greig tulip, sage.

Problems. Despite the great diversity of species of animals, plants and ecosystems in the region, the gradually increasing pressure of human impact on the environment makes it difficult for many species of animals to remain in their habitat. The decline in their numbers occurred mainly as a result of the intensification of animal husbandry, which developed without taking into account the conservation of habitat, breeding conditions and migration routes of animals. Significant damage to populations and their habitats is also caused by the reduction of tree-shrub vegetation, plowing up significant tracts of land, drying up of water bodies, and poaching.

The preservation of forests and biodiversity in general is facilitated by the creation of **protected natural areas (PAs)**, in which economic activity is either completely prohibited, or a regulatory regime is introduced in accordance with zonal differentiation (protected areas, recreation areas, economic zones). The main PAs' tasks are:

- landscape preservation;
- water bodies, flora;
- fauna;
- monuments of history and culture;
- conditions for the development of tourism, recreation;
- wildlife watching;
- development and implementation of scientific methods for the preservation of natural complexes in the recreational nature management.

The state of fauna in the protected natural areas is stable. At the same time, fishing for the main hunting species such as wild boar, ibex, wolf and marmot has increased. The lack of monitoring of flora and fauna and interdepartmental disunity led to missing of the complete and reliable data on the number of biodiversity in the region.

Protected natural areas of Jalal-Abad province:

- Sary-Chelek State Biosphere Reserve was established in 1959 (total area 24 thousand hectares). The reserve is located on the southern slopes of Chatkal range and covers the unique landscapes of the midlands and highlands of the Western Tien Shan. The natural complex of walnut-fruit and spruce forests, mountain steppes and meadows, diverse animal and plant world, as well as a complex of seven alpine lakes are the property of the biosphere reserve. The jewelry of reserve is Sary-Chelek lake. In 1979, UNESCO included it in the international network of biosphere reserves.
- Besh-Aral State Reserve was established in 1979 in Chatkal Valley (82 thousand hectares). The reserve is an area of the Western Tien Shan endemic - the Menzbir marmot, listed in the Red Book of the International Union for Conservation of Nature. The ecosystems of high-mountain meadows, unique natural complexes of Chatkal valley and part of the floodplain of Chatkal river are protected in this reserve.
- Padysha-Ata State Reserve was established in 2003 in Western Tien Shan (16 thousand hectares). The reserve was aimed at preserving the natural archa forests and the endemic - the Semenov fir, as well as biodiversity in general.
- Dashman State Reserve was established in 2012 (8 thousand hectares) in order to preserve walnut forests and other endemic plants and animals.
- "Saimaluu-Tash" State Natural Park was established in 2001 in Toguz-Toro district (32 thousand hectares). The objects of protection: unique natural complexes of the Kugart tract and numerous petroglyphs (stone drawings of the Bronze Age), which are of great cultural and historical value.
- "Kan-Achuu" State Natural Park was established in 2016 (30.5 thousand hectares) in order to preserve unique natural complexes and biological diversity, to protect rare and endangered species of the animal and plant world, to expand the network of protected natural areas of the Kyrgyz Republic

The main *problems* of reserves and national parks:

- Insufficient support of scientific and security activities from the state budget;
- Insufficient staff;
- Low status of the PAs' employee among the population;
- Poaching in the protected areas;
- Weak awareness raising and public involvement in the EP activities of protected areas.

Hunting resources. Forest ecosystems are of particular importance for biodiversity conservation, water circulation, protection of soil from erosion, ensuring environmental stability and climate formation.

Traditionally, hunting is conducted on wild animals: otter, marten, leopard, fox, wolf, marmot, etc. Hunting on wild ungulates in large numbers: mountain goats, argali, roe deer.

Problems. Often, the fishery exceeded the permissible limits and did not always comply with seasonal restrictions. In this case, hunters often sought to prey wild ungulates, whose meat was eaten instead of livestock. In addition, due to the influence of human, there was a general degradation of natural ecosystems, especially increased in the middle of the last century. This caused a widespread decline in the numbers of almost all target species of animals and birds. In some parts of the region, certain animal species have disappeared completely. This refers to the marmot colonies in the lower zones of the mountains, large mustelids (otter, dressing, polecat, marten), roe deer, argali and leopard. The habitat and the number of mountain goat have decreased greatly. Certain species, especially large artiodactyls, predators and birds, are in danger due to uncontrolled trophy hunting.

One of the most important factors in the human environment is the **quality of atmospheric air**, deteriorating from the intense emission of pollutants from stationary sources and road transport. According to the National Statistics Committee, in 2015 the amount of pollutant emissions into the air from controlled stationary sources of the Jalal-Abad province

amounted to more than 2.7 thousand tons, an increase of 12.5% compared with 2011. This is associated with increased production and use of coal by boiler houses.

1.2. Regional Aspect in National Strategic Documents. Regional Strategic Documents for Sustainable Development

The Kyrgyz Republic adopted the course on sustainable development and green growth approaches in 2013 with the adoption of the country's main strategic document - the *National Sustainable Development Strategy of the Kyrgyz Republic for 2013-2017* (NSDS)⁷.

According to the NSDS, in the long-term strategic vision Kyrgyzstan is a strong and independent state that is among developed countries, comfortable for people's lives, with protection of their rights, freedoms and security, multilingual and benevolent internal environment, respect for the rule of law, high level of education, healthy environment, public stability, international image of a prosperous country, sustainable economic growth and high attractiveness for investors.

Economic growth and the structure of the country's economy are based mainly on extensive technological and nature-intensive development. And in this sense, the country is completely dependent on the state of natural ecosystems. The transition to sustainable development makes it necessary to include the environmental factor in the system of basic economic indicators of development. The underestimation of the environmental factor in decision-making is largely due to the lack of traditional economic indicators of the value of natural capital use, the so-called balance of natural resources, reflecting their use (disposal) and economic assessment of damage from environmental degradation. New state policy in the sphere of environmental protection and safety, as defined in the NSDS (Chapter 5), aims at:

- a phased transition to the system of strategic planning for sustainable development by all subjects of economic, social and environmental activities, regardless of the form of ownership, providing for equal attention to its economic, social and environmental components;
- minimization of negative environmental consequences during economic growth through environmental impact assessment of planned economic and other development projects;
- paid use of natural resources and compensation for damage to the environment caused by violation of environmental legislation;
- availability and openness of environmental information;
- participation of all interested groups in decision-making on environmental protection and management at the national and local levels.

In NSDS, on a par with economic development, social equality and environmental stability, one of the main strategic social policies of the Kyrgyz Republic is to provide the population and other consumers with tap water and sewage.

The Programme of the Government of the Kyrgyz Republic for 2018-2022 "Unity. Trust. Creation ." adopted in 2018, is based on a program-oriented approach to the implementation of the strategic development goals. Priority areas of the Programme are based on the UN Development Agenda 2030 and the achievement of the Sustainable Development Goals until 2030. Each policy direction is developed on the basis of three steps: 1) clear understanding of the current situation; 2) designation of the desired vision as a result of the implementation of the Programme; and 3) the priority measures of the Programme for the successful achievement of the vision, with the definition of objectives achievement indicators.

The programme contains a number of cross-cutting priorities - gender, environmental and technological aspects, which should be integrated into each of the Programme areas.

National programmes and projects should contain only those efforts that require

⁷ KR Presidential Decree "On the National Sustainable Development Strategy of the Kyrgyz Republic for the period 2013-2017" of 21 January 2013, No. 11

significant inter-sectoral coordination, *regional development* and are aimed at scale and specificity.

Regional development is one of the main priorities. It has become an object of state policy. The economic development on the basis of the optimal distribution of productive forces will be the priority of the regional policy.

The beginning of reforms in the economic development will be designing and implementation of programmes for 20 selected cities - points of growth - the locomotive of regional development. Acceleration will produce reviving the settlements infrastructure: water supply, sewage systems, energy, heat, sports facilities, culture and leisure.

Local authorities' development. Formation of a local community based on an awareness of national and cultural identity will be the priority. Authorities and resources will be transferred to the levels of province, city, village as much as possible to implement their own development programmes. Local governments will get a real motivation to raise local budget revenues, primarily due to the growth of the local economy and improved revenue administration.

The system of interbudget relations will be further developed. The main indicator of an effective budget process will be the availability of a development budget in each city and ayyl aimak of the country. This will require changes in the fiscal deficiency equalization system. This approach will solve the problem with so-called "subsidized" municipalities.

The new model of territorial administration will be based on increasing the responsibility of territorial state bodies and local authorities in their efforts to improving the quality of life of citizens.

Ecological aspect of development. The principles and requirements of a green economy will be introduced at all stages of EP: planning, decision-making, execution and monitoring. The principles of green growth should be considered in order to revise the structure of the economy and transition to development with a minimal impact on the environment.

The basis for environmental performance will be improvement of environmental data management in order to reasonably formulate and implement development plans, as well as to make environmentally significant decisions.

To protect population and territories from natural and man-made emergencies the following measures will be taken: increase understanding of disaster risk by developing a system of integrated monitoring and forecasting of hazardous natural processes and phenomena, increasing public awareness. More attention will be drawn to measures on reducing the risks from uranium tailings and mining dumps.

A common intersectoral policy will be built on the implementation and promotion of resource-saving, low-waste and non-waste technologies for environmental management. First of all, it should affect the practice of using and protecting water resources (using new technologies for effective management of water resources, irrigation and irrigation systems), energy resources (energy saving and energy efficiency, creating conditions for the use of alternative, renewable energy sources), reducing the amount of waste taking measures to prevent their formation, recycling, reuse and safe disposal, and basic natural assets (forest and land fund, minerals, natural biological resources and recreational assets).

Transition to sustainable development involves the preservation and gradual restoration of natural ecosystems, including by conserving growing forests and increasing the area of forest ecosystems, expanding and strengthening the network of specially protected natural areas, allowing to ensure the protection of flora and fauna included in the Red Book of the Kyrgyz Republic.

The Concept of the State Regional Policy of the Kyrgyz Republic⁸, adopted in 2009, is a framework document, where the main objective of the state regional policy is to ensure

⁸ KR Government Resolution of 11 March 2009 , No.171

accelerated socio-economic development of the regions of the Kyrgyz Republic to improve the welfare and quality of life of the population. One of the tasks of the Concept is to optimize the state of the *natural-ecological environment, improve the environmental protection system, and prevent and eliminate emergency situations.*

The Concept of the Regional Policy of the Kyrgyz Republic for 2018-2022⁹, developed in order to establish a basic structure for the preparation of detailed programmes for development of specific regions and localities in the medium and long term.

The main goal of the regional policy is to ensure accelerated socio-economic development of the regions in order to improve the people's welfare and quality of life through focal support for the development of stronghold areas, including development centers and relevant *aiyl aimaks.*

The Concept proposes to allocate 20 settlements as the base points for the regions' growth.

These points will assume the role of regional centers of intensive development of industrial parks and clusters. The territorial bodies of state power, service centers for population and business service centers, logistics centers, and social facilities should be placed in the stronghold cities. Purposeful development of cities will automatically involve the economic development of network of enterprises and farms of neighboring regions and will provide opportunities for local business.

The development of points of growth in the regions means conducting certain organizational and managerial activities and research. So initially, it is necessary to determine priority projects of the socio-economic policies for 20 settlements.

The Programme of Sustainable Development of Jalal-Abad Province for 2015-2017. The programme formulates a development policy of balanced principle of sustainable development based on the economy, social development and ecology. The ultimate goal of sustainable development of the province is the *reduction of poverty through development of the agrarian sector and ensuring recognition of the region as an ecologically clean area.*

Plans of social and economic development of district administrations and local authorities of Jalal-Abad province. Local authorities of Jalal-Abad province adopted plans and strategies for the development of regions for the medium term. It should be noted that not all plans for the strategic development of districts and cities will include EP sections, but they cover measures aimed at reconstruction and rehabilitation of wastewater treatment plants, providing the population with drinking water, exporting solid household waste, organizing landfill sites, developing sustainable agriculture and pasture management. These activities directly or indirectly affect the ecological state of the territories and the environment. In the process of developing this Review, the Socio-Economic Development Plans of all districts and cities of regional significance were reviewed.

These plans have much in common, in particular, almost in all documents the main topic is development of agriculture, industrial sector, small and medium business, education and culture sector. Environmental issues include projects on clean drinking water supply.

Sustainable environmental management and biodiversity conservation activities are considered in strategic documents of only four districts (out of 8 districts and the city of Jalal-Abad).

- **The Program of Socio-Economic Development of Aksy District for 2018–2023**, involves tourism development on the basis of the Sary-Chelek Biosphere Area and the Padysha-Ata Reserve, as well as the development of agriculture. Separately, “Development of Forest Protection” programme highlights the tasks of reforestation and

⁹ Approved by the Decree of the Government of the Kyrgyz Republic of 31 March 2017, No.194.

biotechnical measures.

- **The Strategy of Socio-Economic Development of Toguz-Toro district for 2018–2023**, includes section “Ecology and Tourism”. Tourism development is expected on the basis of the National Park "Kan-Achuu." Environmental protection measures are limited to planting tree saplings.
- **The Sustainable Development Programme of Ala-Buka District for 2016-2020**, has the most developed separate EP section. It indicates the negative impact of the mining sector, separately highlights issues of biodiversity conservation, forest sector development (both the state forest fund and municipal forests), and considers hydrographic and hydrological conditions.
- The section on the environmental situation of **Bazar-Korgon District Sustainable Development Programme for 2018–2023** was prepared in a similar way. It was supplemented by a subsection, highlighting the work on ensuring clean area.

Strategic documents of the local government of Jalal-Abad province do not have well-developed environmental protection measures.

1.3. Findings

According to the framework of approved *national and sectoral strategic* documents in the EP, BDC and CCA sphere it is planned to form and consistently implement a unified state policy in the field of environmental safety and protection. At the same time, it emphasizes the importance of using environmentally friendly technologies in industry and practices in tourism activities.

However, action plans for the implementation of strategic documents often do not have full-fledged financial support. As a result, those activities that do not require additional funding and are included in the range of current tasks of departments, as well as activities that have additional financial and technical support from the development partners, are being performed.

Given the established system, the main responsibility for the implementation of most environmental strategies lies with the SAEPF and SIETS. Responsibility of other state bodies. All this leads to insufficient reflection of environmental priorities in the plans and budgets of other sectors (agriculture, energy, mining and tourism).

Province and district state administrations and local authorities are also developing strategic documents of the appropriate level.

The province strategic document was developed with considering sustainable environmental development. Some district documents also have sections or activities related to the protection of nature and biodiversity conservation.

However, they have the same problems and shortcomings as the national ones - lack of resources, insufficient coordination.

None of the documents of the province local authorities submitted to the analysis have environmental sections. That is, the degree of involvement of municipalities in environmental protection is currently still small, due to the lack of understanding of the terms of reference.

Thus, a revision of strategic documents in the EP, BDC and CCA field with considering financial constraints and development of strategies for attracting extrabudgetary funding, is necessary. The same principle is relevant when designing a new strategy and programme for the national sustainable development. Additional attention should be paid to the integration of the environmental component as a priority in other key sectors of the economy (such as agriculture, energy, mining).

It is important to involve local authorities in solving environmental problems. The strategic documents of the local self-government bodies should reflect the state policy of sustainable development with taking into account measures and

expenditures on EP, BDC and CCA.

Measures on EP, flora and fauna should be included in plans for the socio-economic development of each local authority unit of the province.

The following is important for Jalal-Abad province:

- reducing the environmental load on mountain villages, located directly in the forests, the construction of micro-hydroelectric power plants, sewers.
- ban on the surface extraction of gold in river beds to protect floodplain forests;
- increasing the area of poplar planting in order to reduce illegal harvesting of industrial wood in forests and to cover the need for construction wood;
- carrying out reforestation works in landslide areas of Suzak and Bazar-Korgon districts along the course of the Kokart and Kara-Unkur rivers.
- establishment of recreational areas near cities;
- ecological networking including PAs of various categories;
- ensuring transboundary movement of wild animals (Besh-Aral Reserve of Chatkal district) and migratory birds in the waters of the Toktogul, Bazar-Korgon reservoirs, Kara-Suu lake;
- establishment of a specialized biolaboratory for monitoring biodiversity objects;
- implementation of measures for the protection of especially valuable tree species, including against the illegal harvesting of nut traps and industrial timber on the territory of forestry;
- unified scientific information about the BD status in the province.

2. Sectoral Linkages and Driving Forces in the Environment, with a Focus on Biodiversity and Climate Change

In the BIOFIN context, the term “driving forces” is used to describe the main causes of environmental change. Driving forces imply how established social systems, institutions, or people function and include characteristics of economic activity, social behavior and preferences, technological development, politics, and governance. The combination of several driving forces leads to changes that are observed in ecosystems and more widely in the environment.

This section describes the interdependencies and interactions of priority economic sectors with the environment focusing on biodiversity and ecosystems within the framework of sustainable development policies.

The section identifies the main risks and opportunities for the environment and biodiversity from an economic point of view in the context of priorities of the state policy of sustainable development.

2.1. Economic and Social Trends of Jalal-Abad province

Jalal-Abad province is located in the south-western part of Kyrgyzstan. The total area is 33.7 thousand km² (16.9% of the total area of Kyrgyzstan). Population is 146.5 thousand people (19.0% of the total population of the country) (2016).

The significant part of the province is located in the south-west of Tenir-Too, a small portion (Toguz-Toro and Ketmen-Tyube valleys) - in the Inner Tenir-Too.

The administrative center is the city of Jalal-Abad.

21.8% of the population lives in urban settlements, the rest - in rural ones.

Economic performance of Jalal-Abad province has grown over the past 6 years, which means positive trends, compared with 2011. This is shown in the Table 4.1 – GRP dynamics. GRP per capita in Jalal-Abad region in national currency is constantly growing, except in 2013.

Table 4.1. Macroeconomic indicators of Jalal-Abad province, 2011-2016

Indicators	2011	2012	2013	2014	2015	2016
GRP, mln KGS	32784,4	36913,7	37 509,0	43 046,9	49 228,3	52 614,0
Nominal growth, %	-	112,6	101,6	114,8	114,4	106,9
GRP per capita, thousand KGS	33,7	37,1	36,9	41,4	46,3	48,4
Average salary, KGS	8149	9 818	9 993	10 877	12 035	13277
Nominal growth, %	136,1	120,5	101,8	108,8	110,6	110,3
Poverty level, %	45,3	55,7	46,4	46,4	45,1	32,2
Population, thousand people	1 036,7	1 054,3	1 076,7	1 099,2	1 122,4	1 146,5
Population growth, %	101,3	101,7	102,1	102,1	102,1	102,1

Source: KR NSC, own calculations.

Average nominal salary in the province was constantly growing, with the minimum value of growth in 2013 - 101.6%, and a significant increase in 2012 - 120.5%. The poverty level having reached a peak in 2013 with a value of 55.7%, began to decline and amounted to 32.2% in 2016,

which is the minimum level for 2011-2016 and the average indicator for all provinces of Kyrgyzstan.

2.2. Sectoral Dependencies, Risks and Opportunities

This subsection describes the relationship between priority sectors and ecosystems. It identifies the specific sectoral practices affecting biodiversity trends and revealing economic and financial drivers for industry and general practices.

The importance of these sectors for the development of Jalal-Abad province lies not only in their large share in GRP or in the total number of people employed, like in agriculture, but also in the role of the industry as a driving force of the future economic growth and regional development.

2.2.1. Agriculture, Forestry and Fishery

Agriculture, forestry and fishery are the basis for other sectors, they generate raw materials and supplies. The agricultural sector in the country's food security and employment is one of the main sectors of the state economy. The development of this sector provides enterprises of the processing industry with raw materials, population with food and ensure significant part of the GRP.

32.4% of the economically active population of Jalal-Abad province are employed in this industry (2016).

The area of the province agricultural lands is 1804.6 thousand ha, of which 9.2% (165.6 thousand ha) are arable, 0.5% (9 thousand ha) are perennial plantations, 87.3% (1576.2 thousand ha) are pastures (according to the NSC, 2015).

The livestock industry provides 40.4% of the total agricultural output.

This sector is directly depending on ecosystems – aquatic, forest, pastures and agroecosystems which create conditions for production of environmental goods and services and regulate climatic and water regimes, compositions of soil etc., and create additional externalities for the other sectors.

Due to specificity and scale, the sector has the strongest impact on environment and biodiversity through:

- Overgrazing or unsystematic pasturing of cattle on existing pastures, seizure of highland areas of wildlife habitats for new pastures and hayfields, uncontrolled grazing in forests. All these lead to soil degradation, decrease in rangeland vegetation and pasture productivity (1/3 of pastures are clogged with poisonous, harmful and uneatable plants; pasture productivity in 2013 decreased by more than 20%¹⁰ compared to the 1980s), reduced renewability of valuable forest species, death of young animals and the expulsion of wild animals from their usual habitats;
- the use of agrochemicals results in a reduction in natural pollinators (insects, small birds and bats); falling into the soil, chemical fertilizers increase soil mineralization, which reduces the humus layer; moreover, in conditions when the arable land has slopes, the washing out of fertilizer traces happens more intensively, and chemicals contaminate large areas;
- introduction of alien animal and plant species, which, in view of better viability, displace local, inter alia, endemic species, reduces natural genetic assets that bring economic benefits to humans or may be useful in the future (genetic resources, ancestors of agricultural crops);
- non-compliance with environmental legislation, poaching, illegal fishing, cutting and gathering of non-timber forest products causes deterioration of biodiversity and reduction of the natural ecosystems area;
- unsustainable land use practices and the irrational use of water for irrigation for

¹⁰ Fifth National Report on Biodiversity Conservation in the Kyrgyz Republic (2013)

agricultural purposes causes changes, most often negative, that affects soil fertility, leading to waterlogging, salinization or soil erosion, and further falling out of circulation of extensive areas .

The province is already experiencing the consequences of unsustainable farming. Environmental problems on agricultural land, rivers include lowering water levels, drying up water sources, variability of precipitation, drought, flooding, poor water quality, erosion, loss of soil fertility, reduced yields, landslides, over-exploitation of resources and livestock grazing, loss of habitats and decreased species diversity¹¹.

2.2.2. Industry

In 2016, there were 178 enterprises and 17.4 thousand workers in the industry of Jalal-Abad province. They produced products for 20,087.9 million KGS, which amounted to 9.6% of the national industrial production. The main branches of industry are: electric power (42.8% of industrial products), mining (35.8%), manufacturing (20.0%).

The state policy is aimed at achieving sustainable development of the mining industry with the rational use of mineral potential. Kyrgyzstan actively supports the growth of industry production and development of new mineral deposits. In this case, the preference is given to advanced mining technologies. Non-use of wasteful and environmentally harmful mining methods is declared.

The industry depends mainly on aquatic ecosystems, but can affect almost all types of ecosystems. The peculiarity of the mining industry is the scale and high specialization of production. It is a very large consumer of resources, first of all, natural, and is accompanied by environmental impact during the entire production period and even after its completion through: pollution of surface and groundwater, atmospheric air, removal and pollution of soil, disposal of waste and dumps, deforestation, impact on local flora and fauna, etc.

The following is observed in the areas of the mining enterprises:

- the forests, agricultural land and PAs' lands are withdrawn from circulation;
- the integrity of subsoil and groundwater is violated;
- the hydrological regime of water courses changes;
- the risk of man-made disasters with following consequences increases.

Deformation of the earth's surface cause new anthropogenic landscapes on the mine workings. In the Kyrgyz Republic, the potential for negative impact is higher, since mining is carried out in remote areas or environmentally or socially sensitive areas. Almost always, this leads to a change in ecosystems and loss of biodiversity in these areas. Existing mining companies are required to have reclamation plans and accumulation account for the recultivation of deteriorated lands after the mine closure.

It is necessary to highlight the problems **associated with the state of tailings and dumps of the mining industry** in Jalal-Abad province.

Tailing landfills of Mailuu-Suu town (MES KR)

There are 23 tailing landfills (total waste volume - 1.99 million m³) and 13 landfills (total waste volume - 940.5 thousand m³) with uranium production waste on the territory of Mailuu-Suu. The average power of gamma radiation on the surface of tailings is 30–60 µR / hour, in abnormal areas it is up to 500 µR / hour.

The most dangerous are tailings No. 3, 5, 7, 18 (valley of the Mailuu-Suu river) and No. 13 (valley of the Aylampa-Sai river). A high probability of their damage and destruction by landslide and mudflows exists.

All existing tailings were mothballed from 1966 to 1973. However, the dumps, most of which are located on the slopes of the Mailuu-Suu river valley, have not been recultivated.

¹¹ Plan of the Environmental Management of Jalal-Abad province, 2011

Mailuu-Suu area is located in the high seismicity zone, within which earthquakes with a magnitude of more than 7.0 are possible. Strong earthquakes may trigger large landslides that can destroy tailings and / or block the Mailuu-Suu river bed.

Most of tailings are located on the banks of the Mailuu-Suu river. It is tributary of the Syr-Darya river, which flows through the densely populated territories of Uzbekistan, Tajikistan and Kazakhstan. So, the destruction of these tailings is a great threat to the lives and health of these Central Asian countries.

The data on groundwater pollution in the area of Mailuu-Suu tailings has not yet been provided. Some evaluations of international projects showed that at a distance of 1 km from the city the uranium content in the river is at background values level. Such levels of river water pollution correspond to regional background values and are not matter of concern.

Mountain landfills in Shekaftar village (MES KR). Shekaftar village is located in the valley of the Sumsar river, near the border with Uzbekistan. The uranium ore mining existed in this area from 1946 to 1957. Unfortunately, serious mistakes and miscalculations when choosing the locations for the waste storage were made, therefore they are located directly in the channels and valleys of transboundary rivers. There are 8 mountain dumps on the territory of the Shekaftar village, about 700 thousand m³ of weakly radioactive rocks and substandard ores. There are residential buildings with homestead plots in close proximity. All dumps are not reclaimed. The landfills, located on the banks of Sumsar, are intensively eroded by the river waters with radionuclides removal in its bed. This is evidenced by high concentrations of uranium 215 g / t, and increased content of heavy metals: lead, iron, copper, chromium and cadmium, recorded in the bottom sediments of the river near the border with Uzbekistan.

Heavy metals and toxic elements appeared in the result of the Sumsar Lead-Zinc Mine activity, located 3 km upstream. 25 years of activity of this mine resulted in 4.5 million tons of toxic wastes, which were laid in three tailing dumps on the slopes of the Sumsar river valley. In the spring 1994 after heavy rainfall, tailing No. 1, located in close proximity to the edge of the river, was destroyed, and this object became a source of permanent pollution of Sumsar river.

The lack of vegetation on the unrecultivated landfills contributes to the development of wind erosion, surface washing away and their spreading to the territory of Shekaftar settlement, as well as the whole Fergana Valley. There is no data of regular monitoring in the zone of the objects examined. Thus, the population living in the valley of the lower reaches of the Sumsar river, including the territory of the Namangan province of Uzbekistan is experiencing the synergistic effects of radionuclides and heavy metals.

Objects of Kyzyl-Dzhar settlement (no business entity). Uranium ore was mined on the territory adjacent to the settlement until the end of the 1960s. There are landfill and sealed mine. The landfill's volume and area are more than 1000 m³ each. The rehabilitation measures were not done. There are no warning signs and fence around the landfill.

Tereksay Mine (Kadamdzhai antimony plant). There are three tailing dumps in Tereksai antimony mine, two of them are sealed. The enrichment tailings – pulp are placed in the existing tailing pond, the annual placement makes 75.8 thousand tons. The waste contains heavy metals: copper, antimony, gold, and arsenic.

2.2.3. Transport

Automobile, railway, aviation and pipeline transports are developed in Jalal-Abad province. Automobile transport has a special place. However, the turnover in the province tends to decrease: in 2016, road transport shipped 2,363.5 thousand tons of cargo, which is 33% less than in 2011, but passenger traffic increased over this period by 13%, reaching 32.1 million passengers . The main transport artery is the road Bishkek - Osh. In addition to this route, there are roads: Jalal-Abad - Kazarman, Uch-Korgon - Kerben - Ala-Buka - Kanysh-Kiya, etc.

There are also train lines in the province: Kara-Suu - Jalal-Abad - Kek-Yangak and

Namangan (Uzbekistan) - Uch-Korgon - Tash-Komur. Despite their limited length, these roads play an important role in establishing economic ties with other countries. Gas pipeline has been installed from Kochkor-Ata village to Jalal-Abad city. In the city of Jalal-Abad, in the villages: Kazarman, Kerben, Kanysh-Kiya, there are airports that connect these settlements with Bishkek. In addition, Jalal-Abad has air links with the following cities: Karakol, Cholpon-Ata and Kazarman village.

The priorities of the state policy in the field of transport in the region, as well as throughout the country, depend on improvement of the state of transport infrastructure:

1. Improving the internal network of highways, ensuring transport independence in the country.
2. Rehabilitation of international road transport corridors and access to regional markets for goods and services (CAREC project).

Negative impact of the construction of new roads (both automobile and iron) occurs through:

- reduction and fragmentation of habitat, including violation of the migration routes of wild animals;
- anxiety factor due to noise and the presence of the vehicle;
- environmental pollution, including noise and dust along roads, greenhouse gas emissions.

2.2.4. Tourism¹²

Tourism plays an important role in solving social problems, creating additional jobs and increasing the well-being of population, particularly in rural areas. In the Kyrgyz Republic, tourism is one of the priorities of the state economic policy¹³.

Tourism with not damaging the environment, and preserving the objects of cultural and historical importance is a priority for the economic development of Jalal-Abad province. Considering many opportunities for health, recreational, extreme and other types of tourism the sector has a large capacity for employment. Tourism allows solving the following problems, such as improving roads, and, accordingly, stimulating roadside trade and services.

The state reserves and national parks, 2 places of resort treatment, tourist localities and places for recreation, 7 historical archaeological complexes, 9 museums are very attractive for tourists.

In 2016, more than 78.1 thousand domestic and foreign tourists visited this province.

The development of tourism in Jalal-Abad province may contribute to the reduction of internal and external migration through provision the population with jobs and creating opportunities for self-employment.

Environmental problems. A large part of the tourism entrepreneurship is concentrated in private sector. And this impedes introducing relevant requirements for the sector activities. In addition, this complicates taking timely and adequate action by the mayors and the heads of district state administrations for the development of *sustainable* tourism.

The tourism potential of biosphere reserves Sary-Chelek, Padysha-Ata, Besh-Aral in Aksy and Chatkal districts, walnut forests Arstanbap in Bazar-Korgon district and Kara-Alma in Suzak district, the tract Chychkan in Toktogul district is also not fully used. At the same time, the province has all necessary natural resources for the development of mountain ecotourism and extreme tourism.

It should be noted that a low level of nature management provokes an irrational attitude towards tourist and recreational resources.

¹² As per materials of the Sustainable Development Programme of Jalal-Abad Province (2015-2017), 2014

¹³NSDS 2013-2017

The negative impacts of tourism on biodiversity:

- tourism disrupts ecosystems in areas popular among tourists (through construction of hotels, arrangement of recreational facilities, diversion of places for outdoor activities, etc.).
- the environment is polluted, inter alia, with sewage and solid household waste;
- appears a disturbance factor for wild animals (noise, presence of people);
- valuable plant species are destroyed.

Particularly negative effect may be caused by independent, or self-directed tourism.

2.2.5. Solid Waste Problem

The main problem in Jalal-Abad province that has not been solved so far, is the problem of household waste recycling. At present, the garbage sites for household waste do not meet sanitary standards. Existing containers and specialized vehicles do not meet the needs of human settlements. The system of separate collection of garbage (food waste, waste paper, textiles, scrap metal, etc.) has been completely destroyed. There are no waste recycling and system for cleaning the territories from household waste. The number of uncontrolled garbage dumps in cities and suburban areas is growing.

There is an infiltration of polluted wastewater from landfills into underground water horizons. Wind flows trash around the neighborhood, polluting the soil layer and surface water. The air is polluted by the products of smoldering, burning, rotting and decomposition of waste. The garbage dump is a source of sanitary, epidemiological and environmental hazards. A radical reconstruction of dumps and their re-equipment is required.

There are few hazardous sources of environmental pollution: livestock, meat processing industry and medical waste, which require special measures for neutralization.

2.2.5. Informal Sector

The informal sector, which refers to the aggregate of small business units, as well as economic activities carried out on the basis of households or individually, is important from the point of view of ensuring the welfare of the population: according to the National Statistics Committee, the volume of the informal economy in 2015 amounted to 23.8% of GDP.

The informal sector has a strong influence on the environment. Firstly, the subjects of the informal sector most often use imperfect technologies that are difficult to control. Secondly, many activities in the informal sector are carried out using natural resources, and it is practically not controlled by the state.

“All plots are broken, fenced with hedges, rented, the cattle is grazing. Animals trample seedlings. The grass undergrowth is mown. There is no renewal” (G. Lazkov, Senior Researcher, Institute of Biology and Soil Science of the National Academy of Sciences of the Kyrgyz Republic).

The forest suffers from poachers. Residents do not touch the nuts, because they receive income from them, but they cut down other trees for firewood - gradually only walnut trees remain in the reserve.

“Leave Arslanbob alone.” What will happen to the most famous Kyrgyz forest? ”.
Living Asia — online ecomagazin, 07.02.2017

In Jalal-Abad province the most susceptible to the negative impact of the informal sector are walnut forests, aquatic ecosystems, meadows, etc., which serve as a source of income for

the population living near or in these ecosystems. At the same time, the population does not use methods of sustainable management. So ecosystems actively used do not recover.

Harvesting wood and non-wood forest products, fishing, gathering herbs and other types of activities of the informal economy are activities accessible to the population. This is the way of investing existing, usually small capital. However, people involved in these types of activities, as a rule, do not consider environmental management, which often involves certain restrictions and sometimes requires financial investments.

It is very important to raise awareness about the principles of sustainable, environmentally friendly management of economic activities.

2.3. Conclusions

1. Priority sectors of the economy to a certain extent have a negative impact on the environment, biodiversity and the effectiveness of measures to adapt to climate change. At the same time, the state, through supporting these sectors and subsidizing them, contributes to this negative impact. On the other hand, the same sectors depend on the quality of the environment and ecosystem services. In its turn, environmental negative impact leads to negative social consequences and affects the informal economy on which a significant part of the population depends.

2. Existing solutions, which are formally aimed at mitigating the negative impact, are often ineffective. This is, for example, the obligation of mining companies to have reclamation plans and accumulation account.

3. The main driving forces of the negative impact of economic sectors on EP, BDC and CCA are: poverty; supremacy of the idea of GDP growth in state policies; low awareness of the population and decision makers of irreversible effects, including for the future economy, environmental degradation and biodiversity; ignoring the rules of nature use by the population.

4. With regard to tailings and landfills (except obvious cases of increased influence of landslide activity in their area of location and dumps) there are no reliable data that allow assessing real risks and possible environmental consequences directly related to the legacy of uranium production. Developing effective rehabilitation plans definitely requires research and monitoring data to assess the safety and projected effectiveness of rehabilitation strategies that are being developed in the region. It is necessary to analyze all available information, including previously obtained data from national observations, as well as conclusions of various missions of IAEA and other research projects in the region.

In order to collect such information, it is necessary not only to develop national programs and regulations for monitoring work, but also to find opportunities for their technical and financial support.

5. To look for approaches to a fundamental solution of household waste problem. For this, introduction of the principles of rational and efficient use of natural resources, waste minimization and prevention of environmental pollution are should be done. At the same time, the incineration must be excluded, since it seriously affects health of people.

6. With regard to the driving forces, the government and the local self-government bodies should take measures on mitigating the negative consequences. They include: stimulating the introduction of environmentally friendly and resource-saving technologies, creating systems for regulating environmental management, regulating the use of international principles of extracting mineral resources taking into account environmental protection and biodiversity conservation, conducting informational campaigns among people and decision makers, and involving the local people in natural resource management.

3. The Role of State Bodies in the Implementation and Financing of Measures for Environmental Protection, Biodiversity Conservation and Adaptation to Climate Change

This section describes the powers of institutions on environmental protection, biodiversity conservation and adaptation to climate change in Jalal-Abad province. First of all, these are the departments responsible for the state policy, including the budget, in the priority sectors of the economy, policy-making departments in environmental protection, biodiversity conservation and adaptation to climate change, as well as other institutions related to this Review.

3.1. Powers and Capabilities of Organizations Related to Financing Environmental Protection, Biodiversity Conservation and Adaptation to Climate Change

The State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic (SAEPF)¹⁴ is the state executive authority for implementing policies and regulating relationships in the sphere of environmental protection, ensuring environmental safety and nature management.

The goal of the SAEPF is to ensure the preservation of the unique environmental system of the Kyrgyz Republic and protection of the environment for present and future generations.

According to functional responsibilities approved by the Regulation, the SAEPF implements the state policy in the sphere of environmental protection and environmental safety, develops proposals on integrated management of environmental protection, biodiversity conservation, rational nature management, on management of specially protected natural areas, and development of forestry and hunting facilities; monitors pollution of the environment, biodiversity, including forests; conducts forest and gaming ranges planning and forests inventory; coordinates implementation of protection measures, reproduction and restoration of flora and fauna, the rational use of forest resources in economic activities, justifies permits for extraction, bringing in and out of flora and fauna species; carries out state environmental expertise; participates in the development of measures for climate change adaptation, etc.

The national budget does not allow to finance all necessary forestry planning, management and biotechnical measures. It annually finances only wages of the employees and contributions to the Social Fund, and all production costs are covered by special funds obtained through the provision of various services to the population and other organizations.

There are four structural and subordinate SAEPF units to provide environmental management in Jalal-Abad province:

Territorial Environmental Authorities (TEPs) are the agencies of regional level that ensure the implementation of state policy on the ground. TEPs carry out state environmental control and monitoring of atmospheric air, water and land resources, biodiversity resources and forest ecosystems. Jointly with CA SAEPF the TEPs carry out environmental monitoring and inspection.

The State and Local Funds for Nature Conservation and Forestry Development of the SAEPF¹⁵ (***SLFNCFD***) were established as financial institutions in the context of provinces, with the aim of accumulating funds received in the form of payments for environmental pollution. Further, the environmental activities in the provinces and republic as a whole are financed from these sources.

¹⁴ Resolution of the Government of the Kyrgyz Republic of 20 February, 2012 No. 123 "On Approval of the Regulations of the SAEPF"

¹⁵ Decree of the Government of the Kyrgyz Republic of 12 June, 2012 No. 400 "On Approval of the Regulations on the State Fund for Nature Conservation and Forest Industry Development of the State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic"

This division is responsible for financing activities on nature protection, restoration of losses in the natural environment, conservation of biodiversity and forest ecosystems, development of the forest industry and PAs.

The funds of these divisions are taken from the following sources 1) payments for environmental management, 2) payments for environmental pollution, 3) voluntary donations, etc.¹⁶

In accordance with the Budget Code¹⁷, the State and Local Funds are not financed from the first two sources. Starting 1 January 2017, these payments arrived to the state budget, but partially offset by the national budget.

It can be stated that the opportunities and the role of the these units have decreased. Moreover, in accordance with the Budget Code of the Kyrgyz Republic, the state bodies and local governments cannot have extra-budgetary funds, with the exception of funds financed by voluntary donations. Thus, at the moment, the very existence of Funds contradicts the law. In this regard, the issue of developing a new mechanism for financing environmental protection measures within the framework of the provisions of the Budget Code and other laws is very topical.

In accordance with their jurisdiction the **local self-government bodies (LSGB)** of Jalal-Abad province are responsible for the social and economic impact of environmental policies.

According to the Law "On the Administrative-Territorial Structure of the Kyrgyz Republic", Jalal-Abad province includes the following administrative-territorial units: 8 districts (Aksy, Ala-Buka, Bazar-Korgon, Nooken, Suzak, Toguz-Toruz, Toktogul, Chatkal), 4 cities of provincial status (Jalal-Abad, Mailu-Suu, Tash-Kumyr, Kara-Kul), 4 cities of district status (Kochkor-Ata, Kerben, Kok-Zhangak, Toktogul), 68 ayil aimaks (rural districts) , 446 settlements. LSGB consist of legislative (local and city councils) and executive bodies (administrations of Jalal-Abad province, districts, ayil aimaks and Mayor's Offices).

According to Article 10 of the Law "On Local Self-Government", local authorities are tasked to monitor the activities of enterprises, organizations and institutions, other business entities in implementing the legislation on environmental protection, the use of land and natural resources, and the observance of the norms and rules of town planning and architecture, sanitary norms, carrying out environmental measures in the manner prescribed by law.

The Ministry of Finance of the Kyrgyz Republic (MF) is the central state executive body that implements functions for the development and realization of public policy in the area of public financial management, as well as internal audit and public procurement policies.

Given the role of the Ministry of Finance in determining state budget policy, they are a key factor in developing new or reforming existing financing mechanisms.

Ministry of Agriculture, Food Industry and Melioration (MAFIM) is an authorized state body for executive management, which implements the public policy in the field of agro-industrial complex and regulates the issues of crop and livestock production, food and processing industry, water resources, melioration lands, irrigation and amelioration of infrastructure, plant quarantine, soil fertility.

In Jalal-Abad region there are subordinate and territorial divisions of the Department of Water Management and Land Reclamation, the State Design Institute for Land Management "Kyrgyzgiprozem", as well as District Administrations of Agrarian Development (DAADs).

State Inspectorate for Environmental and Technical Safety (SIETS) carries out state supervision and control over compliance with the norms and requirements of the safety of life and health of people, animal and plant world, the environment and the prevention of negative

¹⁶ Decree of the Government of the Kyrgyz Republic of 9 October 2012 No. 696 "On Approval of the Regulation on Establishment and Use of the Republican and Local Funds for Nature Conservation and Forest Industry Development in the Kyrgyz Republic"

¹⁷ Entered into force on 1 January 2017.

consequences. There are two SIETS regional offices in Jalal-Abad province.

The Ministry of Emergency Situations (MES) implements monitoring and forecasting of dangerous natural, technogenic processes and phenomena, predicting, holding of preventive and protective measures from emergency situations; carries out a set of measures for the safe maintenance of preserved tailing dumps, mountain dumps and radioactive wastes under the Ministry's control.

Activities in the field of hydrometeorology (including climatic indicators and weather forecasts) and monitoring of environmental pollution level are carried out by the Agency for Hydrometeorology under the Ministry of Emergencies.

The Ministry of Transport and Roads (MTR) is an agency that implements the state policy in the field of transport development. Accordingly, the ministry has the authority and the capacity to develop rules for the road and transport complex that prescribe the application of technologies reducing environmental burden at the design stage, including through mandatory Environmental Impact Assessment (EIA) agreed with SAEPF, and further on in the process of construction and operation of transport infrastructure.

Department of Tourism under the **Ministry of Culture, Information and Tourism (MCIT)** forms public policy in the field of tourism. Within implementation of the Program on Tourism Development by 2020, the Department mainly promotes the information component in order to enhance the country's image in the international arena and the contribution of tourism to the economy and, accordingly, is interested in preservation of attractive landscapes of the republic as the main tourist asset of the country. Thus, the agency can use its information potential and, in cooperation with SAEPF, LSGB and other institutions, form a set of environmental measures.

Scientific institutions and universities can participate in the planning process of the state bodies activities related to environmental management. The National Academy of Science of the Kyrgyz Republic (NAS) includes more than 20 research institutions, including the Forest Institute named after P.A. Gan, Biology and Soil Institute, Institute of Biotechnology.

The importance of **public institutions** is high. First of all, these are environmental NGOs that draw public attention to important for the society issues of environmental protection, biodiversity conservation and adaptation to climate change. They conduct researches, public discussions and, if necessary, public environmental expertise when considering these issues. However, their efforts are not always enough to block harmful to the nature decisions of the authorities and overcome negative trends.

Another important for nature management institution are public associations of users of natural resources. The most sustainable in the Kyrgyz Republic and Jalal-Abad province at the moment are the Water Users Association of Kyrgyzstan and the Kyrgyz Jaiyit Association (Association of Pasture Committees). These associations define the order and rules for the use of natural resources and tariffs. Associations of forest users, land users, organic movement, beekeepers, producers of bottled water, tourism based on local communities are actively operating in Kyrgyzstan.

International agencies, donor and implementing organizations are the key institutions that assist national partners in implementing their obligations under international environmental agreements, with significant financial contributions. Thus, the Global Environment Facility (GEF) in the field of biodiversity conservation and adaptation to climate change supports such projects as:

- The GEF Small Grants Program in Kyrgyzstan. The main purpose is to provide advantages and benefits to the global environment through activities based on local communities' initiatives. The program enables local communities through their organizations (jamaats, NGOs) to contribute to the preservation of the global nature in their place of residence and economic activity.

- FAO / GEF project "Sustainable Management of Mountains, Forests and Land Resources in Climate Change Conditions", which aims at enabling environment improvement in the forest and agricultural sectors and ecosystem services enhancement, including carbon stocks in forest and agro-ecosystems (5.45 million US dollars).
- UNDP / GEF project "Preservation of Globally Significant Biodiversity, Adjacent Land and Forest Resources of Mountainous Ecosystems of the Western Tien Shan and Support of Sustainable Livelihoods", the activities are aimed at increasing the area of PAs and strengthening the reserves and natural parks of the republic, 2017-2020. (\$ 4.2 million).
- UNDP / GEF project "Strengthening the Policy and Regulatory Framework to Address the Problems of Biodiversity Conservation in the Fishing Industry" 2008–2013 (\$ 1.35 million);
- UNDP-GEF project "Conservation of Globally Significant Biodiversity and Associated Land and Forest Resources of the Western Tien Shan to Support Sustainable Livelihoods" (\$ 4 million);
- WB / IBRD / GEF project "Integrated Management of Forest Ecosystems", aimed at strengthening capacity of government institutions and communities to improve sustainable management of forest ecosystems (\$ 16.11 million).

The **capabilities of the above institutions** are limited to the level of knowledge, human resources and funding. Since current expenses are financed, the measures available to these agencies are, first of all, "not requiring additional financing¹⁸". These are constantly held measures, norm-setting activities.

However, not all functions defined by departmental regulations are fully implemented.

- lack of effective management, insufficient investment of measures aimed at preserving and increasing natural resources, inadequacy or even lack of financing of capital expenditures (for example, for forestry works (development of forest nurseries and planting of forests), machinery and equipment, improvement of buildings, etc.). This is mainly due to relatively low budget priorities in the environment protection, biodiversity and climate change adaptation issues. In its turn, this may be due to the low level of awareness among decision makers about the contribution of sustainable management by natural resources and ecosystems to the national economy and the welfare of the population.

- contradictions / deficiencies in the institutional and legal framework and the lack of clear coordination mechanisms that would facilitate the integration of environmental protection, biodiversity conservation and adaptation to climate change in sectors of the economy;

- low wages, irregular working hours, hard and a lot of work, weak human resources in the territorial subordinate institutions. This fact leads to staff turnover and reduced capacity of ministries and departments, and especially subordinate institutions, where wages are even lower (for example, in the forestries of the SAEPF system). It should also be noted that there is no systematic selection process of professional staff.

- outdated methodology and approaches for conservation management, biodiversity monitoring and assessment, environmental monitoring, as well as the lack of calculations of loads limits on ecosystems. Accordingly, the data used in making decisions do not reflect a complete picture of what is happening and lead to management errors.

3.2. Private Sector

It is very little known about the involvement of the private sector in the processes of environmental protection, biodiversity conservation and the implementation of measures to adapt to climate change in the Jalal-Abad province.

¹⁸ This is the standard wording for such measures, applied in action plans to strategic documents

Official statistics collects data on spending costs for environmental protection associated with mandatory payments made by business entities. However, it is clear that this information does not reveal the attitude of the private sector to the problems of environmental protection, biodiversity and climate change.

Nevertheless, during interviews and speeches, business representatives demonstrate their willingness to support government initiatives related to nature protection.

At the same time, businessmen put forward the following conditions for their participation in these initiatives:

- Increase in efficiency and effectiveness of state bodies in implementation of the activities related to nature protection and climate change.

3.3. Consistency of Activities in Environmental Protection, Biological Diversity Conservation and Adaptation to Climate Change. Coordination Mechanisms

The involvement of various institutions and LSBG in the definition of policies in the field of environmental protection, biodiversity conservation and climate change adaptation require the coherence of their actions.

To improve inter-agency and intersectoral coordination, the following measures need to be implemented:

- ensuring the integration of environmental issues, biodiversity conservation, adaptation and mitigation of climate change into national strategic documents and plans of socio-economic development of the regions.
- at the level of economic sectors, development priorities are mainly determined in sectoral strategic documents, implemented by ministries and agencies. Therefore, it is very important to build such a system that strategic documents of the national level determine the main priorities, measures and indicative financing plans that serve as binding guidelines for all state bodies and LSBG.

3.4. Conclusions

1. Despite the fact that sustainable development is defined as a principle of public administration, EP funding in province is extremely scarce. Therefore, it is necessary to develop mechanisms on funds increase for the most important activities in the field of EP, BDC, CCA.

2. The capacity of ministries, departments and territory divisions is limited by the amount of budgetary allocations. Basically, the current expenses, ongoing activities, norm-setting activities are financed. Moreover, not all functions defined by departmental regulations are fully implemented. Reasons: lack of financing, contradictions in the NLA, insufficient level of monitoring and evaluation of processes occurring in sectors, that obstruct decision making.

3. Coordination of ministries and departments is mainly formal and ineffective. There is almost no coordination of local environmental protection activities carried out in the province. The existing coordination mechanisms do not guarantee the adoption of balanced solutions aimed at sustainable "green" development of the country.

4. Institutions with the greatest power in the country demonstrate the least interest in environment, biodiversity and climate change issues. And, vice versa, the most interested institutions have relatively little power.

5. Financing of the LSBG for environmental protection is extremely low. There is also low involvement of municipalities in environmental protection activities, due to lack of understanding of the range of responsibilities.

The Government of the Kyrgyz Republic and the responsible body represented by the State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic (SAEPF) should pay attention to environmental issues in the regions. In particular, to

delegate certain state powers for the implementation of environmental protection measures to local governments. Simultaneously with the delegation of state powers, to provide material, financial or other resources necessary for the implementation of environmental protection measures, including targeted transfers from the republican budget to the local budget (Article 20, the Law of the Kyrgyz Republic “On Local Self-Government” No. 101 of 15 July 2011).

EP, BDC and CCA motivation for local governments and communities in the region should be created.

5. The private sector does not demonstrate interest in promoting “green” economic growth and participation in the implementation of new financial mechanisms for financing the environment, biodiversity conservation and climate change adaptation. There is a low level of responsibility of the private sector in relation to environmental activities. In this connection, the raising awareness of the private sector on environmental issues should be done.

II. Environmental Expenditures Review

The environmental expenditure review covers environmental expenditures, including the costs of biodiversity conservation and adaptation measures for climate change. This Review covers the information about expenditures in general and every ministry and department separately.

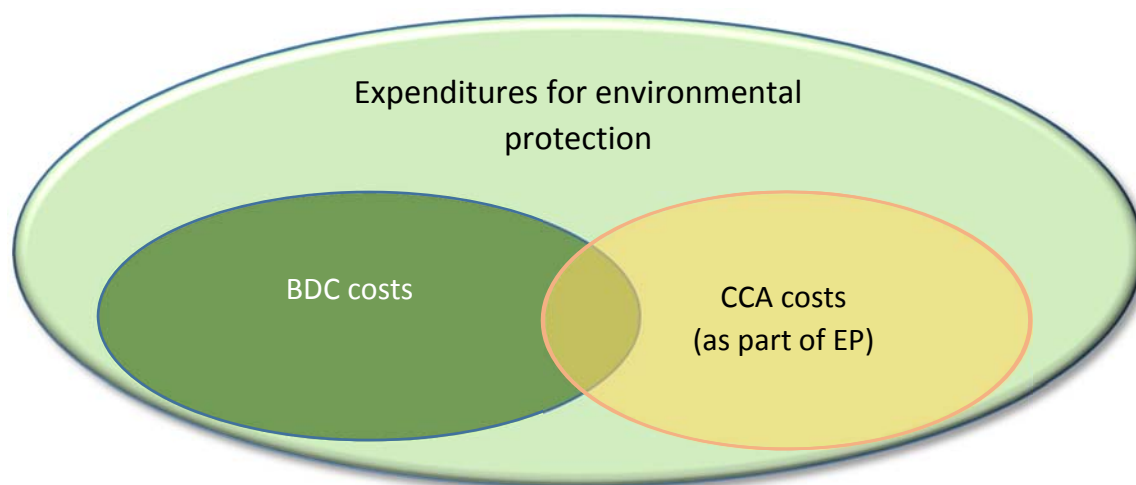
BD and CCA costs are also included in EP costs. But not all EP costs will be BD and CCA costs (see Figure M.1).

This Review includes the following expenditures of ministries, departments, local governments, private sector, non-governmental organizations and donors in the Jalal-Abad province:

- on the environment and protection;
- on biodiversity and conservation, as part of the cost of the environment;
- on adaptation measures to climate change, which are at the same time as part of the environmental costs.

CCA measures can be BDC measures. In Figure 2.1. they correspond to intersection of the BD and CCA costs. Therefore, in order to avoid double counting, expenses in these areas are not summed up - they are taken into account separately.

Figure M.1. Coverage of costs for environmental protection (EP), biodiversity conservation (BDC) and adaptation to climate change (CCA - as part of the EP)



The overview of environmental expenditures in the Kyrgyz Republic has detailed data on the state budget, including national and local, and available data on expenditures of the private sector and civil society. It aims to identify:

- Principles of spending - who spends, how much and what for;
- Expenditures by categories of EP, BDC and CCA;
- The extent to which costs are in line with state policies and government priorities;
- Allocation schemes and barriers in the budgeting process;
- Volumes of internal and external financing and their ratio;
- The amount of allocations for existing financial decisions and the availability of opportunities to improve the effectiveness of EP, BDC and CCA financing.

The Review covers the period from 2012 to 2017. It describes funds for environmental protection with a focus on biodiversity and adaptation to climate change.

Costs include actually allocated and spent funds.

Definitions of Costs for Environmental Protection, Biodiversity Conservation and Adaptation to Climate Change

The composition of expenses that are in focus of this Review complies with international¹⁹ and national definitions:

Costs on environmental protection include any costs - direct and indirect, aimed at positive impact or reducing/eliminating pressure on environment.

Costs for biodiversity conservation include any costs - direct and indirect, aimed at positive impact or reducing/eliminating pressure on biodiversity.

Costs of actions related to CCA are taken into account if the activities are aimed at reducing the vulnerability of human and natural systems to the impacts of climate change and climate-related risks by maintaining or increasing adaptive capacity and resilience, through measures that aim to positively impact or reduce / elimination of load on environment. This includes a range of activities – informing and raising awareness, developing capacity, planning and implementing actions to adapt to climate change.

These definitions are consistent with the principles of the Law of the Kyrgyz Republic “On Environmental Protection”. Article 4 defines the objects to be protected: “*The earth and its subsoil, soil cover, water, forests, flora, fauna and their genetic stock, atmospheric air, other natural objects, complexes and ecological systems, as well as the Earth’s climate and ozone layer and the Earth as a whole as a planet are subject to protection from pollution, deterioration, damage, depletion, destruction, destruction and other negative effects*”.

The main sources of financing EP measures are the national budget and the budgets of local governments. They also include the national and local environmental funds, and own funds of enterprises.

EP measures are financed by:

- national and local budgets, including national and local funds of EP;
- development partners’ funds;
- funds of enterprises, institutions, organizations, including non-governmental ones;
- other sources not prohibited by law.

Budget Classification of the Kyrgyz Republic and BIOFIN Categories

EP, BDC and CCA issues, analyzed in the PPEER, are reflected in Article 705 “Environmental Protection” of the functional classification, which has the following subsections:

- 7051 - Organization of waste collection and disposal
- 7052 - Removal and treatment of wastewater
- 7053 – Pollution control
- 7054 – BD and landscape protection
- 7055 - Scientific research and experimental development in the EP sphere
- 7056 - Environmental issues not classified elsewhere

The analysis also showed that some costs that ministries and departments attribute to other items of the functional classification, for example, to article 704 "Economic Issues", can also be classified as environmental protection costs.

BIOFIN categories. The BIOFIN offers its own approach for classification of environmental costs. This approach is aimed at ensuring the accuracy and reproducibility of the assessment of the costs of nature conservation, including BDC. According to the BIOFIN approach, all costs are classified into nine categories of various areas of environmental state policy. The BIOFIN categories are very well aligned with the Aichi goals - the strategic plan of the Convention on Biological Diversity.

Seven out of nine categories of BIOFIN were identified in the Kyrgyz Republic. Table M.1

¹⁹ Methodological reference book “Climate Public Expenditures and Institutional Review”

shows these categories and how they are consistent with Aichi strategic goals.

In Jalal-Abad province financing is allocated within the framework of five categories of BIOFIN.

Table M.1. Categories of BIOFIN environmental expenditures in Kyrgyzstan and Jalal-Abad province. Aichi strategic goals

	Aichi goal	BIOFIN category	Availability in Jalal-Abad province
1.	Goal A. Address the underlying causes of biodiversity loss.	Environmental and biodiversity awareness and knowledge	Yes
2.		“Green” economy	Yes
3.		Pollution management	Yes
4.	Goal B. Reduce the direct pressures on biodiversity and promote sustainable use.	Sustainable use	Yes
5.	Goal C. Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity.	Protected areas and other conservation measures	Yes
6.	Goal D. Enhance the benefits to all from biodiversity and ecosystem services.	Restoration	No
7.	Goal E. Enhance implementation through participatory planning, knowledge management and capacity building.	Environment, biodiversity and development planning	No

In other countries, two more BIOFIN categories are used “Access and Benefit Sharing” and “Biosafety”. These categories are not applicable for the Kyrgyz Republic.

Data Sources

Data on public expenditures are obtained from official sources: reports of the Ministry of Finance of the Kyrgyz Republic, ministries and departments, local governments.

Classification of spending expenditures by the government as per the BIOFIN categories is carried out on the basis of their provisions.

Data on private expenditures are obtained from the official information of the NSC, as well as interviews with individual private companies (see Appendix 1). The analysis reflects the differences between planned and actually spent budget funds, as well as between current and capital expenditures.

Expenditures of development partners were sourced from the databases of the Ministry of Finance of the Kyrgyz Republic and open sources (websites).

4. Financial Framework for Environmental Protection, Biodiversity and Climate Change in Jalal-Abad Province

4.1. Budgeting Process

The budget system of the Kyrgyz Republic is a system of relations arising in the course of the budgeting process, based on economic relations and the state structure of the republic. It accumulates budget revenues. It is used to finance state policy.

The budget system includes the following budgets:

- National budget - the aggregate funds intended for financial provision of responsibilities and functions of state bodies and their respective subordinate budgetary institutions.
- The budget of the Social Fund and the budget of the Mandatory Health Insurance Fund are separately formed and executed (they are not included in the analysis since they are not related to the environment, biodiversity and adaptation to climate change).
- Local budget - the budget of ayyl aimak and city (municipality).

The national budget, the budget of the Social Fund, the budget of the Mandatory Health Insurance Fund are annually approved by the laws of the Kyrgyz Republic. Local budgets are approved by local keneshes.

The budgeting process in the Kyrgyz Republic is the formation and consideration of budget proposals, approval, refinement and execution of budgets, accounting and reporting, financial management and control²⁰;

The budgeting process includes 4 stages:

- 1) budget proposals formulation;
- 2) consideration and approval of budgets;
- 3) budget execution;
- 4) preparation of budget execution reports, their approval and control.

The budgeting processes of the national and local budgets differ in the formation procedure and calendar.

4.2. Budgeting Process of the Local Budget

Stage 1. Local budget proposals formulation

Local budget proposals for the next fiscal year and the forecast period are formed in accordance with the procedure and terms established by the relevant local keneshes, in compliance with the Budget Code, taking into account the schedule for the formation of the national budget proposal approved by the Government of the Kyrgyz Republic.

The authorized state body, no later than 15 July of the year preceding the next fiscal year, sends to local self-government bodies:

- 1) budgeting process schedule;
- 2) guidelines for the formation of local budgets;
- 3) forecasts and policy rationales in accordance with the Medium-Term Fiscal Policy Guidelines in terms of:
 - a) national revenues;
 - b) standards of deductions from national revenues;
 - c) inter-budget transfers.

²⁰Article 2 of the Budget Code of the Kyrgyz Republic

Local budget proposals formed by the executive local self-government bodies and agreed with local keneshes are submitted to the authorized state body no later than 1 September of the year preceding the next fiscal year.

The authorized state body, after the approval of the national budget, within 10 days sends to the local self-government bodies the drafts of specified volumes and standards of deductions from national revenues, the size of inter-budget transfers.

The executive local self-government bodies submit the revised local budget proposals for consideration and approval by local keneshes no later than 1 November of the year preceding the next fiscal year.

Stage 2. Consideration and approval of the local budget

Local budget proposals are preliminary considered by budget commissions of local keneshes.

The budget commission is a standing commission of a local self-government body that ensures the timely and high-quality formation of a draft budget and the development of proposals for the refinement and execution of the budget.

Budget commissions:

- hear information from managers, structural units of local self-governments, municipal enterprises and institutions, consider proposals regarding changes in local budget revenues and expenditures;

- submit conclusions and recommendations on local budget proposals to local keneshes for consideration.

When budget commissions decide to increase budget expenditures or reduce its revenues, it is required to establish specific sources of financing additional expenditures.

Local keneshes consider local budget proposals for the next fiscal year and the forecast period, the conclusions of budget commissions and approve local budgets no later than one month after the approval of the national budget: the income, expenditure, level of equalization grants allocated from the national budget.

Approved local budgets are submitted to the authorized state body within 14 calendar days after the adoption.

Stages 3 and 4. Budget execution. Report on the execution of local budgets

The execution of approved budgets is carried out by the executive bodies of local self-government.

The normative legal act on the budget for the next fiscal year authorizes state bodies and local self-governments to incur expenditures and budgetary commitments.

Execution of approved budgets is carried out in monetary terms in the national currency of the Kyrgyz Republic (in Kyrgyz soms (KGS));

Expenditures incurred in the budget execution process shall be made within the approved budgets, in cases established by the Budget Code - within the limits of the revised budgets.

Execution of local budgets is carried out by authorized executive bodies on the basis of quarterly budget allocation in the manner established by the authorized state body.

In the process of budget execution, the main administrator of budget allocations (administrator) has the right to redistribute funds according to the main administrator (administrator, recipient) within the general allocations of budget funds between the items of economic classification of expenditures.

The total amount of redistributed funds during the fiscal year should not exceed 5% of the total expenditure for each main administrator (administrator, recipient) of budget funds separately.

Expenditure sequestration is a mechanism that provides for a reduction in the established proportions of items of budget expenditures subject to the expected decrease in budget revenues.

The decision on the introduction of expenditure sequestration is made by the Government (the executive bodies of local self-government) during the budget year based on the analysis of the actual budget execution and the expected estimate of the income execution until the end of the budget year.

Expenditure sequestration is carried out by amending the normative legal act on the budget.

4.4. Making Changes to Budgets

The Government, Social Fund, Mandatory Health Insurance Fund, executive bodies of local self-government initiate the procedure for amending and supplementing approved budgets.

Changes to the approved budgets are made on the basis of the results of the analysis of budget execution and the assessment of the effectiveness of the use of budget allocations, the implementation of budget programs.

The draft normative legal act on introducing amendments to the normative legal act on the budget is approved by the Government (by the executive bodies of local self-government) and submitted for consideration by the Jogorku Kenesh (local keneshes).

The normative legal act on the budget can be changed during the fiscal year no more than two times: the first - until 1 June, the second - before 1 November of the current fiscal year.

A draft normative legal act on amendments to the normative legal act on the budget is considered by the legislative (representative) body in an extraordinary order within 20 days from the date of its submission to the legislative (representative) body.

When making changes to the approved budgets, the principles and requirements established by the Budget Code are followed to formulate and approve respective budget proposals.

4.4. Special Accounts of Budgetary Institutions and Local Governments

One of the sources of budget financing is revenues from the provision of paid services. State agencies can provide paid services to individuals and legal entities. The register of state and municipal services is approved by the Government of the Kyrgyz Republic. The amounts received for the provision of state and municipal paid services are transferred to special accounts of agencies and local governments, so they are more free to use these funds.

Revenues in the form of sponsorship and voluntary and trustee contributions, charitable or grant assistance, deductions from international institutions for joint research and development, funds from the sale of own production come into special accounts.

4.5. Official Development Assistance and Mechanisms for its Provision

In Kyrgyzstan, various forms of donor support coexist: funding for individual projects and programs, sector support and direct budget support. Funds received through official development assistance (ODA) are public resources. International loans provided against the guarantee of the government are repaid mainly from the national budget. Procedures related to donor-supported projects differ from budget ones. Projects use funding rules and reporting standards proper for a specific donor organization.

The main form of donor assistance is *budget support*. It involves financing the budget of

the country through the transfer of funds from an external source of funding to the state budget through the Ministry of Finance. These funds are then spent by relevant ministries and other participants. These funds become part of the budget of the country and are then *spent* in accordance with the rules established in the country by the system of public finance management.

There are two types of budget support:

- General budget support - budget support aimed at the implementation of general measures to combat poverty, but not designed for specific sectors.
- Sector budget support — support designed for a specific sector, subsector, or sector program. Grants and loans within the sector support are accounted for in a special section of the annual national budget - the Public Investment Program (PIP). The Government of the Kyrgyz Republic co-finances PIP projects.

Another form of donor assistance is technical assistance in sectors. As a rule, it is not considered in the PIP and is the grant assistance. Projects of UN organizations (including UNDP, UNEP, GEF, etc.), projects of international cooperation agencies (USAID, GIZ, JICA, etc.) are financed in this way. A fairly large array of analytical reports and studies, strategic documents was produced in the framework of such technical assistance.

During the budget planning period it is impossible to accurately predict the amount of expected donor assistance. That is, there are risks of late implementation of the accepted conditions of these programs by ministries and agencies, problems with procurement. All this may lead to delays in the implementation of projects financed from external sources.

4.6. Environment, Biodiversity and Climate Change Adaptation Issues in the Budgeting Process

Direct financing of the environment, biodiversity is made in accordance with the budgeting process under a separate item of the functional classification: 705 - "Environment Protection", and finances allocated to climate adaptation measures are reflected in item 702 - "Defense" in subfunctions "Emergencies" and "Other measures for civil protection and emergency situations". Activities in these areas of public policy are implemented by SAEPF, SIETS, MES, MAFIM, SIVPS and State Committee for Industry, Energy and Subsoil Use. In addition, some activities that can be classified as aimed at the environment, biodiversity and climate change adaptation can be financed under other items of the functional classification. For example, item 704 - "Economic issues" includes such sub-items as 70421 - "Agriculture" (includes measures related to environmental protection and biodiversity: "Conservation or increase of arable land", "Control over agricultural production and its regulation"²¹), 70422 - "Forestry", 70423 - "Fishing and hunting", 70424 - "Water management and drainage", 7043 - "Fuel and energy".

Funds for environmental protection are not allocated from the local budget for the functional classification: 705 - "Environment protection". The main authority of the local self-government bodies (LSGB) related to environmental protection is the management of municipal solid waste and wastewater treatment plants. To do this, funds for the functional classification 706 "Housing and utilities" are annually approved in the local budgets, part of these funds are directed to measures for the management of municipal solid waste and wastewater treatment plants.

Annually, repair and restoration works, gardening and landscaping of parks and streets are financed as well as funds are allocated for central streets lighting in aiyl aymaks under the item "Housing and utilities". However, these expenses are insignificant in terms of

²¹ Guidelines for the application of the budget classification of the Kyrgyz Republic

environmental impact.

The financing of environmental protection measures (for the management of municipal solid waste and wastewater treatment plants) is carried out in cities of provincial and district significance from the local budget of LSGs in Jalal-Abad province for the item "Housing and utilities".

At the same time, water supply services are provided by "Vodokanal" municipal enterprises, individual state-owned enterprises, which report to the respective city administrations/Mayor's Office.

Municipal enterprise "Vodokanal" also ensures the operation of sewer systems and public access to sewer systems.

Solid waste management services are provided by utility service providers (State Enterprise "Tazalyk" and utility companies for gardening and landscaping). These organizations also provide municipal services for the improvement and maintenance of urban infrastructure: maintenance of public areas, street lighting and urban landscaping; planting flowers, young plants, seedlings; maintenance of parks, squares, lawns and mini-parks of the city, etc.

Most of the above-mentioned municipal enterprises for water supply, sewage, improvement and management of solid household waste are self-supporting organizations, and they operate under the self-supporting principle - removal of solid household waste, water supply and sewerage and collection of funds for these services from the population and business entities of cities.

Funds are allocated from the local budget for the activities of enterprises in the form of subsidies for water supply and sewerage, solid waste management and in the form of a municipal order for regular sanitary cleaning of urban areas, maintenance of elements of external improvement and landscaping.

In terms of the budgeting process, the environment, biodiversity and climate change in local budgets do not have priority status. There are no well-defined mechanisms to ensure the integration of environment, biodiversity and climate change adaptation issues into the budgeting process. The formation of budgets of agencies and LSGBs important for the environment, biodiversity and climate change adaptation does not include requirements for financing environmental measures. Accordingly, criteria related to the sustainable use of natural resources are not applied when reviewing and approving the budget.

Due to the relative low priority of environment, biodiversity and climate change adaptation issues, the risk of sequestration of some activities financing is high.

The possibility of including additional measures in the budget plan is provided by the Plans for Social and Economic Development of the regions. At the same time, these documents should be of high quality in terms of justification and correct distribution of priorities in the context of financial deficit. The analysis showed that the existing PSEDs have the necessary qualities.

5. Incomes of LSGBs in Jalal-Abad Province: Payments for the Use of Natural Resources. Biodiversity Dependent Income

The revenue part of the budget of Jalal-Abad province for the period of 2012-2016 amounted to 7 127.9 million KGS. The proportion of budget revenues of the province in the total revenues of the local budget is about 10% (see Diagram 5.1.a) and about 1% of the state budget.

Expenditures of the budget amounted to 14 314.2 million KGS. Diagram 5.1.b. shows that own revenues for the implementation of expenditure powers of some LSGBs in the province are not enough.

In this connection, LSGBs in Jalal-Abad province are allocated equalization transfers from the national budget for the implementation of expenditure powers and transferred funds for the

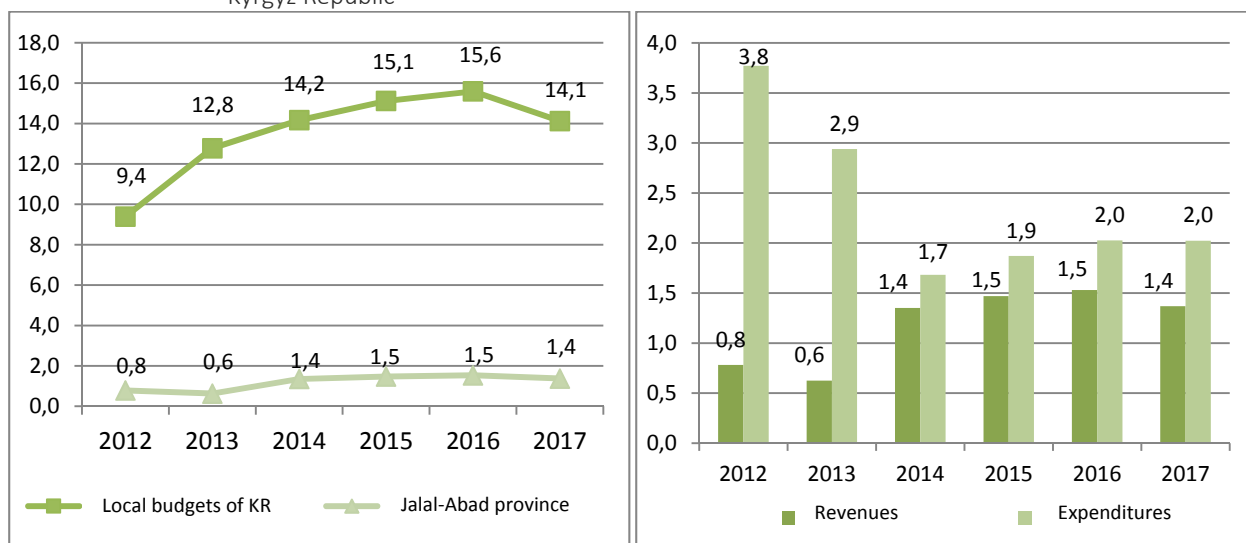
exercise of delegated powers. Financial assistance of the national budget remains high, and its amount exceeds the income mobilized by the province as a whole.

Annually, the national budget allocates stimulating (equity) grants to the executive bodies of local self-government on a project-competitive basis for the implementation of priority projects for financing repair, reconstruction and landscaping, construction and reconstruction of auxiliary and additional facilities of educational institutions, health care, sports, housing and communal, agriculture, water management and other objects that are in municipal ownership of local governments.

Diagram 5.1. Revenues and expenditures of Jalal-Abad province for 2012-2017, billion KGS

a) Revenues of Jalal-Abad province in comparison with the total amount of revenues of local budgets of the Kyrgyz Republic

b) Revenues and expenditures of the budget of Jalal-Abad province



Source: MF KR, own calculations

Almost no funds are allocated for environmental protection measures.

At the same time, LSGBs in Jalal-Abad province receive significant revenues from natural resources. The use of nature on a paid basis and compensation for damage caused to the environment is one of the principles on which the province's state policy in the field of environmental protection and environmental management is based²².

The state policy in the Kyrgyz Republic in the field of the environment is aimed at pollution containment. Considering that the exploitation of natural resources is detrimental to the environment, the restoration of nature should be carried out at the expense of those who have a harmful effect on the environment. This is due to the collection of payments for the use of natural resources and environmental pollution.

Payments, in accordance with the law, have a clear environmental focus and are used to finance activities in the field of biodiversity conservation and management. By their legal nature, they are not a tax, but are of a compensatory nature. The following payments are collected in the Kyrgyz Republic which go into the national budget:

- rental payments for the use of land, including the lands of the SFF and state natural parks;
- payments for the exploration and development of mineral deposits, including groundwater;
- payments related to the use of water bodies;

²²The concept of environmental safety of the Kyrgyz Republic (Decree of the President of the Kyrgyz Republic No. 506 dated 23 November 2007)

- payment for special use of flora and fauna;
- payment for pollution of the environment, which is levied on natural resource users who carry out emissions/discharges of pollutants, as well as waste disposal in the environment;
- penalties in cases of violation of norms of ecology and environmental management;
- fees for damage caused by illegal seizure of natural resources;
- entrance fees to natural parks.

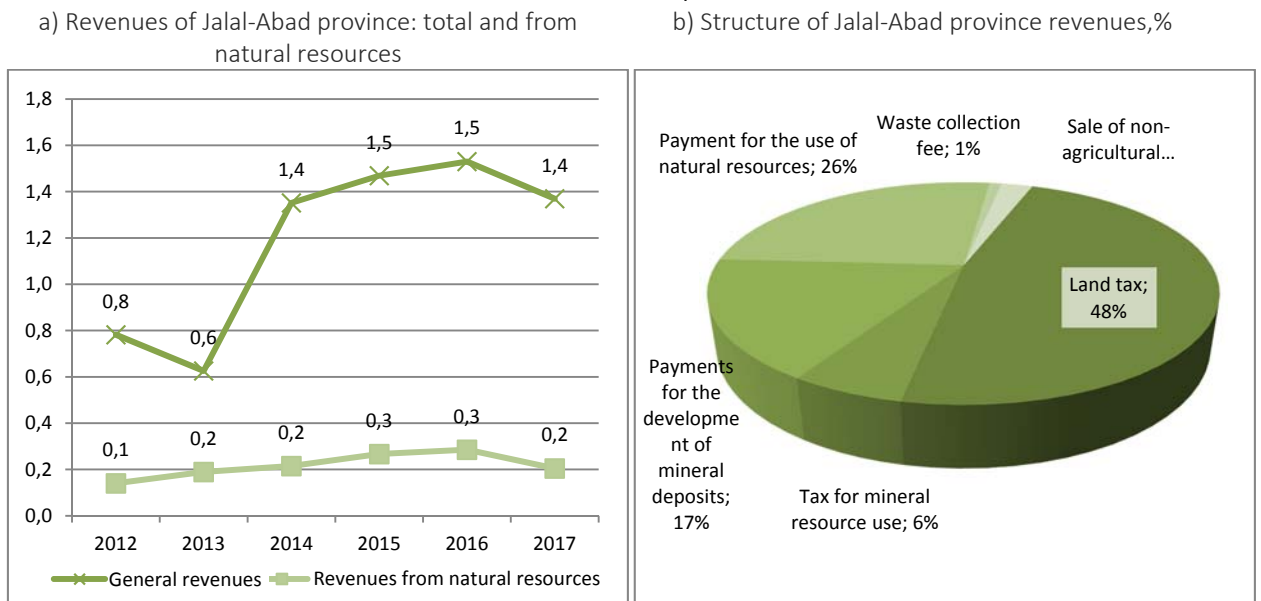
The following payments go into the local budget of LSGBs of Jalal-Abad province:

- payments for the removal and disposal of solid waste;
- deductions of geological companies (2%).

Kyrgyzstan has taxes and fees that are a payment for the use of natural resources. They include:

- land tax and rent payments for agricultural land which are fully transferred to the local budget and used by local authorities to finance local services.
- tax on the use of subsoil which is fully transferred to the national budget.

Diagram 5.2. Dynamics of revenues from natural resources in Jalal-Abad province in 2012-2017, billion KGS,%



Source: MF KR

In the system of payments for natural resources, there is also a fee for water supply services paid by members of water user associations (WUAs) and pasture use fees paid by members of pasture committees. Funds are used by these organizations to cover current and operating expenses.

As can be seen from Diagram 5.2, the share of revenues from natural resources for 6 years from 2012 to 2017 is 1 302.7 million KGS or 15% of the revenues of Jalal-Abad province.

The largest share in the revenues from natural resources of Jalal-Abad province is occupied by land tax, about 48%, the following categories are payments for natural resources, about 26%, payments for the development of mineral deposits - 17% and waste collection fees - 6%.

Table 5.1. Dynamics of revenues from natural resources of LSGBs of Jalal-Abad province for 2012-2017, million KGS

	2012	2013	2014	2015	2016	2017
Jalal-Abad city	24,2	25,0	29,7	33,8	36,9	35,2
Tash-Kumyr town	6,1	5,2	8,3	5,8	6,0	5,0
Mailuu-Suu town	2,3	3,0	2,6	3,5	3,4	2,4
Kara-Kul town	3,9	4,4	5,4	6,4	6,0	4,7
Kok-Jangak town	0,3	0,3	0,6	0,8	1,0	0,5
Kochkor-Ata town	2,4	1,8	2,0	2,0	5,4	1,9
Kerben town	3,2	4,0	5,8	5,9	6,2	3,8
Toktogul town	1,5	1,8	2,0	2,0	2,2	2,1
Aiyl aimaks (68)	96,6	143,7	158,5	206,7	218,8	149,4

Source: MF KR

As can be seen from Table 5.1. the highest revenues from natural resources go to the city of Jalal-Abad, which for 6 years amounted to 185.0 million KGS or 14% of all revenues, in other towns the amount of revenues is almost the same. Revenues of 68 aiyl aimaks for 6 years amounted to 973.8 million KGS.

The purpose of pollution charges is to be an economic tool for nature conservation, which serves to stimulate the reduction of emissions, discharges and waste disposal; stimulate the construction of environmental facilities; finance environmental activities and reimburse expenses associated with offsetting the effects of emissions and discharges of pollutants.

However, the analysis showed that this tool is not effective enough, while the following *problems of the mechanism of environmental payments* are revealed:

1. Difficulty and complexity of the calculation and administration of payments for environmental pollution.
2. Pollution charges are levied for an excess list of air and water pollutants: a charge has been made established for 120 major pollutants when emitted into air and 31 when discharged to water bodies²³.
3. The current standards for payments for environmental pollution are very low - their stimulating effect for polluters is almost zero.
4. Payments for nature use and nature protection at local government bodies are not directed to finance environmental activities, but are used by local authorities to finance local services.

6. Local Budget Expenditures for Environmental Protection, Biodiversity Conservation and Climate Change Adaptation

LSGBs of Jalal-Abad province receive significant revenues from natural resources, but funds for environmental protection measures are not allocated.

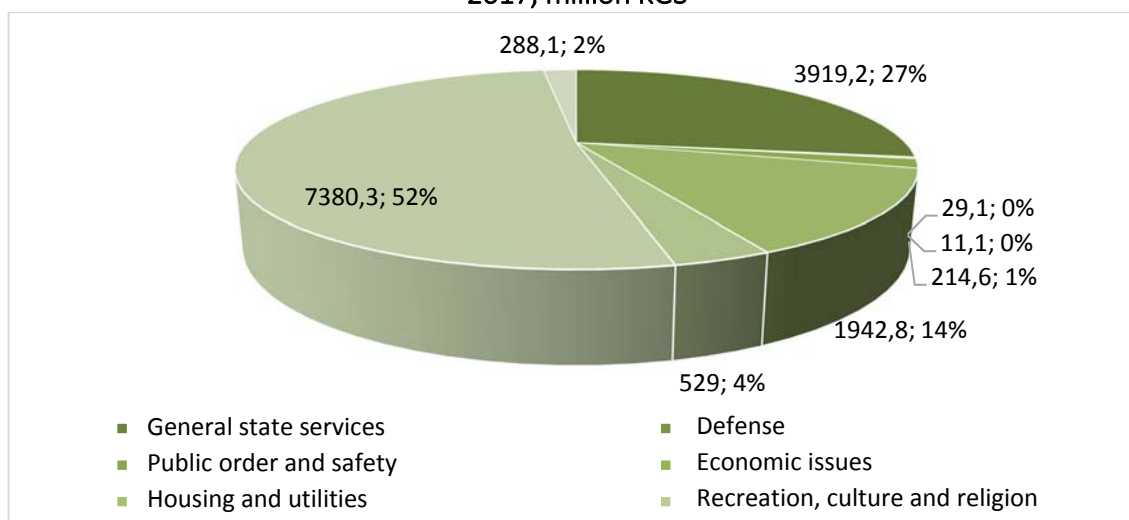
The issues of environmental protection, biodiversity conservation and adaptation to climate change are financed mainly from the national budget, funds have not been allocated for 6 years from the local budget of LSGBs of Jalal-Abad province for the functional classification 705 "Environment protection" (see Diagram 6.1). The main issue of local self-government bodies (LSGBs) related to environmental protection is the management of municipal solid waste and wastewater treatment plants that pass through housing and utilities.

²³"Methodology for determining the payment for environmental pollution in the Kyrgyz Republic" approved by Government Decree No. 559 dated 19 September 2011

The budgeting process in the Kyrgyz Republic is by its nature neutral to any areas of state policy. Formally, the amount of budget financing depends on the priorities of state policy, in fact - on the priorities of budget policy and the level of collection of state budget revenues, which are formed in conditions of chronic shortage of funds (not all necessary measures can be financed). First of all, protected budget items are subject to financing, including basic social benefits.

Formation of local budgets does not include requirements for financing environmental measures. Accordingly, when reviewing and approving the budget of LSGBs, criteria related to the sustainable use of natural resources are not applied.

Diagram 6.1. Expenditures of Jalal-Abad province for functional classification of expenses in 2012–2017, million KGS



Source: MF KR

In accordance with the Law of the Kyrgyz Republic “On the Government” (Article 10), the issues of environmental protection, environmental safety and environmental management are exclusively within the competence of the Government and its subordinate bodies.

In addition, at the local level, control over the implementation of legislation on environmental protection, conducting environmental measures in the manner prescribed by law, is also carried out by state authorities (Article 10 of the Law of the Kyrgyz Republic “On Local Self-Government”).

At the same time, issues of local importance (Article 18 of the Law of the Kyrgyz Republic “On Local Self-Government”) include:

- ensuring the operation of the sewage system and sewage treatment plants in populated areas;
- improvement and greening of public spaces;
- organization of collection, removal and disposal of household waste.

It is necessary to indicate that international standards in the field of environmental protection²⁴ and public finance management²⁵ refer these activities to environmental protection.

Due to the fact that the legislation of the country does not give municipalities any powers (both rights and obligations) in the field of environmental protection, the above 3 activities at the local level are taken into account as “Housing and utilities”. This leads to incorrect and distorted reporting in the field of environmental protection and on the activities of municipalities

²⁴ The Classification of Environmental Protection Activities (CEPA) developed by the European System for the Collection of Economic Information about the Environment (SERIEE) of the Statistical Office of the European Communities (Eurostat).

²⁵ The 2014 Government Finance Statistics Manual developed by the Statistics Department of the International Monetary Fund (IMF).

in general.

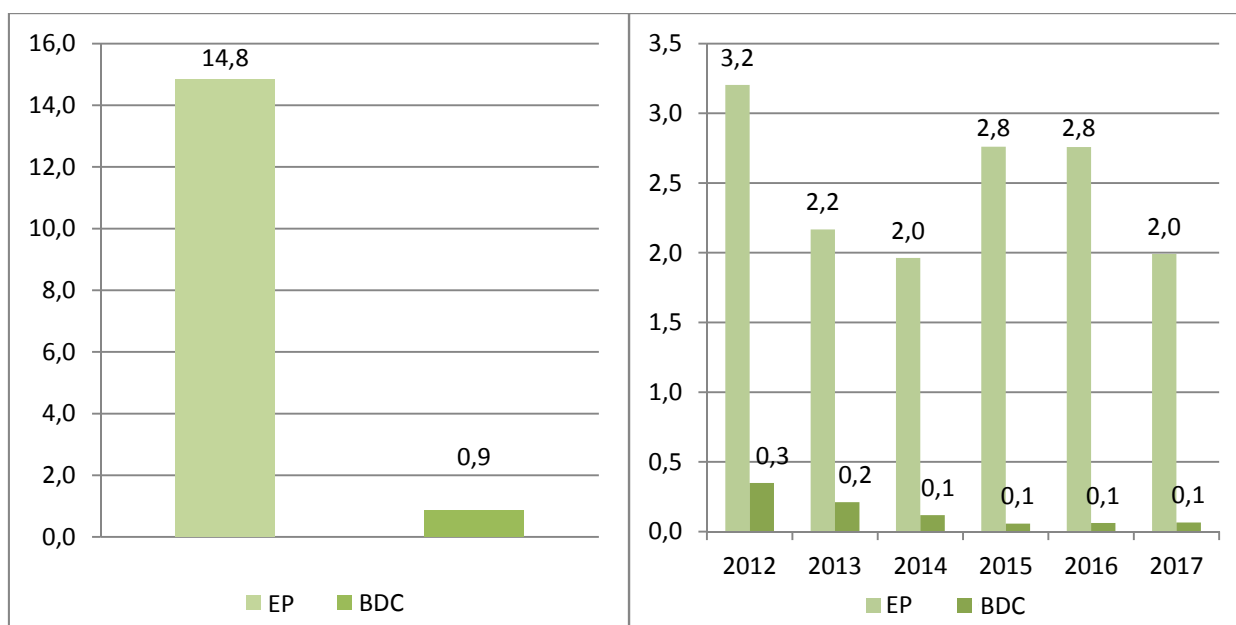
This circumstance leads to a low degree of involvement of municipalities in environmental protection activities, due to the lack of understanding of the range of responsibilities, including formalized.

To calculate the local budget expenditures for environmental protection and biodiversity, there were analyzed the expenditures of cities of provincial and district significance of Jalal-Abad province aimed at financing municipal enterprises for water supply, sewerage, improvement and management of solid household waste.

From 2012 to 2017 from the local budgets of 8 towns of Jalal-Abad province 792.7 million KGS were allocated to municipal institutions engaged in housing and communal activities. Expenses were mainly spent to cover current expenditures - for the purchase of goods and services and purchase of equipment (90%) and only 10% for capital expenditures.

Diagram 6.2. Local budget expenditures for environmental protection, biodiversity and adaptation to climate change in 2012–2017

a) EP and BDC total for the period, million KGS b) Dynamics by years, million KGS



Source: MF, SAEPP, own calculations

Considering that the funds are mainly allocated for the current expenses of utility companies and they indirectly affect the environmental protection and biodiversity, the calculation of expenses was made on the basis of minimum values.

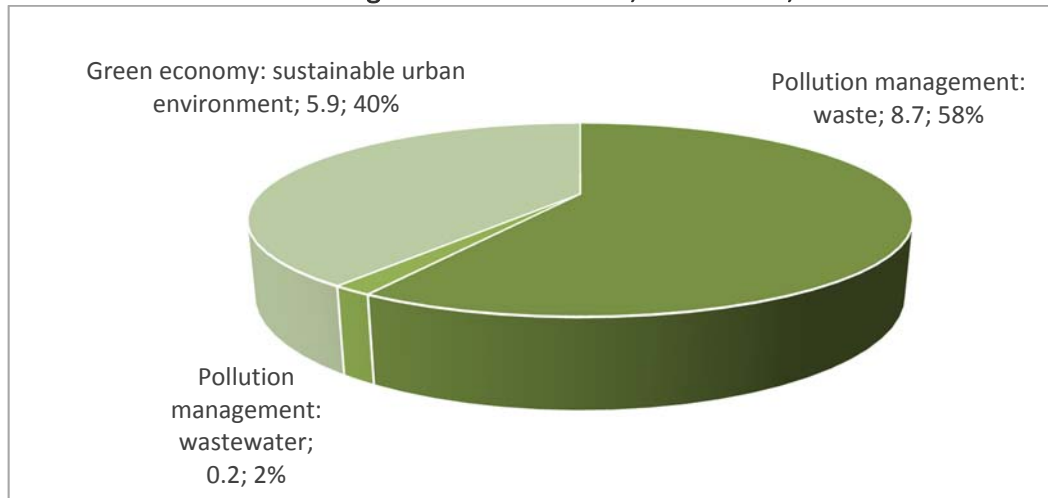
14.8 million KGS were allocated for environmental protection from the local budget in 2012-2017, of which 0.9 million KGS were allocated for measures related to BDC (see Diagram 6.2). Of this amount, 85% are current expenses, including 24% - a wage fund, 41% - expenses for the purchase of goods and services, 20% - other administrative expenses. Capital expenditure accounts for 15%.

Two BIOFIN categories out of nine were financed from the local budget in 2012-2017 (Diagram 6.3).

- "Green economy" - for subcategory "Sustainable urban environment" (0.7% of the local budget expenditures allocated to utilities);

- "Pollution management" which includes subcategories "Waste management" (1.1% of local budget expenditures allocated to enterprises for solid waste management) and "Wastewater management" (0.03% of local budget funds allocated to Vodokanals).

Diagram 6.3. Distribution of local budget expenditures for EP by BIOFIN categories and subcategories for 2012-2017, million KGS,%



Source: MF, own calculations

No funds were allocated from the local budget of the province for climate change adaptation measures.

7. Expenditures of Main Ministries and Agencies for Environment, Biodiversity and Climate Change Adaptation (by organizations)

The section analyzes the expenditures of the main ministries and agencies responsible for environmental protection, biodiversity conservation and adaptation to climate change.

The authorized body for the implementation of a single policy in the field of environmental protection, biodiversity conservation, environmental management, development of forestry and hunting and ensuring the environmental safety of the state is the *SAEPF*. Its powers on these issues overlap with the responsibilities of other ministries and agencies:

- MAFIM - on issues of ensuring the protection of water resources, land and soil protection from degradation;
- SIETS - on issues of environmental protection, use of natural resources and compliance with environmental legislation;
- SIVPS - on issues of flora and fauna protection;
- MES - in terms of carrying out remediation and rehabilitation activities at tailing ponds and mining dumps containing radioactive and toxic waste;
- local self-government bodies – on issues of management of municipal solid waste and wastewater treatment plants.

The amount of funds allocated to finance ministries and agencies is established by the budget law for the next financial year.

The most detailed analysis is presented for *SAEPF* and *MAFIM*. In other agencies, the expenditures for EP, BDC and CCA occupy a relatively small share; therefore, these agencies will not be considered in this report.

There are no expenditures of the *MES* in Jalal-Abad province for carrying out remediation and rehabilitation measures at tailing ponds and mining dumps containing radioactive and toxic waste.

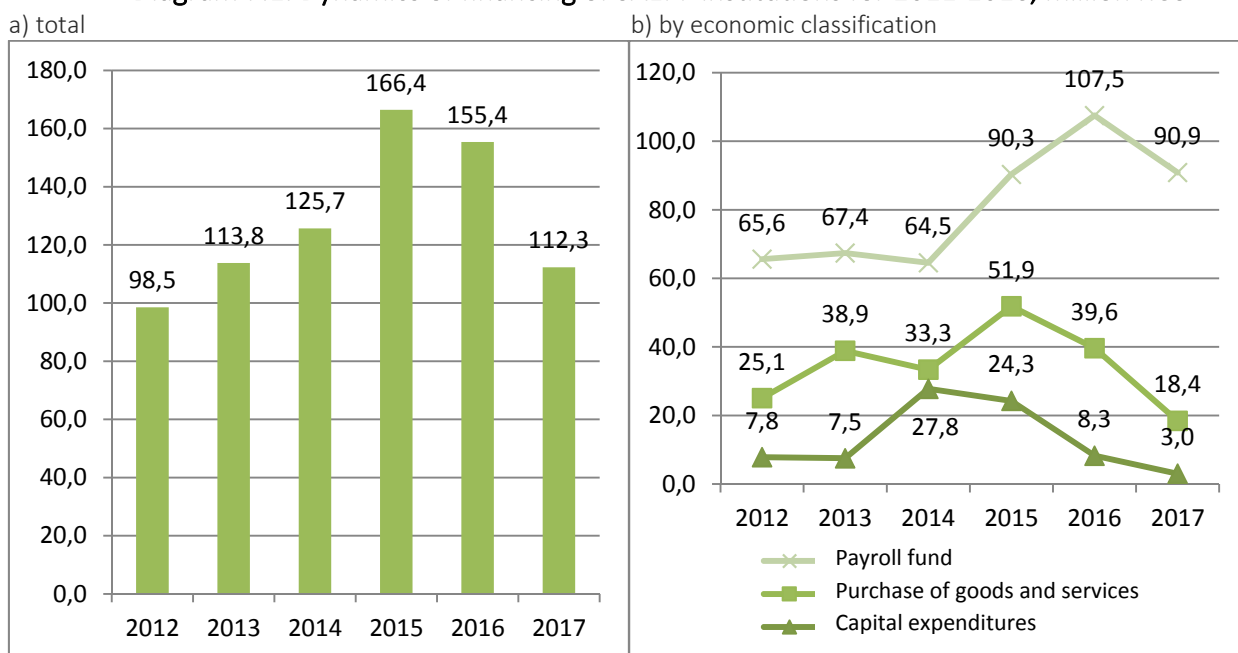
7.1. Expenditures of Subordinate and Territorial Units of the SAEPF for Environmental Protection, Biodiversity Conservation and Climate Change Adaptation in Jalal-Abad Province

The main strategic goal of the subordinate and territorial institutions of the SAEPF is to ensure the preservation of the unique ecological system of the Kyrgyz Republic and the protection of the environment for present and future generations.

To achieve the main strategic goal, the SAEPF performs the following **main functions** focused on strategic sectoral areas of development:

- ensuring the environmental safety of the country;
- preservation of forest ecosystems, increasing the forest area of the country, improving the ecological and economic potential of the forest;
- sustainable management of the state forest fund, protected areas and hunting grounds based on up-to-date accounting and monitoring information;
- conservation of biodiversity and restoration of natural ecosystems in a changing climate.

Diagram 7.1. Dynamics of financing of SAEPF institutions for 2011-2016, million KGS



Source: MF, SAEPF, own calculations

In 2012-2017 the budget of the SAEPF institutions consisted of budgetary (directly allocated from the national budget) and special funds, including funds from the national and local funds for environmental protection created to finance measures for environmental protection, reproduction of natural resources, restoration of environmental losses, elimination of environmental consequences of accidents, catastrophes and compensation for damage²⁶.

In 2012-2017 the SAEPF institutions were funded from the national budget in the amount of 772.1 million KGS. Of these, 90% of financing is current expenditures, including 63% - payroll fund, 27% - purchase of goods and services. Only 10% are directed to capital expenditures - for

²⁶ Decree No. 239 of the President of the Kyrgyz Republic "On Local and National Conservation Funds in the Kyrgyz Republic" dated 21.07.1992

development (see Diagram 7.1 a and b).

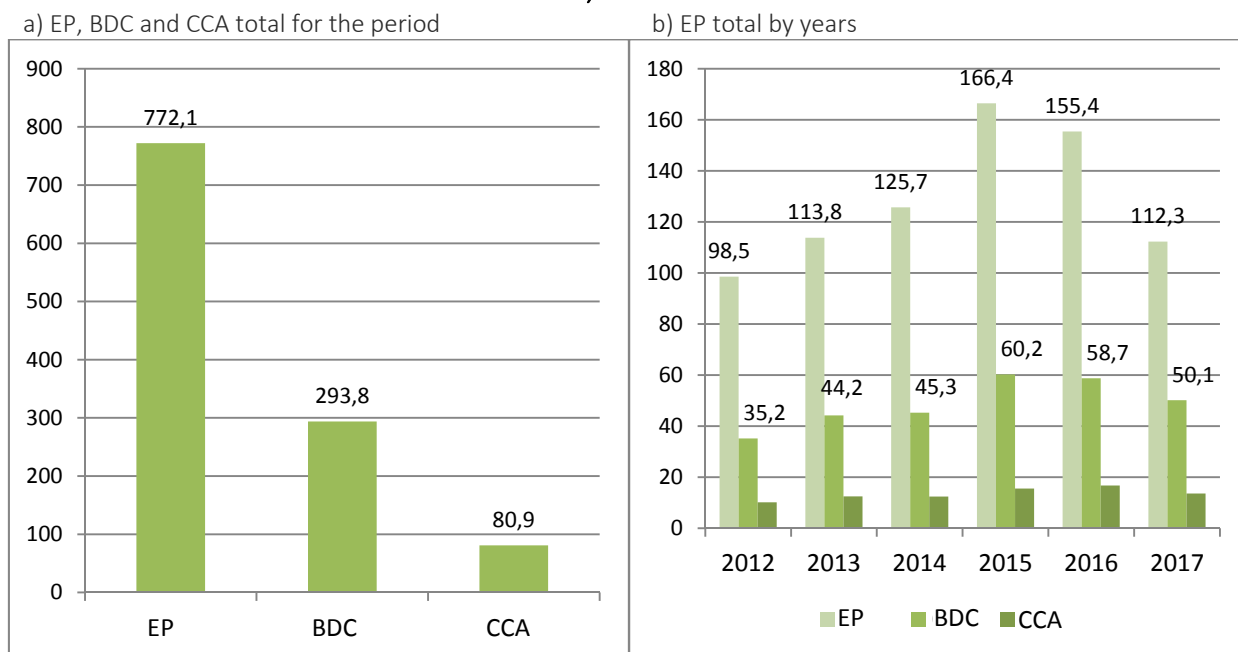
Based on the analysis of the activities and expenditures of the SAEPF institutions for 2012-2017, the agency's expenditures for environmental protection (EP), biodiversity conservation (BDC) and climate change adaptation (CCA) were determined.

It is obvious that almost all expenditures of the agency's institutions are allocated to EP and in 2012-2017 (over 6 years) 772.1 million KGS or 100% of total expenditures of the SAEPF institutions were allocated to this area from the SAEPF budget, including 293.8 million KGS were allocated for BDC, which accounts for 38% of the total expenditure of the SAEPF institutions (See Diagram 7.2.). For the activities related to CCA, 80.9 million KGS were allocated from the budget of the SAEPF institutions or 10% of the total expenditures of the SAEPF institutions.

The dynamics of expenditures for EP, BDC and CCA shows the most dynamic growth for financing measures not related to BDC and CCA - more than 2 times; expenditures for BDC and CCA for 6 years increased by 1.5 times.

Structural units of the SAEPF in the province are responsible for different components of state policy in the field of EP, BDC and CCA.

Diagram 7.2. Dynamics of expenditures of the SAEPF institutions for EP, BDC and CCA in 2012-2017, million KGS



Source: MF, own calculations

The largest share of expenditures for EP, BDC and CCA for the entire period of 2012-2017 falls on the institutions of the *Department for Forest Ecosystem Development* (DFED). The largest share of forestry enterprises in the expenditures of the SAEPF in the province is among all subordinate organizations of the agency - 70.3%. *Forestry enterprises* carry out operational management of the forest fund assigned to them, the property consisting of fixed assets, working capital and material values. The forestry enterprise is the administrator of budgetary, extra-budgetary and other funds allocated to it for the restoration and development of forestry, as well as funds coming into its accounts from other sources permitted by law. Forestry enterprises are state institutions based on the right of operational management.

The Forest Protection Station, 15 forestry enterprises (Alabukinsky, Arstanbapsky,

Achinsky, Kabinsky, Kyzyl-Unkursky, Toktogulsky, Toguztorosky, Kochkor-Atinsky, Toskool-Atinsky, Avletimsky, Aksyisky, Arkytsky, Karalminsky, Ortosky, Chatkalsky) and 4 forest areas (Zhaiterek, Karalma, Karakul, Urumbash) operate in Jalal-Abad province and carry out forestry activities (forestry-based, silvicultural, protection and preservation of forests). Also the Jalal-Abad interregional office of walnut forests functioned during the reporting period.

In 2012-2017 forestry enterprises in the province were financed at the expense of the budget and special funds in the total amount of 543.1 million KGS. Of the total amount of funds, 91% were directed to current expenses, including for payroll fund were directed on average 59% of the total amount of forestry enterprises' funds and 32% for the purchase of goods and services. Only 9% went to capital expenditures.

These expenditures are classified as expenditures for environmental protection. The annual expenditures of forestry enterprises show a steady positive growth trend. Forestry enterprises were financed from the national budget only for wages of workers and contributions to the Social Fund. All other expenses, including those related to forestry activities, were funded from own revenues of forestry enterprises and at the expense of funds received from the National Fund for Nature Conservation and Local Fund for Nature Conservation.

The expenditures of forestry enterprises for BDC for 2012–2017 amounted to 135.7 million KGS or 25% of the total expenditures of forestry enterprises.

According to the calculated data, 54.3 million KGS or 10% of the total expenditures of forestry enterprises were allocated from the budget of forestry enterprises in 2012–2017 for the activities related to climate change adaptation (CCA). The calculation of the expenditures of forestry enterprises for CCA includes only a part of the expenses of forestry enterprises aimed at promoting the principles of social afforestation, expanding the forest area and improving management efficiency of forestry enterprises that indirectly affect CCA. As well as part of the expenses aimed at carrying out forest management and reforestation activities, etc.

The analysis of financing of forestry enterprises showed that the lack of financing from the state budget for capital expenditures does not allow for the full implementation of silvicultural works. There is no specialized equipment for tree planting, there is a lack of inventory, equipment and other means.

More than 16% of expenditures of the SAEPF institutions in Jalal-Abad province for environmental protection are focused on **protected areas (PAs)**. At the same time, the volume of expenditures for BDC from the PAs budget coincides with the sum of expenditures for EP. PAs are areas with unique, standard, or other valuable natural complexes and objects of particular environmental, scientific, and aesthetic value. A special regime of protection and use is established in respect of them. Each PA has its own staff and budget. The development of networks of protected areas (PAs) is one of the ways to ensure the long-term conservation of biological and landscape diversity.

There are one state nature reserve "Dashman", three state reserves (Besharal, Sary-Chelek and Padyshata) and three state natural parks (Alatay, Saimaluutash and Kanachuu) in the province.

For the period of 2012-2017 about 124.6 million KGS were allocated for the maintenance of PAs in the province. At the same time, current expenses make 97% of the amount of funds allocated for EP and BDC (of which 78% is accounted for by the payroll fund, 19% are directed to the purchase of goods and services) and 3% - a very small amount - to capital expenses.

In accordance with the priority areas of adaptation to climate change in the Kyrgyz Republic until 2017²⁷, expenditures for PAs aimed at CCA are expenditures aimed at improving the effectiveness of PAs management and conserving and restoring wetlands as habitats of

²⁷ Resolution of the Kyrgyz Government No. 549 dated 02.10.2013 "On the approval of priority areas for climate change adaptation in the Kyrgyz Republic until 2017"

natural biodiversity and the most important component of the natural environment decisive in climate change adaptation processes.

According to the calculated data, 24.9 million KGS or 20% of the total expenditures for PAs were allocated from the PAs budget for CCA-related activities.

Analysis of the financing of PAs showed that state funding of PAs does not allow for the necessary volume to carry out a set of environmental protection measures related to environmental protection and rational use of natural resources, to incur costs for maintaining reserves and natural national parks, and to promote and stimulate investment in fixed capital.

Despite the steady tendency in the Kyrgyz Republic to expand the area of protected areas, currently the situation is worsening in them, which may soon lead to the loss of the most valuable natural objects. Insufficient budget funding of the protected areas system and the almost complete lack of logistics do not allow for the effective protection and monitoring of biodiversity.

The National Fund for Nature Conservation (NFNC), including Jalal-Abad Local Fund for Nature Conservation (LFNC). The NFNC was created as a financial institution in the context of the province, with the aim of accumulating funds received in the form of payments for environmental pollution. Further, these funds are directed to the financing of environmental activities in the provinces and the country as a whole.

The function of the Fund is the implementation in accordance with the established procedure of financing measures for nature protection, restoration of losses in the natural environment, preservation of biodiversity and forest ecosystems, development of the forest industry and protected areas.

The main areas of funding for environmental activities in 2012-2017 were:

- protection of water resources from sewage pollution (sewage treatment plants, sewage networks);
- air protection;
- land protection, production and consumption waste management;
- forestry development, greening and landscaping activities;
- conservation of biodiversity, development and maintenance of state reserves, state national natural parks, development of protected areas;
- promotion of respect for the environment and environmental management, education, development of environmental knowledge.

According to the estimated data in 2012-2017, the expenditures of the NFNC and LFNC in Jalal-Abad province amounted to 81.2 million KGS, which are fully expenditures for EP, including 23.6 million KGS directed to BDC.

In 2012-2017, the main part of the resources of the NFNC and LFNC was intended to finance activities for forestry development, greening and landscaping.

Territorial Administration for Environmental Protection (TAEP) of Jalal-Abad province is the agency at the regional level, ensuring the implementation of state policy in the province. The TAEP carries out state environmental control and environmental monitoring for the protection of atmospheric air, water and land resources, biodiversity resources and forest ecosystems. Together with the Central Office of the SAEPP, the TAEP carries out environmental monitoring and environmental impact assessment.

From 2011 to 2016, according to expert estimates, 23.1 million KGS were allocated for the maintenance of Jalal-Abad TAEP, while the entire amount was classified as expenditure for environmental protection. Expenses were mainly spent on current administrative activities. 8.9 million KGS were allocated for BDC. No funds were allocated from the TEEP budget for activities related to climate change adaptation (CCA).

Expenses of subordinate and territorial divisions of the SAEPF for environmental protection, including biodiversity conservation, by BIOFIN categories

Distribution of expenses of the SAEPF institutions by BIOFIN categories and subcategories for 2012-2017 is shown in Diagram 7.3. It is made on the basis of the analysis of the activities of the SAEPF structural units.

The SAEPF institutions made expenses for five out of the nine BIOFIN categories in Jalal-Abad province. The structure and ratio of expenditures for EP and BDC by BIOFIN categories are similar: the largest share in EP expenditures is accounted for by financing under the **category "Sustainable use"** - 76% or 584.9 million KGS. As for BDC, this category is 4 times less and amounted to 156.7 million KGS.

The main *subcategory* is *"Sustainable forestry"* (see Diagram 7.3). In the framework of this subcategory, the forestry enterprises of Jalal-Abad province carry out activities aimed at protecting and restoring the forests of the SFF, preserving the proper sanitary condition of the forests and forming valuable productive forest crops, protecting forests from illegal logging and fires. Biological and aerosol treatment of trees against pests is carried out to protect forests.

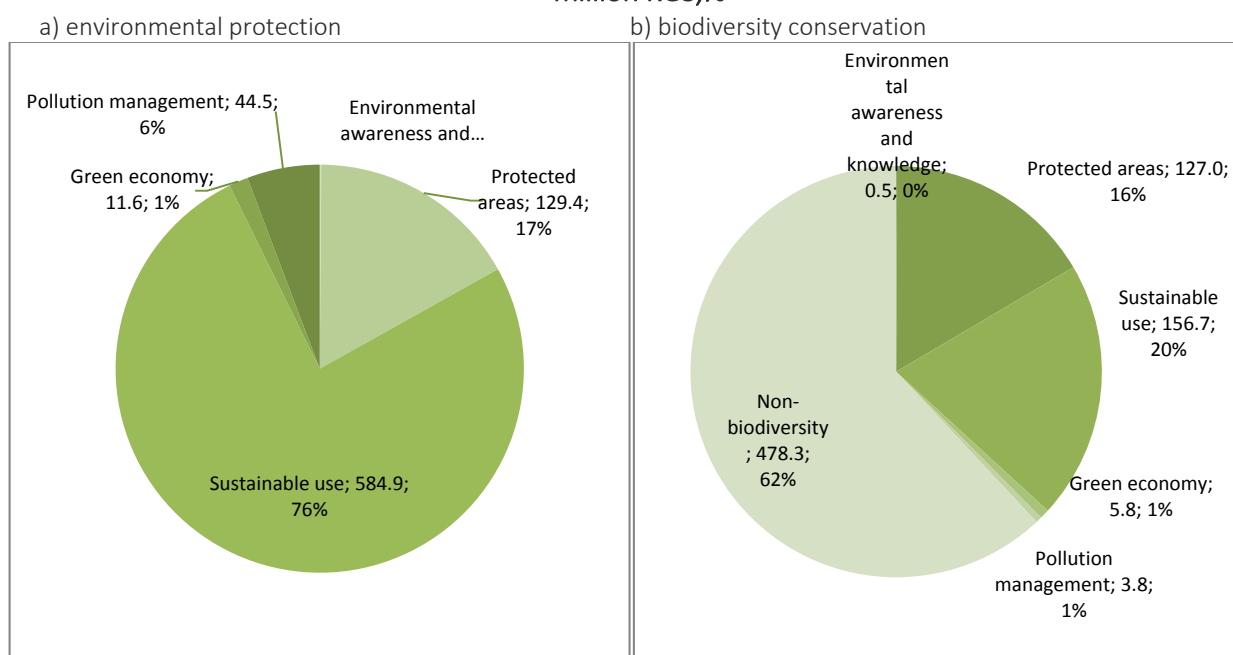
The next resource-intensive **category** is **"Protected areas and other conservation measures"**, the sum of expenses is almost the same in both sections and amounts to 129.4 million KGS, here the measures implemented in PAs are mainly funded. *The BIOFIN subcategory "Management of protected areas"* is the main in the category. It corresponds to the activities of the SAEPF for the management of protected areas (PAs). The budget of the subcategory corresponds to the entire PAs budget in Jalal-Abad province, which in 2011-2016 accounted for 17% of the budget expenditures of the SAEPF institutions in the province aimed at EP and BDC.

The **category "Pollution management"** is one of the most important for environmental protection. However, with respect to biodiversity, the expenditures of institutions in this category are relatively small - in 2012-2017 they amounted to 44.5 million KGS or 6% of the budget expenditures for environmental protection. The category reflects the functions of the TAEP of Jalal-Abad province related to the monitoring of environmental pollution, as well as the environmental protection expenditures of the NFNC and LFNC aimed at protecting and restoring soil, groundwater and surface water.

The expenditures of these two institutions for the conservation of biodiversity in this subcategory amounted to 3.8 million KGS.

The TAEP carried out its activities within the **category "Green economy"**. *The BIOFIN subcategory "State environmental impact assessment"* is the only subcategory of "Green economy". State environmental impact assessment is carried out to prevent possible negative impacts from the proposed economic and other activities on public health and the environment. It can be seen that the category "Green economy" occupies the smallest share in both categories. This reflects, among other things, the fact that part of the powers of the agency is not fully implemented, especially given the meager funding.

Diagram 7.3. Distribution of expenditures of the SAEPF institutions in Jalal-Abad province for environmental protection and biodiversity conservation by BIOFIN categories for 2012-2017, million KGS,%



Designations: "Non-biodiversity" – expenditures not related to biodiversity.

Source: SAEPF, MF, own calculations

The category "**Biodiversity awareness and knowledge**" is the BIOFIN category insignificant in terms of resource intensity. The share of the category "Environmental/biodiversity awareness and knowledge" is 0.2% or 1.6 million KGS. Within the framework of this category, the TAEP carried out measures to promote environmental awareness and education of the population in order to shape its proper attitude towards sustainable environmental management.

7.2. Structural and Territorial Units of the MAFIM in Jalal-Abad Province

The Ministry of Agriculture, Processing Industry and Melioration of the Kyrgyz Republic (hereinafter referred to as the MAFIM) is the state body implementing state policy in the agro-industrial sphere, including animal husbandry, fish farming (aquaculture), crop production, plant quarantine, land reclamation, soil fertility, land, water resources, irrigation and ameliorative infrastructure, food and processing industry, as well as government regulation and control over the production and circulation of ethyl alcohol and alcohol products.

Structural and territorial units of the MAFIM in Jalal-Abad province are responsible for different components of state policy in the field of sustainable development of agriculture, which directly or indirectly affect EP, BDC and CCA.

Based on the functions of the institutions of the MAFIM, there was conducted an analysis of the budget of the institutions involved in the work in the sphere of environmental protection, biodiversity conservation and climate change adaptation.

The table contains a list of subordinate and territorial institutions of the MAFIM which undertake main expenditures in Jalal-Abad province for the implementation of environmental protection and biodiversity conservation measures.

Table 7.1. List of the MAFIM institutions whose expenditures are analyzed in the report, taking into account the structural changes in 2017

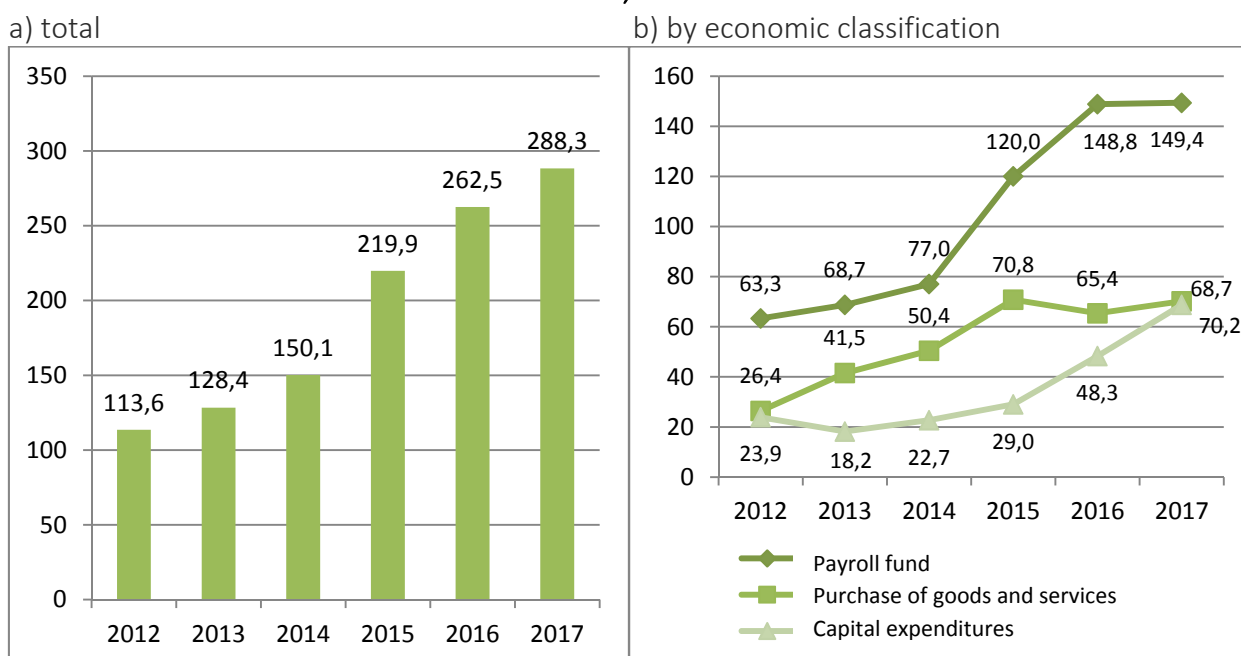
MAFIM institutions	Years of analysis
Subordinate institutions of the Department for Water Management	2012-2017
State Design Institute for Land Management "Kyrgyzgiprozem"	2015-2016
District Departments of Agrarian Development (DDAD)	2012-2017

Source: MAFIM

In 2012-2017 the MAFIM institutions were financed from the national budget in the amount of 1 162.8 million KGS.

Of the total funds, 82% of financing make current expenses, of which 54% is accounted for by the payroll fund, 7.6% - the purchase of other goods and services, and 18% - capital expenditures - mainly due to capital investments for the development of irrigation and land improvement systems and the purchase of agricultural equipment and machinery.

Diagram 7. 5. Dynamics of expenditures of the MAFIM institutions in Jalal-Abad province in 2012-2017, million KGS

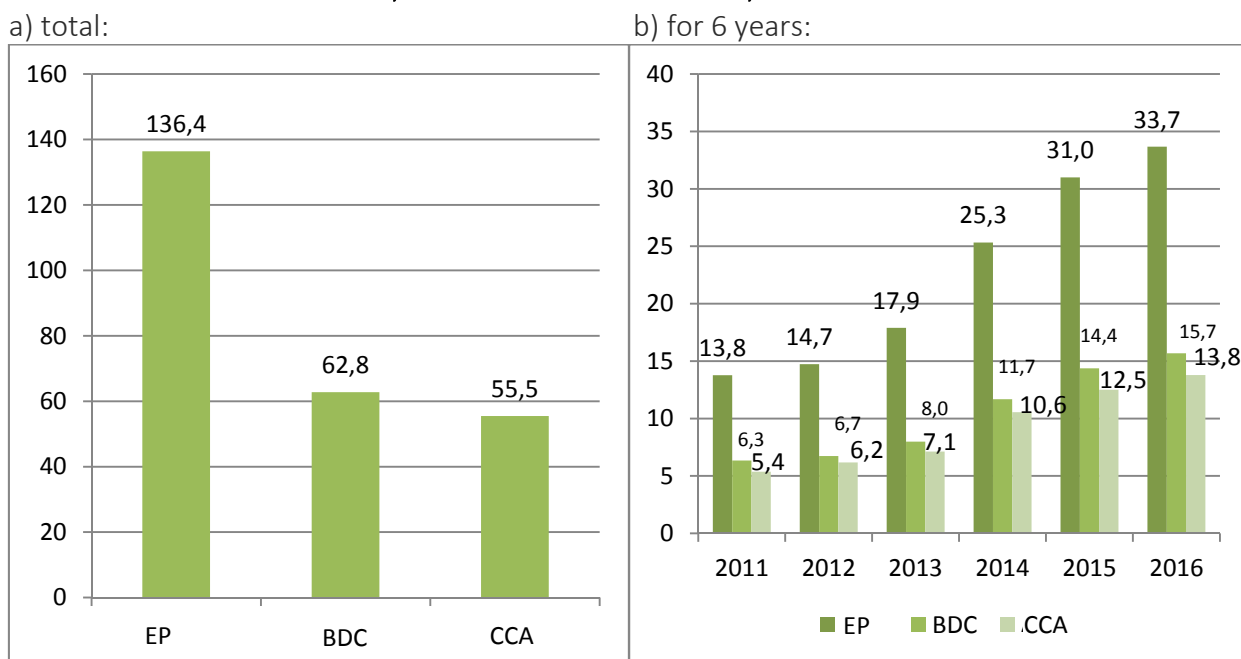


Source: MAFIM, MF, own calculations

As can be seen from Diagram 7.5. for 6 years funding of the MAFIM institutions in the province increased by 2.5 times. The increase in expenses in 2012–2017 was mainly due to an increase in the expenditures for salary and purchase of other goods and services, due to rising prices.

Based on the analysis of the activities and expenditures of the MAFIM institutions for 2012–2017, the agency's expenditures for environmental protection (EP), biodiversity conservation (BDC) and climate change adaptation (CCA) were determined. The dynamics of the total expenditures of the MAFIM institutions for EP, BDC and CCA for 2012-2017 is shown in Diagram 7.6.

Diagram 7.6. Dynamics of expenditures of the MAFIM institutions in Jalal-Abad province for EP, BDC and CCA in 2012-2017, million KGS



Source: MAFIM, MF, own calculations

According to expert estimations, 11.7% or 136.4 million KGS of the total budget of the MAFIM institutions in the province are allocated for EP.

5.4% of the total budget of the MAFIM institutions in Jalal-Abad province or 62.8 million KGS are allocated for BDC. 4.8% of total expenditures of institutions or 55.5 million KGS were allocated from the MAFIM budget for CCA-related activities.

The largest share of expenditures for EP, BDC and CCA for the entire period of 2012-2017 falls on subordinate institutions of the **Department of Water Management (DWM)** in Jalal-Abad province. (EP - 109.9 million KGS, BDC - 54.9 million KGS, CCA - 54.9 million KGS). The DWM together with subordinate institutions provides management, monitoring and regulation of the state and use of water resources, objects of irrigation and ameliorative infrastructure and performs executive, administrative and coordinating functions for the implementation of a unified state water policy.

In Jalal-Abad province subordinate institutions of the DWM are responsible for the allocation of water resources, provision of reporting on water, as well as regulation and issuance of permits for water use. They are also responsible for water supply and water treatment in rural areas. Together with the provincial authorities, the DWM is responsible for the construction and maintenance of the primary infrastructure for the irrigation system, including reservoirs, dams and main canals, as well as for the supply of irrigation water. All users, public or private, must obtain a permit for taking water from the DWM. Permits must comply with quotas established by the Department.

Also, subordinate institutions of the DWM regulate the issuance of permits for water drainage and control compliance with the conditions of the issued permits. Monitoring of compliance is carried out by interterritorial administrations.

The DWM is the main investing institution of the MAFIM system and accounted for 92.7% of the total budget of the MAFIM institutions in the province or 1,098.9 million KGS.

More than 15% of the environmental protection expenditures of the MAFIM institutions in Jalal-Abad province were spent by District Departments of Agrarian Development (DDAD): 21.6 million KGS for EP, 5.4 million KGS for BDC, and 0.5 million KGS for CCA. There are 8 departments in Jalal-Abad province (by the number of districts). They monitor agricultural

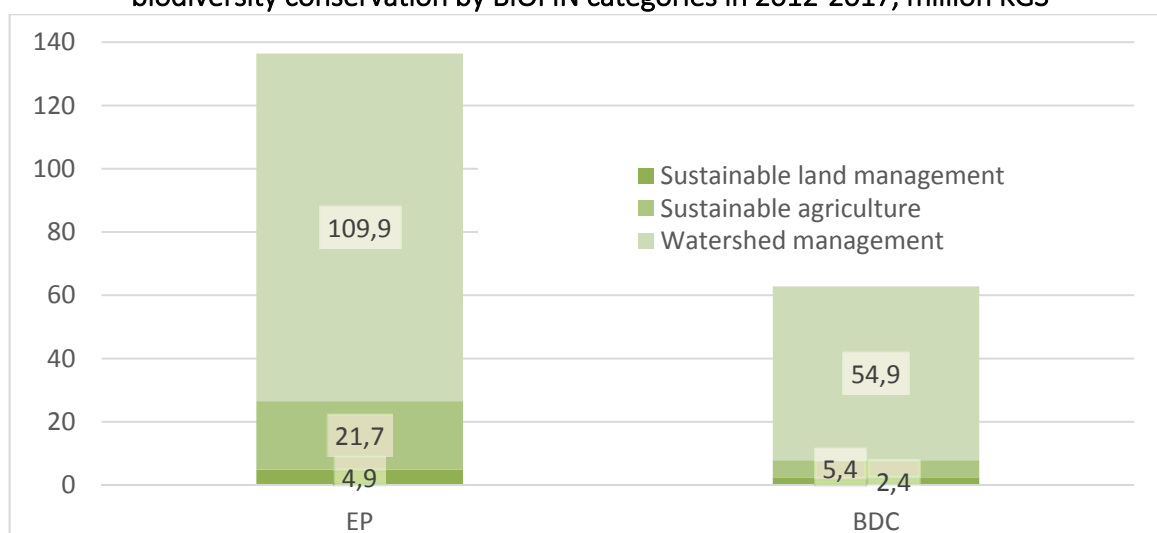
development, develop forecasts, give recommendations to farmers on sowing and watering, are responsible for spring field work, and work with local authorities to improve veterinary services and pasture management.

State Enterprise "State Design Institute for Land Management "Kyrgyzgiprozem". In 2012-2017 the institution spent 4.8 million KGS for EP, 2.4 million KGS were allocated for BDC. It performs a complex of design and survey land management and land cadastre work throughout the country.

Expenditures of subordinate and territorial divisions of the Ministry of Agriculture, Food Industry and Melioration for environmental protection, including biodiversity conservation, in the context of BIOFIN categories

Of the nine BIOFIN categories, the territorial and subordinate institutions of the MAFIM incurred expenses for the category “Sustainable use”, which includes such subcategories as “Sustainable agriculture”, “Sustainable land management” and “Watershed management” (see Diagram 7.7).

Diagram 7.7. Dynamics of MAFIM environmental protection expenditures, including biodiversity conservation by BIOFIN categories in 2012-2017, million KGS



Source: MAFIM, MF, own calculations

In the framework of the subcategory “**Watershed management**”, the subordinate institutions of the Department of Water Management were carrying out their activities, in 2012-2017 it accounted for 109.9 million KGS or 80% of expenditures for environmental protection, including 54.9 million KGS for BDC. The subcategory provides for the management, monitoring as well as regulation of the state and use of water resources, irrigation and land reclamation infrastructure, and rehabilitation of existing and construction of new water facilities.

The second in this category is the subcategory “**Sustainable agriculture**” - in 2012-2017 it accounted for 21.7 million KGS or 16% of expenditures for EP, including 5.4 million KGS for BDC. This subcategory includes the activities of DDADs. They carried out the following activities: protection of agricultural plants from pests, diseases and weeds; soil conservation and improvement; organization of artificial insemination of farm animals; improvement of the veterinary and phytosanitary situation in the province.

As part of the subcategory “**Sustainable land management**” in 2012-2017 the SE “Kyrgyzgiprozem” carried out design and survey land management and land cadastral work in the territory of the province. 4.9 million KGS were spent on these activities, including 2.4 million KGS on biodiversity related measures.

In accordance with the priority areas of adaptation to climate change in the Kyrgyz

Republic until 2017, the expenses of the territorial units of the MAFIM in Jalal-Abad province aimed at CCA are as follows:

- rehabilitation of existing and construction of new water facilities;
- carrying out selection work on the cultivation of drought-resistant and salt-tolerant crops;
- integrated pasture management and development of pasture livestock farming with a view to climate change adaptation.

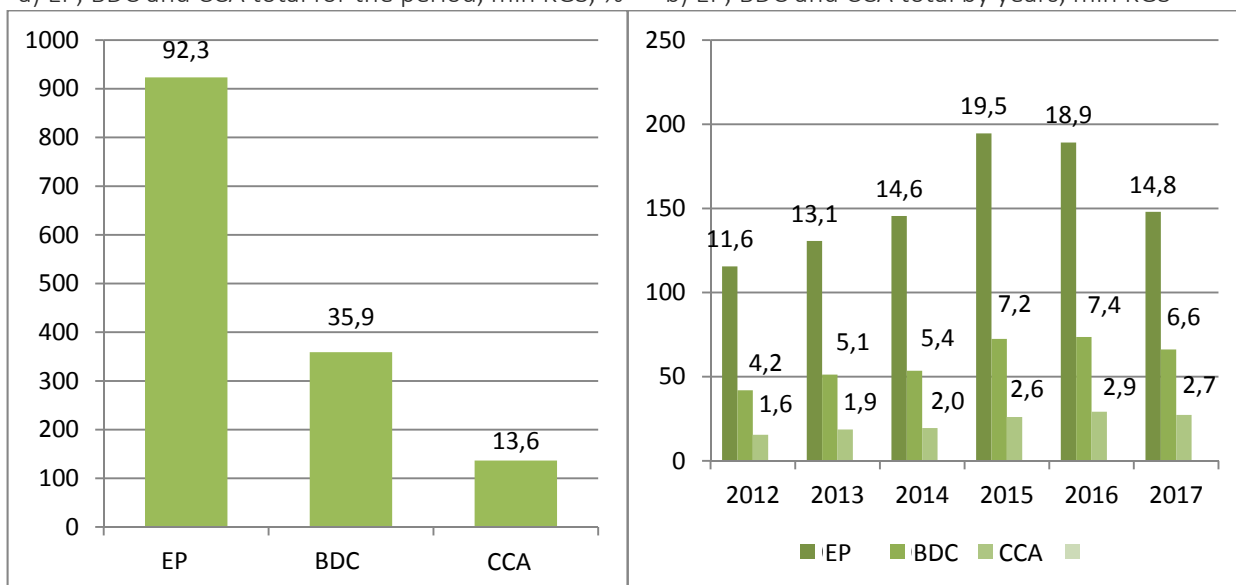
The MAFIM institutions in Jalal-Abad spent 55.5 thousand KGS in 2012-2017 on CCA. The largest share of expenditures for CCA falls on subordinate institutions of the Department of Water Management, with 99% of all expenditures for CCA, the expenditures of DDADs - 1%.

8. State Budget Expenditures for Environmental Protection, Biodiversity and Climate Change Adaptation in Jalal-Abad Province

The section analyzes the state budget expenditures for environmental protection, biological diversity and adaptation to climate change with regard to the national and local budgets. The amount of funding was analyzed, including in terms of expenditures by BIOFIN category.

Diagram 8. 1. State budget expenditures for environmental protection, biodiversity conservation and adaptation to climate change in Jalal-Abad province in 2012-2017

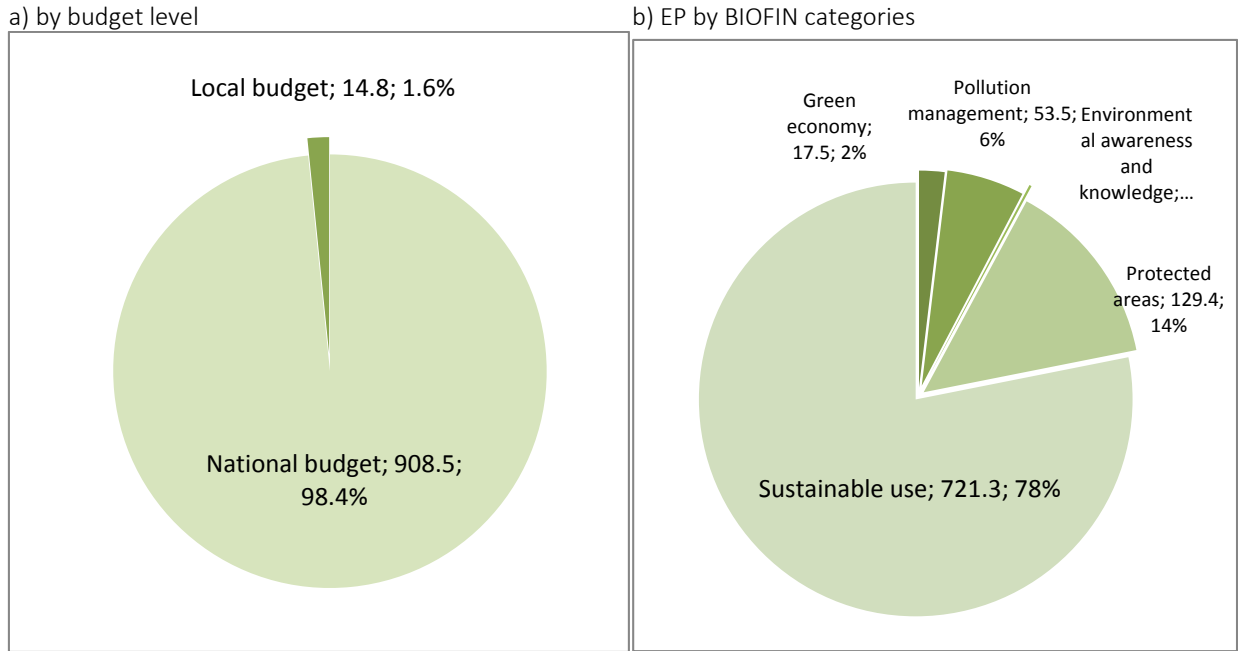
a) EP, BDC and CCA total for the period, mln KGS, % b) EP, BDC and CCA total by years, mln KGS



Source: MF, own calculations

923.3 million KGS were allocated from the state budget for environmental protection in 2012-2017, of which 359.1 million KGS were allocated for BDC measures. (see Diagram 8.1). Of this amount, 89% are current expenses, including 62% - the payroll fund and 27% - expenses for purchasing goods and services. Capital expenditure accounts for 11%.

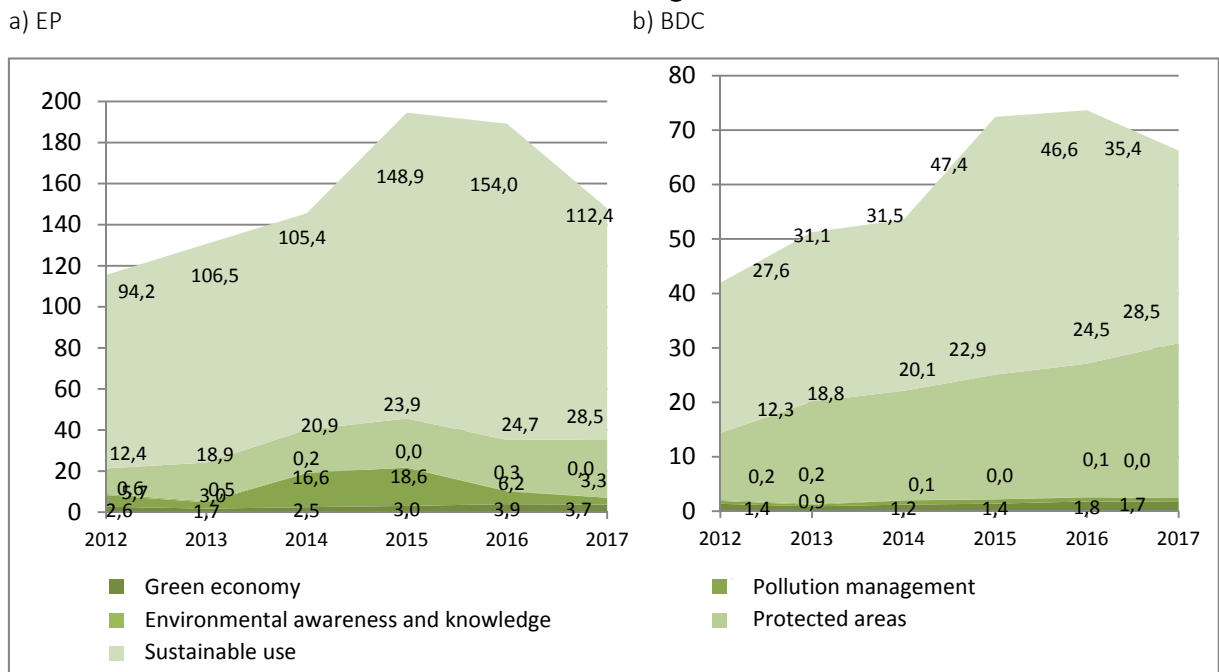
Diagram 8.2. Structure of state budget expenditures for environmental protection in Jalal-Abad province in 2012-2017



Source: MF, own calculations

In 2017, the financing of expenditures for EP, BDC and CCA from the state budget increased almost 1.5 times compared with 2012 (see Diagram 8.1).

Diagram 8.3. State budget expenditures for EP in Jalal-Abad province for 2012-2017 by BIOFIN categories



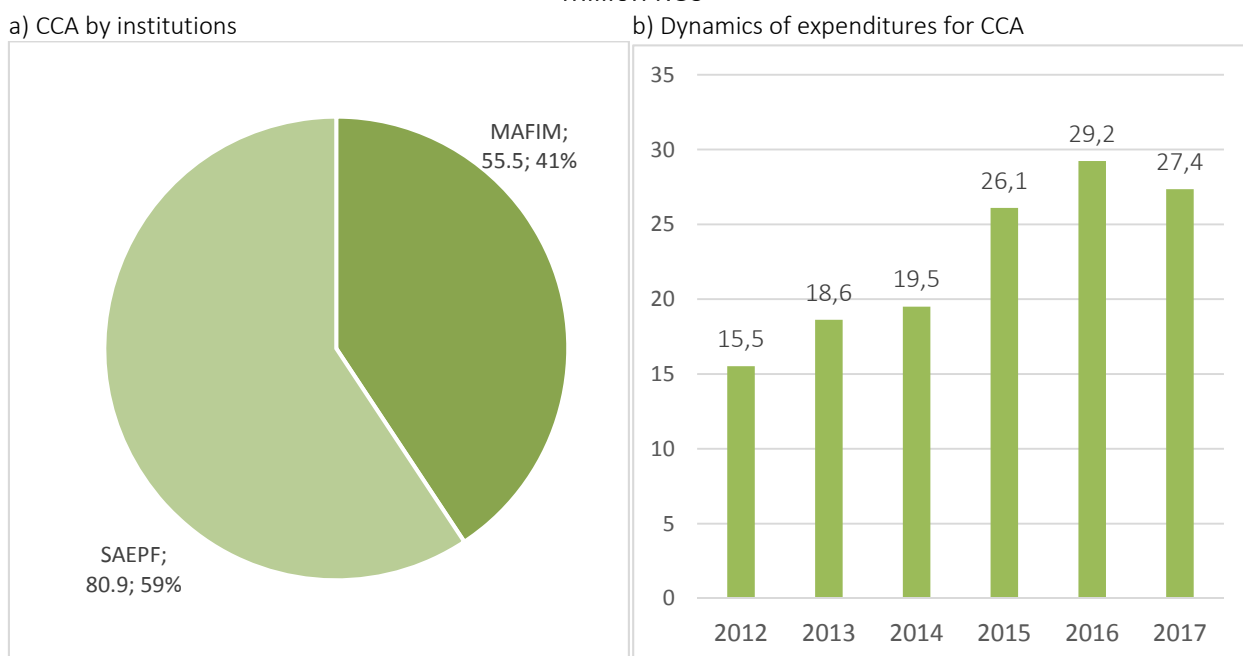
Source: MF, own calculations

As can be seen from Diagram 8.2, 98% of expenditures are allocated from the national budget, since all ministries and agencies dealing with environmental protection and biodiversity issues are financed from the national budget. 2% of expenditures are allocated from the local budget.

Of the nine BIOFIN categories, in 2012-2017 expenditures for five categories in the

province were covered by the state budget. The structure and ratio of expenditures for EP and BDC for BIOFIN categories are similar: the largest share in environmental protection expenditures is taken by the category “Sustainable use” - 78%, which includes the subcategories “Sustainable agriculture”, “Sustainable forestry” “Sustainable land management”, “Watershed management” and “Sustainable wildlife” (see Diagram 8.3).

Diagram 8.4. State budget expenditures for CCA in Jalal-Abad province for 2012-2017, million KGS



Source: MF, own calculations

The next resource-intensive category is “Protected areas and other conservation measures” - 14%, which includes expenditures for managing protected areas. Less than 6% are accounted for by the category “Pollution management” and 5% - the category “Green economy” (state expertise and sustainable urban environment).

Expenditures for the category “Environmental awareness and knowledge” are insignificant.

136.6 million KGS were allocated from the state budget for activities related to CCA. The largest share of expenditures for CCA is accounted for by the Department of Water Management of MAFIM or 59% of state budget expenditures for CCA, followed by expenditures of forestry enterprises and PAs of the SAEPF - 41% (see Diagram 8.4.a).

For 6 years, the state budget expenditures for CCA in Jalal-Abad province almost doubled. These are only expenses of agencies financed from the national budget. For 6 years no funds were allocated for CCA from the local budget.

9. Expenditures of Development Partners (Donors) and Non-Governmental Organizations for Environmental Protection, Biodiversity and Climate Change Adaptation Measures in Jalal-Abad Pprovince

Development Partners

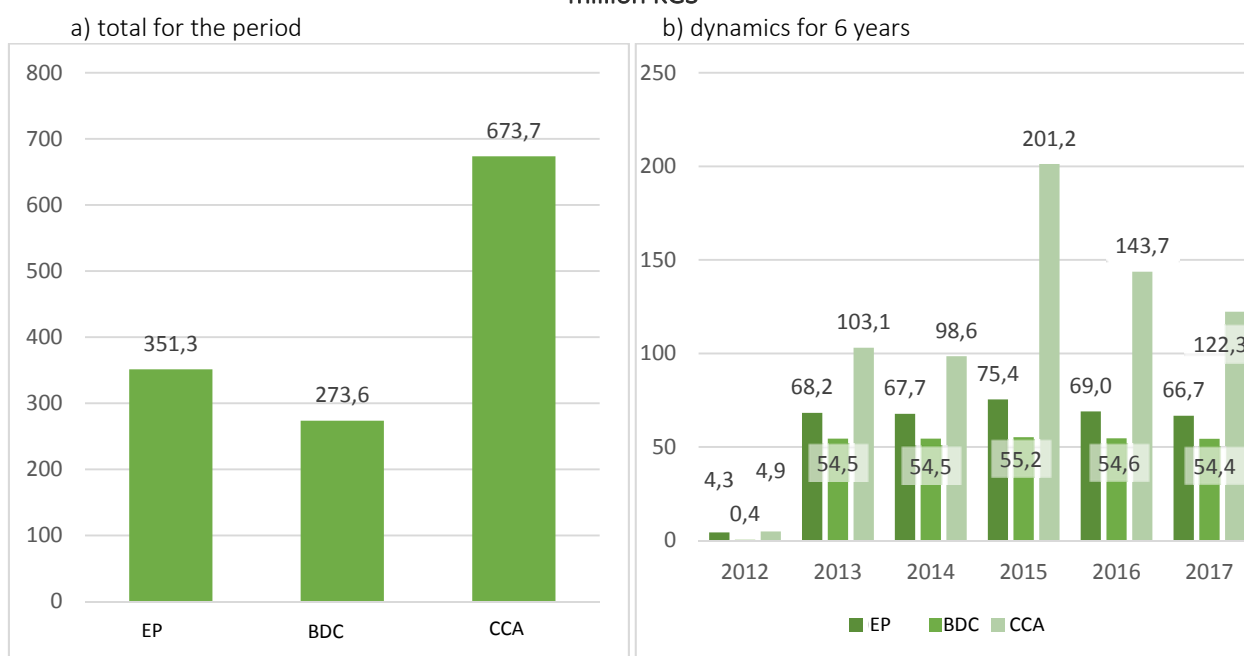
Donors provide tremendous assistance to the development of the Kyrgyz Republic. Over the years of independence, the partners have invested at least \$ **9,832.7 million** in the development of the country. These are mainly infrastructure projects, technical assistance projects. The funds were received both on a grant basis and in the form of loans.

The collection of data on development partners' assistance presents certain difficulties, because, first, some of the assistance is not taken into account by government agencies. It includes, for example, some bilateral donor projects implemented through NGOs and local communities. Secondly, there is no centralized database of donors and funds spent by them in the country, respectively, there are no data by regions.

The Ministry of Finance of the Kyrgyz Republic has information mainly on PIP projects. In addition, in 2016, the Ministry of Finance of the Kyrgyz Republic attempted to create a database of projects that are not on the list of the PIP. The information of the Ministry of Finance of the Kyrgyz Republic was used for this Review. It is not complete²⁸, but makes it possible to assess the general trends in environmental financing by major donors. The database allowed to cover the period of PPEER - from 2012 to 2016 as well as estimated data for 2017.

In total from 2012 to 2017 in Jalal-Abad province there were attracted projects amounting to about 1900.0 million KGS or 36.6 million US dollars.

Diagram 9.1. Official development assistance in Jalal-Abad province: EP, including BDC, CCA in 2012-2017, million KGS



Source: Database of MF KR, own calculations

Financing of environmental protection in Jalal-Abad province at the expense of ODA for the period of 2012-2017 was about 351.3 million KGS or 18.5% of total expenditures.

At the same time, biodiversity conservation issues account for the largest share in environmental protection expenditures - 273.6 million KGS or 78%.

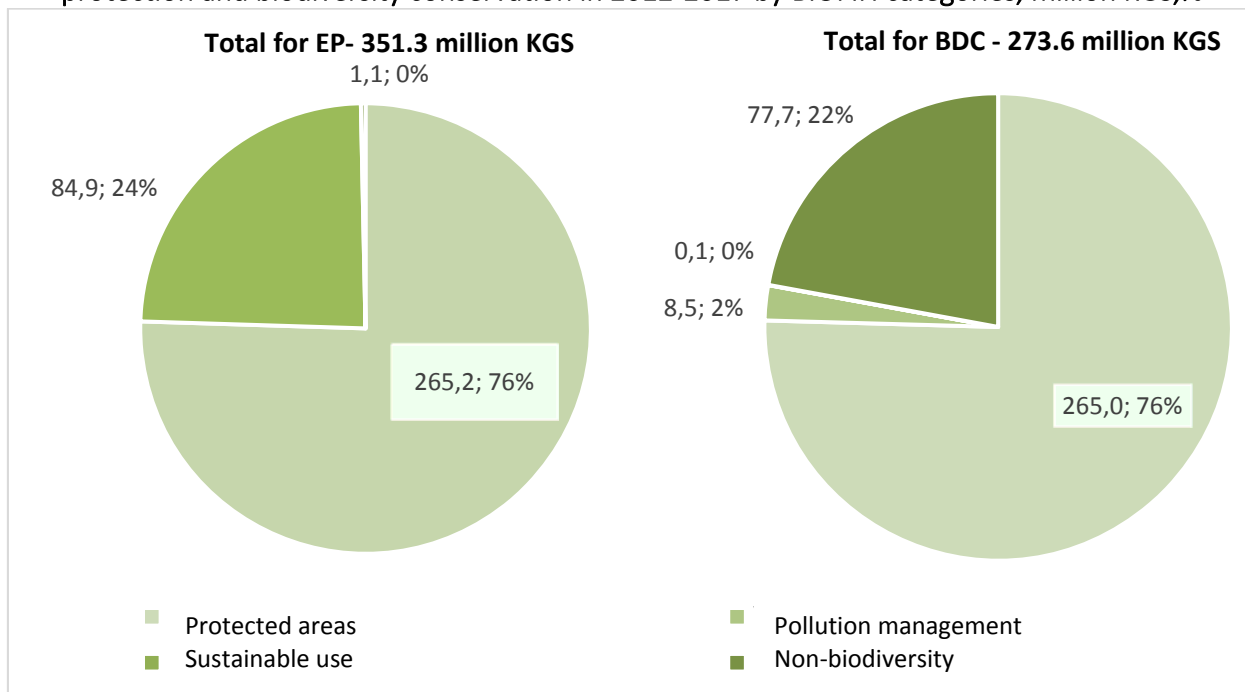
The BIOFIN category that received the most funding from development partners is **“Protected areas and other conservation measures”**. It accounted for 76% of ODA expenditure for environmental protection in the Kyrgyz Republic (see Diagram 9.2.). Basically, within its framework, activities were carried out for the subcategory *“Ex-situ conservation of species (botanical gardens and gene banks)”*. The main donor of the subcategory was Germany, which through the German Society for International Cooperation in Kyrgyzstan (GIZ) began to introduce models of sustainable forest and pasture management.

The project on the sustainable use of mountain, forest and land resources was implemented by FAO with GEF funds.

²⁸ Therefore, speaking of the amount of ODA in the Kyrgyz Republic, the PPEER makes a reservation that the amount of funding from this source is minimal, i.e. real amounts are higher.

There was also implemented the project “Strengthening the Community Conservation of the Genetic Diversity of Walnut-Fruit Forests in the South of Kyrgyzstan” (Christensen Foundation, USA).

Diagram 9.2. Official development assistance in Jalal-Abad province in environmental protection and biodiversity conservation in 2012-2017 by BIOFIN categories, million KGS,%



Source: Database of MF KR, own calculations

Within the “**Pollution management**” category, which accounted for 24% of ODA expenditures, development partners carried out their activities in two subcategories:

- “Wastewater management”, the contribution in this subcategory was made by the international financial institutions of ADB, EBRD and others for the reconstruction of the water supply and sewage systems of the cities of Jalal-Abad province.
- “Other pollution reduction measures”, ODA implemented medical waste management projects.

The category “**Sustainable use**” accounts for 1% of ODA expenditures for environmental protection in 2012–2017, and the bulk of funding for this category almost fully falls within the subcategory “*Watershed management*”, in which the World Bank, ADB, European Union and UN organizations (UNDP, UNECE and FAO) implemented projects for the construction and reconstruction of irrigation systems.

637.7 million KGS were directed to measures for climate change adaptation (**CCA**). This subcategory includes a part of the expenses of the projects for reconstruction of water supply, sewage and irrigation networks infrastructure implemented in Jalal-Abad province, such as:

- Ayil charbasy (concreting of aryk) (ADB);
- Improving the water supply and sanitation system (ADB);
- Rehabilitation of water supply and sewage in the city of Jalal-Abad (EBRD and Switzerland), etc.

Non-Governmental Organizations

It is known that civil society institutions - non-governmental organizations (NGOs) - attract significant funds for the implementation of socially important projects in the field of environmental protection, in particular, biodiversity conservation and adaptation to climate change.

However, the country does not have a system for collecting the financial information of these institutions - they do not report on the income received to state bodies. NGOs most often use a simplified tax regime that does not reflect the actual amount of payer funding.

One of the institutes important for nature management is public associations of natural resource users. The Association of Water Users of Kyrgyzstan and the Association of Pasture Committees "Kyrgyz Zhaiyt" are currently the most stable in the Kyrgyz Republic and in Jalal-Abad province. They determine the procedure and rules for the use of natural resources and tariffs. There is no data on their expenses.

10. Expenditures of Private Sector for Environmental Protection, Biodiversity and Climate Change Adaptation Measures

The private sector incurs expenditures for environmental protection, biodiversity and climate change adaptation measures. However, during the development of this Review it was determined that the statistics on environmental expenditures of the private sector are currently not complete. A small share of enterprises and organizations of Jalal-Abad province reports to state statistical bodies on environmental expenditures: in 2016, according to the NSC, 35 business entities submitted such reports²⁹. However, there are 632 large and 246 medium-sized business entities in the province, not including small enterprises, peasant farms and individual entrepreneurs.

Current expenses have not been included in the review due to the fact that a certain share of these expenses falls on payments to the budget. Thus, they are accounted for in Section 5.4.2 of the Review.

For the purpose of the Review there were used the *expenditures of enterprises and organizations for investments in the field of environmental protection*.

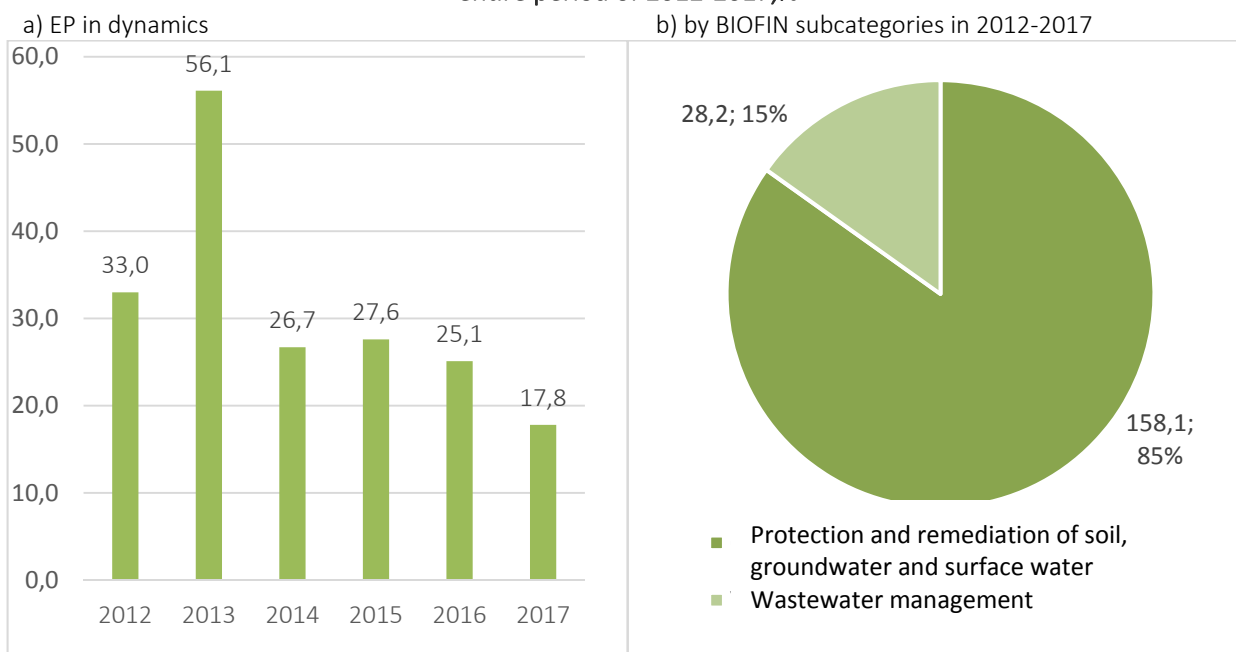
According to official data, the expenditures of enterprises and organizations for environmental protection amounted to **186.3 million KGS**. At the same time, the largest share was spent for costs associated with the rational use of land, 158.1 million KGS or 85% of the total expenditure for environmental protection. The smallest share - for wastewater treatment plants, 15% or 28.2 million KGS (see Diagram 10.1.). It should be noted that the expenses of the private sector in 2017 decreased twice compared with 2012.

Environmental expenditures of the private sector for BDC are minimal and amount to 1.2 million KGS. According to calculated data, only 0.3 million KGS were spent on CCA over 6 years.

Of the nine BIOFIN categories, in 2012–2017 the private sector incurred expenses in the category "**Pollution management**". The largest share in environmental protection expenditures is accounted for financing the subcategory "Protection and remediation of soil, groundwater and surface water" - 85% or 158.1 million KGS, then 15% or 28.2 million KGS were spent for the subcategory "Wastewater management" (see Diagram 10.1 b).

²⁹ Environment in the Kyrgyz Republic: NSC KR, - B .: 2016

Diagram 10.1. Environmental expenditures of enterprises and organizations in Jalal-Abad province for the entire period of 2012-2017,%



Source: NSC KR, own calculations

The structure of environmental expenditures of enterprises shows that official statistics largely reflects the expenditures of enterprises due to the formal obligations that they undertook when they received a favorable opinion of the state environmental impact assessment. There are practically no expenses that enterprises voluntarily incur or that go beyond the specifics of the technological process. This does not mean that the private sector does not bear such expenses.

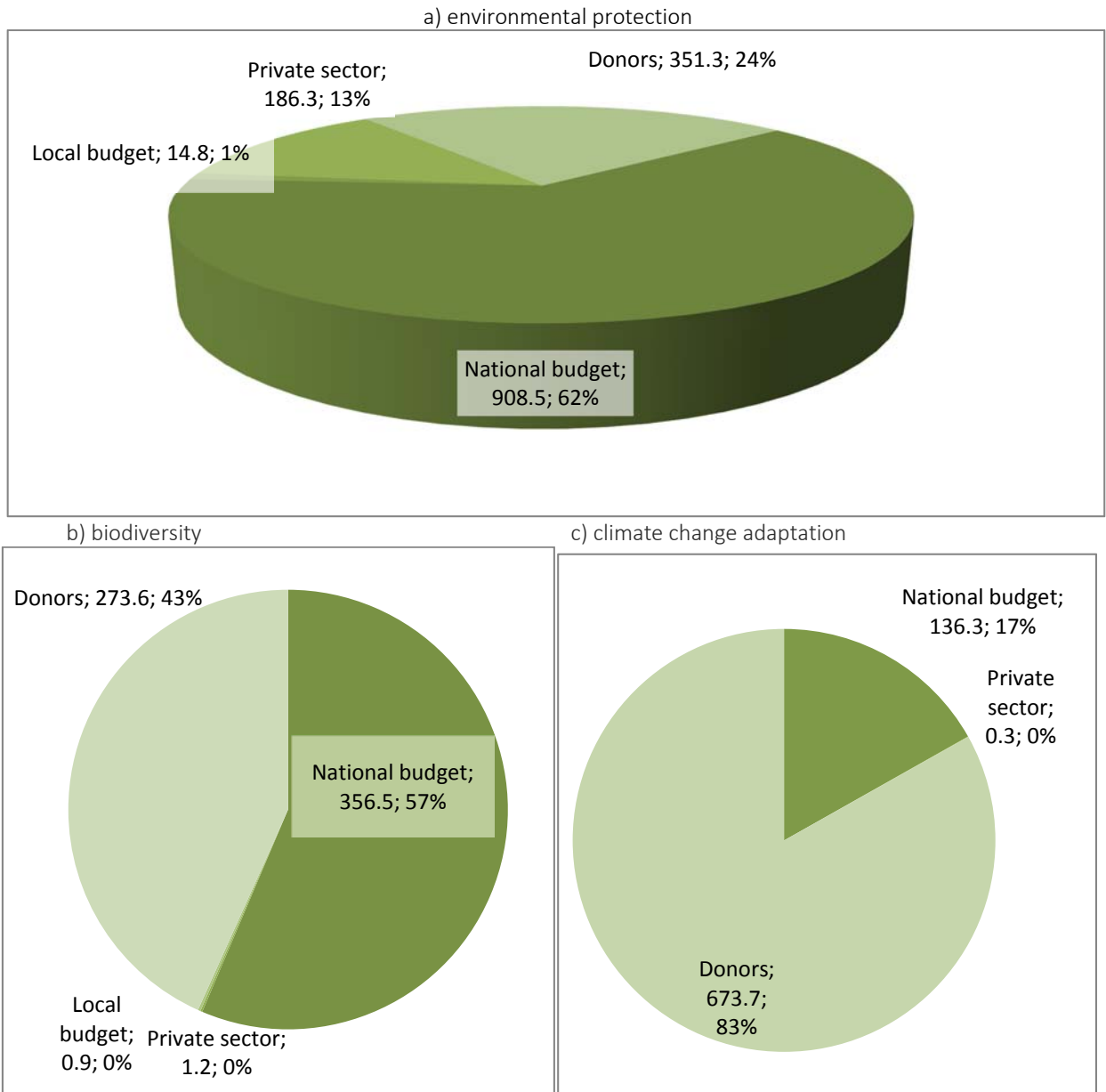
In this regard, it is necessary to include the toolkit for collecting information on environmental expenditures in the system of state statistics.

It is necessary to point out the problem of inadequate performance monitoring and the degree of use of the installed equipment (whether the equipment is in the right mode). Therefore, it is difficult to judge to what extent the expenses of enterprises and organizations are a real contribution to environmental protection, biodiversity conservation and adaptation to climate change.

11. Total Expenditures for Environmental Protection, Biodiversity and Climate Change Adaptation

Environmental and biodiversity expenditures in Jalal-Abad province for 2012-2017 amounted to 1,460.9 million KGS. At the same time, the total expenditures in all subcategories of environmental protection are more incurred by the national budget: 62.0% for environmental protection, 57% for biodiversity conservation and 17% for adaptation to climate change. The donor community is in second place: 24.0% for environmental protection, 43% for biodiversity conservation, while the role of the donor community is high in financing activities related to adaptation to climate change (83%). The private sector covers 13% of the total financing for EP. The smallest amount of financing for EP falls to local budgets (see Diagram 11.1).

Diagram 11.1. Structure of financing of EP, BDC and CCA in Jalal-Abad province for 2012-2017 in million KGS and %

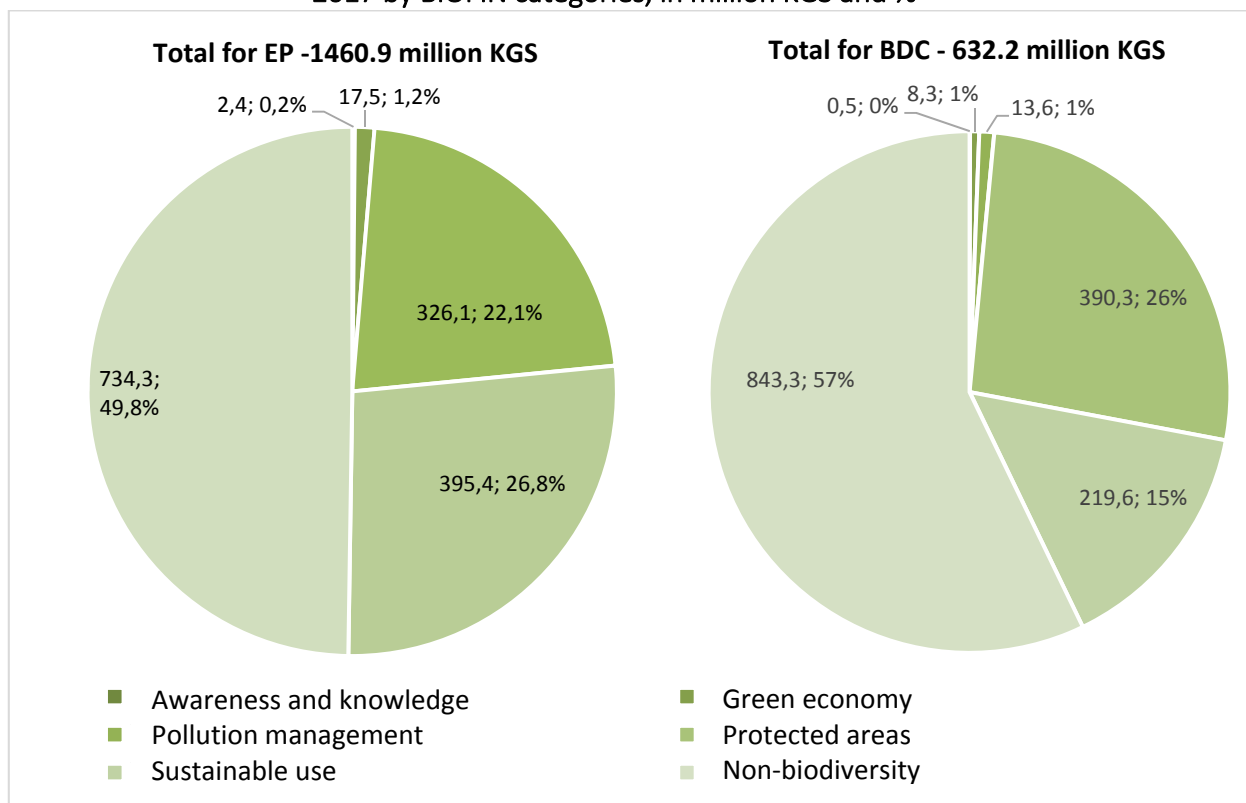


Source: Ministries and agencies of the Kyrgyz Republic, the National Statistics Committee and own calculations

In 2012-2017 expenditures were incurred in the country from all sources for five of the nine BIOFIN categories. The structure and ratio of expenditures for EP and BDC in BIOFIN categories are similar: the largest share in environmental protection expenditures is accounted for by financing for the category “Sustainable use” - 49.5%, which includes such subcategories as “Sustainable agriculture”, “Sustainable forestry”, “Sustainable land management”, “Watershed management” and “Sustainable wildlife” (see Diagram 11.2).

The next resource-consuming category is “Protected areas and other conservation measures” - 27%, which includes expenditures for managing protected areas.

Diagram 11.2. Structure of financing of EP, BDC and CCA in Jalal-Abad province for 2012-2017 by BIOFIN categories, in million KGS and %



Source: Ministries and agencies of the Kyrgyz Republic, National Statistics Committee and own calculations

Less than 22.7% are accounted for the categories “Pollution management” and 1.2% - the category “Green economy”, expenses for EIA and sustainable urban environment.

The amounts of the category “Environmental awareness and knowledge” (expenditures for promoting environmental protection) are insignificant.

Findings

1. Despite the fact that sustainable development is defined as a principle of public administration, funding for environmental issues is extremely meager.

2. The possibilities of ministries and agencies and their subordinate and territorial units are limited by the volume of budget allocations. About 90% of the expenditures of agencies are directed to current expenses, this does not guarantee the full implementation of the state policy on environmental protection.

3. The degree of financing by LSGBs of environmental protection measures is extremely scarce. Low degree of involvement of municipalities in environmental protection activities, due to lack of understanding of the range of responsibilities, including formalized.

4. Local budgets do not use section 705 of the functional classification “Environmental protection”, mistakenly attributing the expenditures related to this item to other items, for example, 706 “Housing and utilities”. Financing by LSGBs of environmental protection measures is extremely scarce.

5. Low degree of involvement of municipalities in environmental protection activities, due to lack of understanding of the range of responsibilities, including formalized.

6. The private sector, according to official data, bears environmental expenditures, but they are caused more by the obligations of enterprises, rather than the desire to preserve nature. Not all enterprises give reports.

7. Donors and NGOs spend significant funds on environmental protection. However, not

all information on such funding is available for analysis. This is reflected in management decisions and reduces the effectiveness of state policy in environmental activities.

III. Summary of Key Recommendations

This section provides recommendations based on the findings of the analysis presented in sections 3, 4, 5 and 6 of this review.

12. Policy Recommendations

In Jalal-Abad province, as in Kyrgyzstan as a whole, there are positive trends that can be used to improve the situation in the field of environmental protection, biodiversity conservation and adaptation to climate change.

It is necessary to revise strategic documents in the field of environmental protection, biodiversity conservation and other areas that have a direct impact on the environment, taking into account current trends in sustainable development. Integration of issues of environmental protection, biodiversity conservation, adaptation and mitigation to climate change in the plans and strategies of socio-economic development of regions.

Strategic documents in the field of environmental protection, biodiversity conservation require updating.

Implementation of communication measures is needed to promote environmental protection, biodiversity conservation and adaptation to climate change, and a special role of government agencies, local governments, international community, business and the public in this process.

The SAEPF, development partners and NGOs should pay attention to environmental education issues.

It is important to attract local self-government bodies, the Development Fund of Jalal-Abad province and the private sector to address environmental, biodiversity and climate change adaptation issues.

13. Recommendations for Sector Policies

It is necessary to conduct an in-depth analysis of the effectiveness of the system of environmental protection instruments of the activities of state and municipal bodies as well as economic entities in terms of potential environmental impact and to develop specific recommendations for improving their effectiveness.

It is required to analyze environmental problems caused by the formation and disposal of solid waste, construction waste and wastewater management in areas not covered by infrastructure projects. An environmental impact assessment and the development of a new Environmental Management Plan are required.

14. Recommendations for Organizational Capacity Development

According to the Law of the Kyrgyz Republic “On Ecological Expertise”, all new initiatives, including within the region, must undergo a thorough environmental impact assessment.

- It is necessary to significantly improve the professional level of those responsible for compliance with environmental legislation, ranging from the leadership of the agency to frontline inspector and engineer, as well as constantly work to increase the capacity of specialists.
- Introduction of mechanisms of material motivation of workers of territorial institutions of the SAEPF (forestry enterprises, PAs), MAFIM (divisions of water management department, etc.), SIETS.
- Development of an effective coordination mechanism on the issues of

environment protection, biodiversity conservation and climate change between ministries, agencies and local self-governments. The mechanism should ensure that these issues are taken into account when making any decisions related to the impact on nature.

- Improved technical equipment.

At the same time, in view of the limited budget possibilities, it is advisable to use the support of development partners. They can help to conduct a rather expensive functional analysis, then develop mechanisms for improving organizational capacity and assist in the implementation of recommendations.

15. Opportunities for Budgeting Improvement

The issues of local significance (Art. 18 of the Law of the Kyrgyz Republic “On Local Self-Government”) include:

- ensuring the operation of the sewage system and sewage treatment plants in populated areas;
- improving and landscaping of public spaces;
- organizing collection, removal and disposal of household waste.

It should be noted that international standards in the field of environmental protection³⁰ and public finance management³¹ refer these activities to environmental protection.

Due to the fact that the legislation of the country does not give municipalities any powers (both rights and obligations) in the field of environmental protection, the above 3 activities are taken into account at the local level as “Housing and utilities”. This leads to incorrect reporting in the field of environmental protection and on the activities of municipalities in general.

When developing action plans, ministries, agencies and local governments (they develop the PSED) should first of all include the priority measures identified in the strategic documents in the field of environmental protection, biodiversity conservation and adaptation to climate change. In turn, the main process of budgeting these measures should include an assessment of funding from the state budget not only of the relevant agency, but also of other government agencies involved in the implementation of the proposed measures. An additional element should be a preliminary analysis of possible extrabudgetary sources of funding - both development projects and the private sector, and **local governments**. The advantage of this approach is that the strategic documents developed in this way will be intersectoral in nature, will combine the efforts of relevant government agencies and take into account a more realistic situation for financial support of measures.

³⁰ The Classification of Environmental Protection Activities (CEPA) developed by the European System for the Collection of Economic Information about the Environment (SERIEE) of the Statistical Office of the European Communities (Eurostat).

³¹ The 2014 Government Finance Statistics Manual developed by the Statistics Department of the International Monetary Fund (IMF).