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REVIEW

OF PUBLIC AND PRIVATE ENVIRONMENTAL EXPENDITURES WITH A FOCUS ON BIODIVERSITY AND CLIMATE CHANGE ADAPTATION IN THE KYRGYZ REPUBLIC

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The Global Biodiversity Finance Initiative (BIOFIN) is a global partnership in biodiversity financing. The Global Biodiversity Finance Initiative is managed by UNDP in partnership with the European Commission and the governments of Germany, Switzerland, Norway and Flanders. Transformation of biodiversity financing is necessary for the planning and management of all resources, including those not identified, that are necessary to achieve the Aichi Targets defined in the CBD Strategic Plan for Biodiversity 2011-2020 in a context that promotes sustainable development and poverty eradication.

BIOFIN supports national partners in determining the status and trends of biodiversity financing at the national level and addressing resource scarcity problems. BIOFIN addresses the lack of financing for biodiversity and develop a plan for mobilizing financial resources and to integrate biodiversity and ecosystem services into sectoral budget planning and national policies.

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ADB	Asian Development Bank
BD	Biodiversity
BDC	Biodiversity Conservation
BFP	Biodiversity Finance Plan
BIOFIN	Biodiversity Finance Initiative
CAREC	The Regional Environmental Centre for Central Asia
CBD	Convention on Biological Diversity
CCA	Climate Change Adaptation
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
GEF	Global Environmental Facility
GDP	Gross Domestic Product
GHG	Greenhouse Gases
GIZ	German Agency for International Cooperation
GovKR	Government Administration of the Kyrgyz Republic
EEU	Eurasian Economic Union
EP	Environment Protection
EU	European Union
ESC	Environmental Safety Concept
FAO	The Food and Agriculture Organization
JK KR	Jogorku Kenesh of the Kyrgyz Republic (Parliament)
JICA	Japan International Cooperation Agency
IFAD	International Fund for Agricultural Development
KFP	Key Medium-Term Fiscal Policies in the Kyrgyz Republic
KOICA	Korea International Cooperation Agency
LEPF	Local Environment Protection Fund
LSGA	Local Self-Governance Agencies
MAPILR	Ministry of Agriculture, Processing Industry and Land Reclamation
MCIT	Ministry of Culture, Information and Tourism
ME	Ministry of Economy
MES	Ministry of Education and Science
MoE	Ministry of Emergencies
MoH	Ministry of Health
MoF	Ministry of Finance
MTR	Ministry of Transport and Roads
MTSSBE	Mid-term strategies for sectoral budgetary expenditures

NAS KR	National Academy of Sciences of the Kyrgyz Republic
NGO	Non-Governmental Organization
NLA	Normative and Legal Acts
NSC	National Statistics Committee
NSDS	National Sustainable Development Strategy
ODA	Official Development Assistance
OECD	Organization for Economic Cooperation and Development
PAs	Protected Areas
PIP	Public Investment Program
PTSD	Programme for Transition to Sustainable Development
RES	Renewable Energy Sources
SAEPF	State Agency on Environment Protection and Forestry farms under the Government of the Kyrgyz Republic
SCIES	State Committee on Industry, Energy and Subsoil
SDI Kyrgyzgyprozem	State Design Institute Kyrgyzgyprozem
SDP	Sustainable Development Program
SFF	State Forestry Fund
SEEA	System of Environmental-Economic Accounts
SIETS	State Inspection on Environmental and Technical Safety
SIVPS	State Inspection on Veterinary and Phytosanitary Safety
SIP	State Investments Program
WB	World Bank
WFP	World Food Program
WTO	World Trade Organization
UN	United Nations Organization
UNCCD	United Nations Convention to Combat Desertification
UNECE	United Nations Economic Commission for Europe
UNFCCC	United Nations Framework Convention on Climate Change
UNDP	United Nations Development Program
USAID	United States Agency for International Development

EXECUTIVE SUMMARY

Public and Private Environmental Expenditure Review with a Focus on Biodiversity and Climate Change Adaptation in the Kyrgyz Republic (PPEER) is part of the national consultative process in framework of the UNDP Global Biodiversity Finance Initiative (BIOFIN) project. This review, together with the Environment Finance Policy and Institutional Review and the Biodiversity Finance Needs Assessment, forms the basis for the development of the Biodiversity Finance Plan with the rationale for appropriate financial solutions aimed at reducing the financial deficit in the environmental sector.

In accordance with the BIOFIN Workbook (2016), the BIOFIN national team in cooperation with the Ministry of Finance of the Kyrgyz Republic and the State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic, with the broad participation of stakeholders, conducted a detailed analysis of expenditures of public and private organizations, as well as development partners in 2011-2016, aimed at environmental protection, biodiversity conservation and adaptation to climate change. The key findings of the Review are presented by the following provisions and recommendations for decision makers:

1. Economic development of the country in the last 4 years of the studied period was at a level that was insufficient for the transition to sustainable development, as it was determined in the Program of the Government of the Kyrgyz Republic on the transition to sustainable development for 2013-2017. Thus, in 2016, the GDP volume was almost 20% less than planned by the Program, the forecast on the volume of state budget expenditures was not fulfilled by more than 34%, and, accordingly, other basic parameters for sustainable development were not met.

2. The indicator of "adjusted net savings" in the Kyrgyz Republic, being extremely low, indicates that Kyrgyzstan allows the depletion of natural capital. This indicator, which can be used as an integral indicator of sustainable development, demonstrates the slow growth of the country's total wealth and instability of economic growth, which will subsequently have a negative impact on the interests of the future generations. Taking into account the Human Development Index in Kyrgyzstan[1], which grew gradually from 2010 to 2015 (from 0.632 to 0.664), it is clear that the current decline in Adjusted net savings is due solely to the depletion of natural capital.

3. In 2016, financing of expenditures under the category "Environmental protection" (code 705) of the functional budget classification from the state budget increased by almost 7 times as much as in 2007 and by almost 39.3% as compared to 2011. At the same time, the quality of financing has not been improved- as before, funds are mainly spent on items related to salaries of regular staff (more than 80%).

4. Many ministries and agencies incur costs that related to environmental protection. These should be accounted for in the section "Environmental protection". (code 705) functional budget classification. However, an analysis based on the BIOFIN methodology revealed that these agencies tag such expenditures within their main sections of the functional budget classification.

For example, the Ministry of Agriculture, Processing Industry and Land Reclamation often tags its environmental expenditures in the "Economic activity" category of the budget functional classification (code 704).

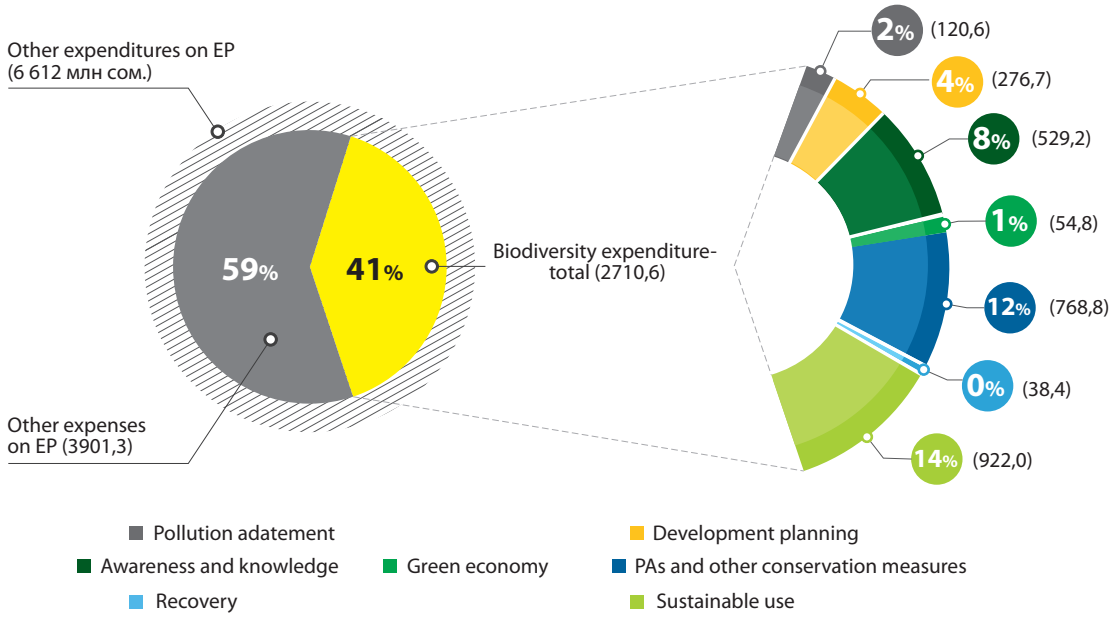
Thus, for example, the correct classification of budget expenditures in 2016 has determined that the actual volume of environmental expenditures of the republican budget is 83.5% higher than indicated in the official reports.

[1] http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/KGZ.pdf

The total amount of environmental expenditures of ministries and agencies for the entire period from 2011 to 2016, as determined by the BIOFIN methodology, amounted to 6,611.9 million soms (USD 96 mln or 1.0% of the total national budget expenditures of Kyrgyzstan). Of this amount, 2,710.6 million soms (USD 39 mln, 0.4% of the national budget) was spent on biodiversity conservation, and 719.1 million soms (USD 10 mln, 0.1% of the national budget) on climate change adaptation measures.

5. The BIOFIN methodology allows to detail the expenditures related to biodiversity conservation in 9 main categories, which in turn are divided into subcategories. In 2011-2016, seven out of nine categories of BIOFIN were spent from the national budget of Kyrgyzstan (see Fig. 1).

Figure 1: National budget expenditures on biodiversity conservation by BIOFIN categories in 2011-2016, million soms, % in the total national budget expenditures for environmental protection (EP)



Source: MF KR

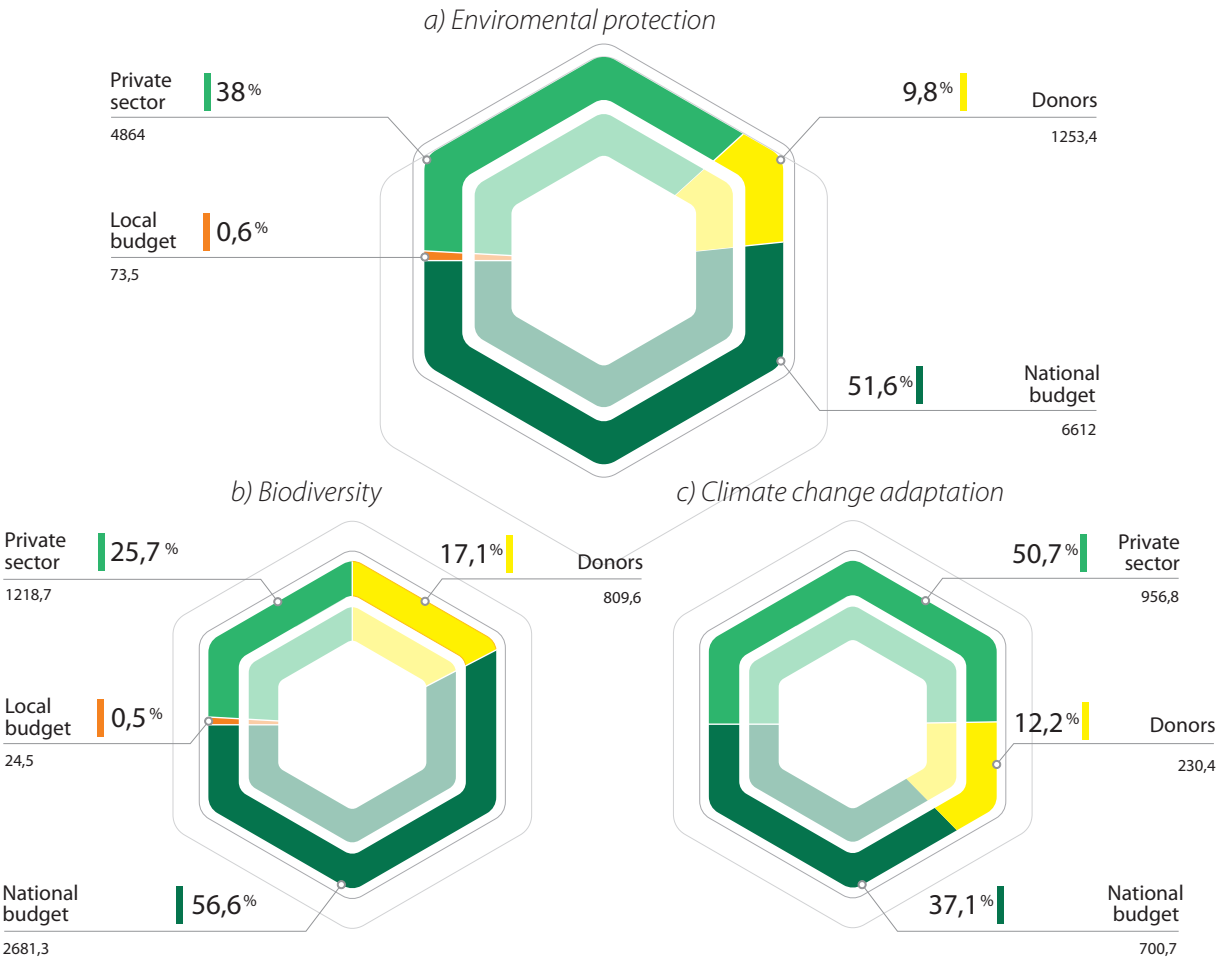
6. No funds are allocated from the local budget for environmental protection. The main function of local self-government bodies related to environmental protection- solid waste management and treatment facilities- is recorded within the framework of the "Housing and communal services" (code 706) of the functional budget classification. According to the BIOFIN methodology, these costs, as well as the costs of urban landscaping, are classified as environmental costs in the BIOFIN "Green Economy" and "Pollution Management" categories. Thus, in the period from 2011 to 2016, 73.5 million soms (USD 1mln), or 1% of the total local budget expenditures, were allocated for environmental protection purposes from the local budget.

7. Official development partners provide tremendous assistance to the Kyrgyz Republic, mainly through infrastructure and technical assistance projects. The funds come both on a grant basis and in the form of loans. Funding for environmental protection from official development assistance for the period 2011-2016 amounted to approximately 13% of the total funding from this source

(according to the information available in the Ministry of Finance of the Kyrgyz Republic on technical assistance projects). One can be sure that both the total amount of donor assistance and the amount of donor funds allocated to environmental protection are actually higher than those considered in the PPEER.

8. The private sector bears the costs of environment, biodiversity and climate change adaptation measures. However, the statistics on environmental expenditures of the private sector is not complete at the moment: according to the data of the National Statistical Committee in 2016, such reports were submitted by 379 economic entities that invested 826.0 million soms (USD 12 mln) in environmental protection.

Figure 2. EP, BD and CCA financing structure in 2011-2016, %



Source: MF KR, ministries and agencies, own calculations

9. The total amount of environmental expenditures in Kyrgyzstan in 2011-2016 from all sources considered in the PPEER was very small: 12,802.9 million soms (USD 185,5 mln), or 0.57% of GDP, including 4,734.1 million soms (USD 68,6 mln, 0.21% of GDP) for biodiversity conservation and 3,775.8 million soms (USD 54,7 mln, 0.17% of GDP) for adaptation to climate change. At the same time, total expenditures in all areas of environmental protection to a greater extent are borne by the national budget, while private sector investments are in second place. According to the available reports, the donor assistance ranks third.

10. According to the forecast, the national budget will play a major role in financing environmental protection activities, including biodiversity conservation and climate change adaptation measures. The private sector will continue to invest in the environmental infrastructure of enterprises. Donor funds will remain the most effective. By 2020, the total amount of environmental financing may reach 4,484 million soms (USD 65 mln) per year from all sources. At the same time, the growth rate in the sectors will be up to 109.5% for biodiversity conservation measures.

11. In order to improve the financing of environmental protection and biodiversity conservation, work should be carried out in the following fundamental areas:

- Creation of conditions for increasing the efficiency of public expenditures in Kyrgyzstan, including through the improvement of the practice of application of the functional budget classification and its section "Environment protection" (code 705) and the introduction of a results-based budget. This will increase the transparency of the work of government agencies and improve confidence in government agencies on the part of the private sector, which will lead to increased business cooperation with the state in all areas, including biodiversity conservation.

- Consideration of environmental protection, biodiversity conservation and climate change issues in planning and budgeting, and improved coordination between agencies and sectors. At the same time, a result- based budgeting should become a tool to ensure better coordination between government priorities and expenditures.

- Continued decentralization of public governance and transfer of environmental protection functions to local authorities and delegation to local authorities of the development and implementation of environmental protection measures in accordance with the legislation. Delegation of authority should be accompanied by transferring of appropriate budgets. Local governments should take into account the issues of environmental protection, biodiversity and climate change when preparing regional plans for socio-economic development.

- “Greening" fiscal frameworks, including reform of budget subsidies potentially harmful to the environment and biodiversity.

1. INTRODUCTION

Biodiversity and ecosystem services, being part of the country's natural capital, form the basis for economic activities, including food, water and energy, as well as social benefits- health, personal safety and cultural identity. The value of natural capital is becoming crucial for economic success and sustainability in modern conditions.

Recognizing the importance of preserving the natural environment, natural ecosystems and biodiversity, the Government of the Kyrgyz Republic is making efforts to conserve these assets. This is reflected in the strategic documents of the country- the National Development Strategy of the Kyrgyz Republic for 2018-2040, Government Programs "Unity. The trust. Creation" on 2018-2023, National priorities and action plan for the conservation of biodiversity until 2023 and other sectoral programs.

Despite some achievements in the field of biodiversity conservation, there are many obstacles, one of which is the lack of sufficient financial resources.

The Kyrgyz Republic is one of 36 countries participating in the global initiative of UNDP to finance biodiversity (BIOFIN)- a global partnership, comprehensively considering biodiversity funding problem. The purpose BIOFIN initiative coordinated by the UNDP in partnership with the European Commission (EC), the governments of Germany, Switzerland, Norway and Flanders, is to assist governments in determining the status and trends of biodiversity financing at the national level and addressing resource scarcity problems. The activities of BIOFIN are aimed at assessing the deficit in financing biodiversity and developing a plan for mobilizing financial resources, as well as integrating biodiversity and ecosystem services in sectoral budget planning and national policy.

The BIOFIN methodology allows countries to measure their current biodiversity expenditures, assess their financial needs in the medium term, and identify the most appropriate financial solutions to bridge national funding biodiversity gaps. The BIOFIN conceptual model examines the integration of biodiversity investments and resource mobilization into decision-making and financing in the public and private sectors, based on a five-step process:

Review of policies and institutional frameworks for financing biodiversity: analysis of policies and institutional architecture for financing biodiversity and existing financial decisions.

Biodiversity Expenditure Review: an analysis of public and private biodiversity-related spending.

Assessment of financial resource requirements for biodiversity: evaluates the investments needed to implement national biodiversity conservation plans and achieve national biodiversity goals and outcomes.

Biodiversity Financing Plan: analysis of options for optimizing current and expanding future investments (public, private, national, international, traditional and innovative) in biodiversity management.

Implementation of financial decisions: providing support in the implementation of such strategic recommendations developed by BIOFIN as improving or creating financial mechanisms and integrating financial decisions into national planning cycles.

This Overview of Public and Private Expenditures, as well as the first study of BIOFIN's "Review of the Political and Institutional Framework for Environmental Financing," covers broader issues of environmental spending with a detailed focus on financing biodiversity conservation measures and measures adaptation to climate change. The review was prepared as part of a general assessment of the environmental policy of the Kyrgyz Republic carried out by the UNDP Biodiversity Financing Initiative (BIOFIN) and the United Nations Environment Program (UNEP) and UNDP Poverty and Environment (PEI) Initiative.

The PPEER document consists of four functional sections:

1. Executive summary which outlines the main findings and recommendations of the review.

2. Brief description of the methodology which describes the scope of the PPEER. It defines expenditure and categories of expenditure on environment, biodiversity and relevant aspects of climate change. It explains also the budget classification of the Kyrgyz Republic and the methods of determining appropriations for the distribution of indirect costs.

3. PPEER results. This section presents macroeconomic and budgetary trends of countries. It describes environmental, biodiversity and climate change adaptation expenditures in the context of agencies, donors, sectors and categories. The characteristics of private environmental expenditure are briefly described on the basis of official data of the NSC KR. The challenges and opportunities in the budgeting process have been identified (including comparison of the analyzed expenditure with the declared state priorities and opportunities for increasing efficiency). At the end of the section, a forecast is given for future environmental, biodiversity and climate change adaptation expenditures.

4. Findings and recommendations developed as a result of the PPEER.

2. METHODOLOGY

2.1. Scope of the Public and Private Environmental Expenditure Review with a focus on biodiversity and climate change adaptation

Considering environmental financing in a broad sense, a feature of the BIOFIN implementation process in the Kyrgyz Republic, in contrast to the focus provided by the general methodological framework for analyzing direct and indirect biodiversity expenditures, is the expansion of sectoral coverage. At the same time, the main objective of the analysis remained the biodiversity expenditures.

In addition, it was decided to consider some measures to adapt to climate change to the extent that they are consistent with environmental protection.

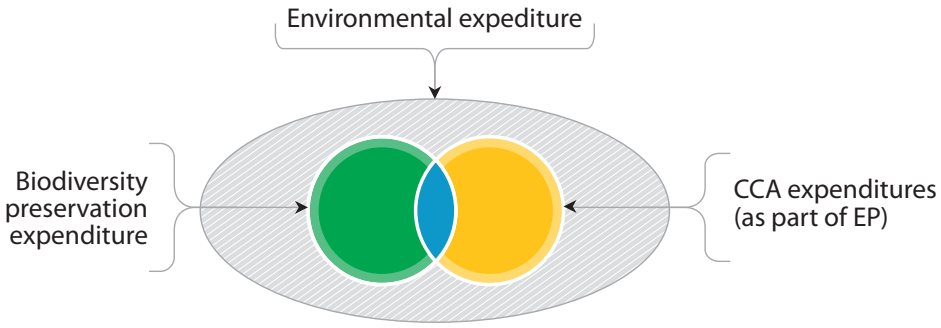
Based on the national context and based on the BIOFIN methodology (2016), the purpose of this review, proposed in conjunction with the UNEP-UNDP Poverty and Environment Initiative, implemented in the Kyrgyz Republic from 2015-2018, is an assessment of the amount of financing from public and private sources for environmental protection in order to justify and promote better environmental policies (including biodiversity and climate change adaptation), effective financing and long-term results in solving environmental problems.

Some of the costs of protecting the environment and biodiversity can be multi-purpose (including a positive contribution to efforts to climate change adaptation), so the desired effect is to enhance this potential synergy. While not all environmental costs will be biodiversity or climate change adaptation costs (Figure 2.1).

The Survey addresses the expenses of ministries, departments, the private sector, non-governmental organizations and donors:

- on the environment and its protection;
- on biodiversity and its conservation, as part of environmental costs;
- on measures to climate change adaptation, which are simultaneously part of the environmental costs.

Figure 2.1. Scope of the assessment of expenditures on environmental protection (EP), biodiversity conservation (BDC) and climate change adaptation (CCA - as part of EP))



There are sometimes overlaps between the expenditures as the biodiversity expenditure and climate change adaptation expenditure are also part of the environmental expenditure, but not all environmental expenditure will be biodiversity expenditure or climate change adaptation expenditure (see Figure 2.1). Therefore, in order to avoid double counting, expenditures that overlap are not added up- they are considered separately.

The PPEER in the Kyrgyz Republic uses detailed data on the state budget, including the national and local budgets, and available data on the expenditures of the private sector and civil society. It aims to establish:

- Spending basics- who spends, how much and on what;
- Volume of expenditures by categories of environmental protection, biodiversity and climate change adaptation;
- Extent to which spending is aligned with government policies and priorities;
- Allocation patterns and barriers in the budgeting process;
- Volumes of domestic and external financing and their ratio;
- Amounts of appropriations for existing financial solutions and availability of opportunities to improve efficiency of environment, biodiversity and climate change adaptation financing.

The Review covers the period from 2006 to 2016. However, for the period 2006-2011 slightly different and less precise methodology for data extraction was used.

2.2. Definition of environmental, biodiversity conservation and climate change adaptation expenditure

The breakdown of expenditures covered by this Review is consistent with international[2] and national definitions:

Environmental expenditure includes any expenditure, direct and indirect, whose purpose is to have a positive impact or to reduce/eliminate pressures on environment.

Biodiversity conservation expenditure includes any expenditure, direct and indirect, whose purpose is to have a positive impact or to reduce/eliminate pressures on biodiversity.

Climate change adaptation expenditure is taken into account if activities are focused on reducing the vulnerability of human or natural systems to the impacts of climate change and climate-related risks, by maintaining or increasing adaptive capacity and resilience through measures whose purpose is to have a positive impact or reduce/eliminate pressures on environment, in a broad sense. This encompasses a range of activities- from information and knowledge generation to capacity development, planning and implementation of climate change adaptation actions.

Examples of such activities are:

- Supporting the integration of climate change adaptation into national and international policies, plans and programs.
- Improving regulations to create incentives for adaptation to climate change.
- Education and public awareness of the causes and consequences of climate change and the role of adaptation to it.
- Studies related to climate change adaptation.
- Implementation of measures to combat diseases caused by climate change.

[2] Methodological Guidebook: Climate Public Expenditure and Institutional Review

- Promoting the conservation of water resources in areas where pressure on water resources is expected to increase due to climate change.
- Promotion of drought tolerant crops and water-saving irrigation methods.
- Implementation of measures to prevent natural disasters (landslides, mudflows, floods, etc.) and their management.

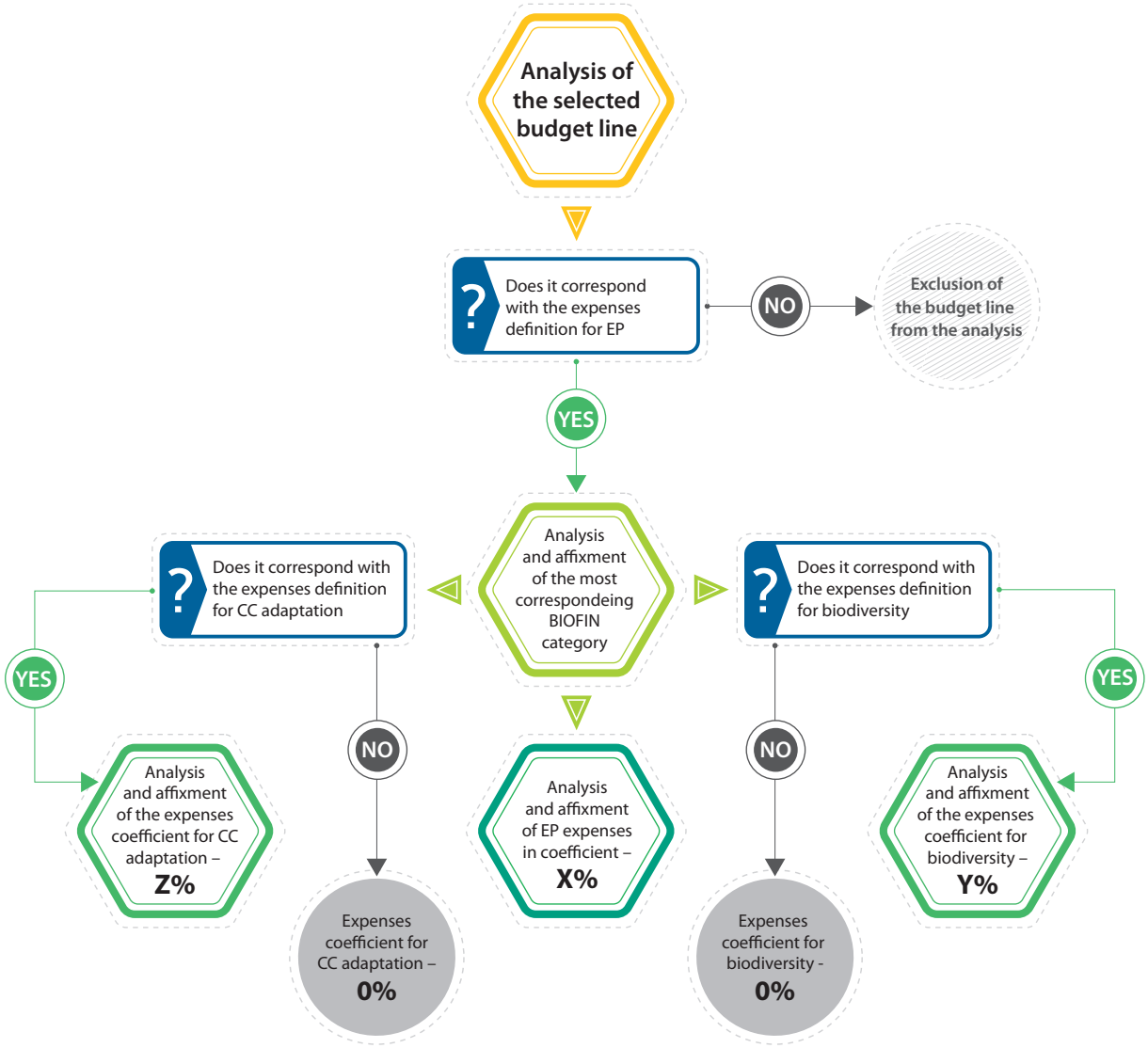
These definitions are well aligned with the spirit of the Law On Environment of the Kyrgyz Republic, which in its article 4 defines the objects to be protected as: *"Subject to protection from contamination, spoilage, damage, depletion, destruction, destroy and other negative impacts are: land and its subsoil, soil cover, water, forests, flora, fauna and their genetic fund, atmospheric air, and other natural objects, complexes and environmental systems as well as the climate and the ozone layer of the Earth and the whole Earth as a planet".*

The main sources of environmental financing are the national budget and local government budgets including the national and local environmental funds. It also includes national and local environmental funds, own funds of enterprises.

Financing of environmental protection measures is carried out due to:
- republican and local budgets, including republican and local nature conservation funds;
- funds of development partners (official development assistance);
- funds of enterprises, institutions, organizations, including non-governmental;
- other sources not prohibited by law.

As can be seen in Figure 2.1, environmental protection expenditures include expenditures on biodiversity conservation and on certain measures for climate change adaptation. Thus, PPEER actually has three focuses. Therefore, to determine the size of the budget related to the environment, biodiversity and adaptation to climate change, the following algorithm was used (see Figure 2.2).

Figure 2.2. Flow chart of the process of attributing costs to environmental protection, biodiversity and climate change adaptation (Baiba Gaile and Temir Burzhubaev)



First, budget items that meet the definition of "environmental costs" are defined, as well as ministries and departments of the Kyrgyz Republic that carry these costs have been also identified. Thus, we considered individual activities, functions, and budget items funded annually from 2011 to 2016 in each selected ministry and department corresponding to environmental protection categories.

The next stage of the assessment is to identify whether these costs are also expenses for a) biodiversity conservation and b) climate change adaptation.

The costs of environmental protection and biodiversity conservation are classified according to the categories and subcategories of BIOFIN. For the costs of climate change adaptation, such work was not carried out, since climate measures are not amenable to the classification adopted in the BIOFIN methodology.

2.3. Budget classification of the Kyrgyz Republic and BIOFIN categories

The issues of environmental protection, biodiversity conservation and climate change adaptation, analyzed in the PPEER, are reflected in code 705 "Environmental Protection" of the functional classification which has the following sub-codes:

- 7051 – Waste management
  - 70511 – Organization of waste collection and disposal
  - 70512 – Decontamination and disposal of radioactive waste
- 7052 – Waste water management
- 7053 – Pollution abatement
- 7054 – Protection of biodiversity and landscape
  - 70541 – Natural parks and reserves
  - 70542 – Wildlife protection
  - 70543 – Plant protection
  - 70544 – Animal disease control
  - 70545 – Veterinary diagnostics
  - 70546 – Plant chemicalization, protection and quarantine
  - 70549 – Other services for protection of biodiversity and landscape
- 7055 – R&D environmental protection
- 7056 – Environmental protection, not elsewhere classified

The analysis has also showed that part of the expenditures that ministries and agencies attribute to other items of the functional classification, for example, to code 704 "Economic Issues", can also be classified as environmental expenditure.

BIOFIN categories. The BIOFIN initiative proposes an approach for the classification of environmental expenditure which aims at ensuring the accuracy and reproducibility of the assessment of environmental expenditure, including biodiversity conservation.

The expenditures, according to the BIOFIN approach, are classified into nine categories, which are a grouping of different areas of the national environmental policy. The BIOFIN categories are very well aligned with the Aichi strategic goals- Strategic Plan of the Convention on Biological Diversity.

In the Kyrgyz Republic, seven out of nine categories of BIOFIN were identified. In the table. 2.1 shows these categories and their relevance to the goals of the Aichi Global Strategic Plan for Biodiversity 2011-2020.

The remaining two categories of BIOFIN “Access and benefit-sharing from the use of genetic resources” and “Biosafety” were not considered in this review, since the analysis did not reveal direct or indirect costs for them until 2016. Kyrgyzstan ratified the Nagoya Protocol in 2015, however, implementation mechanisms at the national level have not yet been developed, and the country does not have a National Focal Point for the implementation of the Nagoya Protocol.

The costs of scientific research and the promotion of traditional knowledge associated with the use of genetic resources are considered in the category of “Awareness and knowledge of the environment and biodiversity”. Considering environmental financing in a broad sense, a feature of the BIOFIN implementation process in the Kyrgyz Republic, in contrast to the focus provided by the general methodological framework for analyzing direct and indirect biodiversity expenditures, is the expansion of sectoral coverage.

Table 2.1. BIOFIN environmental expenditure categories incurred in Kyrgyzstan and Aichi strategic goals

Goal B. reduce the direct pressures on biodiversity and promote sustainable use

Goal C. Improve the status of biodivesity by safeguarding ecosystems, species and genetic diversity

Goal D. Enhance the benefits to all from biodiversity and ecosystem services

Goal E. Enhance imlementation through participatory planning knowledge management and capacity building

It is reflected in the review using coefficients assigned to the BIOFIN categories for each budget institution and its units for two areas – environment and biodiversity.

For the purposes of this review, an analysis was made in two contexts:

1) In the context of BIOFIN categories.

Here each section describes the BIOFIN category and its relevant sub-categories and what contribution is made to them in monetary form by the ministries and agencies. The structure of this analysis is as follows:

1. BIOFIN category 1
   1.1. BIOFIN sub-category 1.1.
      1.1.1. Agency 1
      1.1.2. Agency 2
      ...
      1.1.n. Agency n
   1.2. BIOFIN sub-category 1.2.
   ...
2. BIOFIN category 2
   2.1. BIOFIN sub-category 2.1.
      2.1.1. Agency 1
      2.1.2. Agency 2
      ...
      2.1.n. Agency n
      .... etc.

An analysis in this context, in our opinion, is better suited to the objective of the PREER — to demonstrate the expenditures for environmental protection and biodiversity conservation. Information looks more holistic and more logical as a basis for assessing the financial need for biodiversity financing and the biodiversity financing plan.

The PREER is based on the structure of the analysis in the context of BIOFIN categories.

2) In the context of ministries and agencies.

In this case, the expenditures of ministries and agencies that implement environmental protection measures are described. They (expenditures) are divided into BIOFIN categories and sub-categories. The structure of this analysis is as follows:

1. Agency 1
   1.1. BIOFIN category 1
      1.1.1. BIOFIN sub-category 1
      1.1.2. BIOFIN sub-category 2
      ...
      1.1.n. BIOFIN sub-category n
   1.2. BIOFIN category 2.
2. Agency 2
   2.1. BIOFIN category 1
      2.1.1. BIOFIN sub-category 1
      2.1.2. BIOFIN sub-category 2
      ...
      2.1.n. BIOFIN sub-category n
      ....etc.

Analysis in this context better reflects the "propensity" of ministries and departments to protect the environment and preserve biodiversity.

It may be better understood by specialists from ministries and departments. However, it is not the best way to demonstrate a holistic picture of financing environmental protection measures.

The analysis in the context of ministries and departments is given in Appendix 1.

2.4. Data sources

Data on government expenditures are obtained from official sources: reports of the Ministry of Finance of the Kyrgyz Republic, ministries and agencies. The programme budget is very informative concerning the national budget expenditures. However, due to the relative novelty of programme budgeting and pilot nature in the period from 2011 to 2017, the most reliable is the budget in the programme format from 2015.

Classification of expenditures of state bodies by the BIOFIN categories was carried out on the basis of their regulations and medium-term budgetary strategies for the period from 2011 to 2016.

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

The source of data on expenditures of development partners was the databases of the Ministry of Finance of the Kyrgyz Republic.

Data on expenditures of non-governmental organizations could not be collected due to the lack of reliable official information. Interviews and surveys of NGOs showed that NGOs are not yet ready to disclose data on their expenses. Therefore, the relevant section only describes the nature of the activities of major environmental NGOs.

2.5. Limitations

The proposed Review does not claim to be an absolute comprehensive analysis of all existing expenditures in the environmental sector in the Kyrgyz Republic. There are certain limitations to the comprehensive accounting of these costs from various sources, in particular the costs of private, non-governmental and international organizations. The BIOFIN national team faced the following difficulties that complicated the process of classifying expenses into BIOFIN categories:

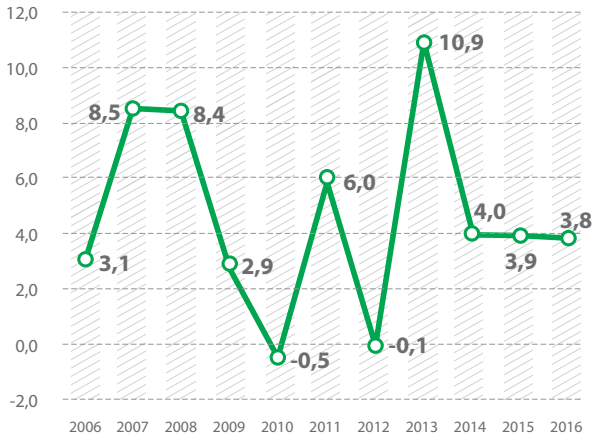
- lack of data on environmental expenditures of non-governmental organizations;
- incomplete data on environmental expenditures of international organizations, due to the imperfection of the state statistics system and monitoring of such expenditures;
- the lack of a detailed account of financial flows of public funds, by the targets of environmental protection and biodiversity conservation;
- the erroneous attribution of republican budget expenditures having the actual purpose of protecting the environment or biodiversity to other, often irrelevant, budget classification items;
- the review did not include an analysis of discrepancies between the approved and the allocated budgets;
- the incompleteness of official statistics on private expenditures on environmental protection does not include the costs of private enterprises related to environmental protection measures. A part of current expenses, which should be classified as environmental, are allocated to other expense items, for example, utilities, etc.

3. MACROECONOMIC

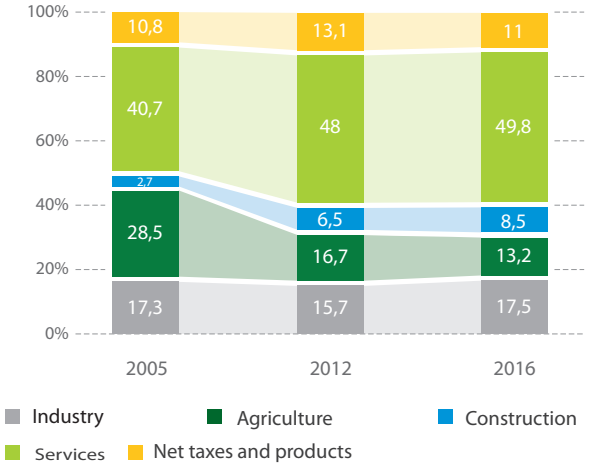
The economy of Kyrgyzstan is subject to the influence of regional and global economic trends. According to the Ministry of Economy of the Kyrgyz Republic, the main reason for poor economic growth in 2016 was the economic situation in major trading partners- in the Eurasian Economic Union (EAEU) countries and People's Republic of China (PRC). The rate of real growth in the last 10 years has fluctuated from negative values (-0.5% in 2010) to fairly high values (10.9% in 2013).

Diagram 3.1. GDP statistics in Kyrgyz Republic

a) Real GDP growth rate in 2006-2016, %



b) GDP structure in 2005, 2012 and 2016, %

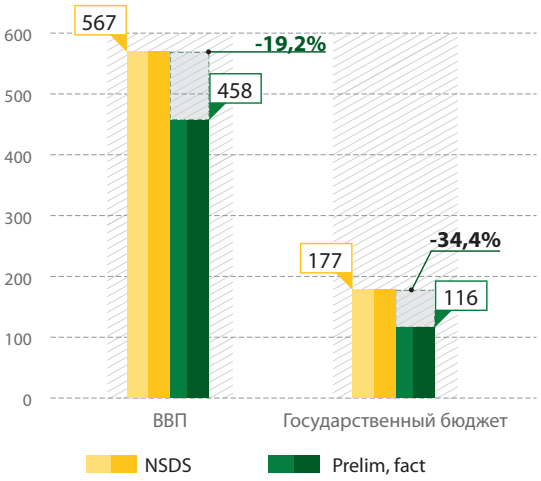


Source: National Bank of the Kyrgyz Republic

In 2016, the GDP amounted to 458.0 billion KGS with a real growth rate of 3.8%, demonstrating a minimal increase over the last 4 years (see Diagram 3.1). GDP per capita amounted to 78.7 thousand KGS and increased by 4.2% compared to 2015.

The structure of GDP has undergone significant changes over a period of 10 years: the share of agriculture has decreased more than 2 times, the share of construction has increased almost 3 times, and the services sector- by ¼. The share of industry is stable. At the same time, the dependence of the economy on biodiversity is not reduced: there is a faster growth in the service sectors of the economy many of which are dependent on it.

Diagram 3.2. Comparison of PTSD parameters with actual data for 2016, billion KGS, %



Source: PTSD, NSC, MF, own calculations

The GDP growth rate in the last 4 years has been below the level determined by the Program of the Kyrgyz Government for Transition to Sustainable Development until 2017. (PTSD): the government failed to maintain the given parameters of economic development. As a result, the PTSD plan in 2016 was not implemented in terms of GDP by almost 20%, GDP per capita fell to $ 1,133. The forecast for budget expenditures has not been fulfilled by more than 34% (Fig. 3.2), and the expected shortfall for all 4 years of implementation of the PTSD is comparable to the annual budget.

Perhaps the fact that the country failed to provide the necessary levels of economic and budget expenditures growth explains the failure to implement the activities of a number of sectoral strategies and programs, including in the fields of environment, biodiversity and adaptation to climate change, as a financial basis for the implementation of activities was missing.

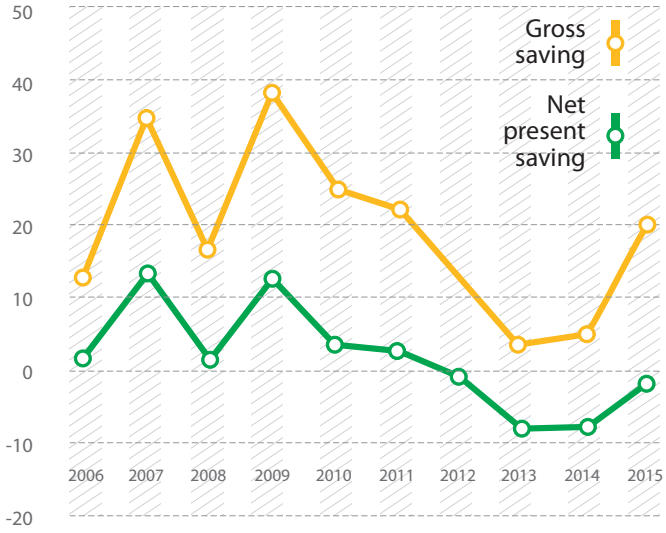
The Net Present Savings (NPS)[3] index is an indicator of the degree of sustainable growth in a country, including the importance of the environment for sustainable development. The NPS measures the growth rate of savings in the economy after accounting for investments in human capital and the deduction of depletion of natural resources and damage caused by pollution. The country's welfare grows if the savings are positive, thus ensuring that future generations have at least the same opportunities as the current generation.

The NPS index can be offered to decision-makers to advance the country's course along the path of "sustainable" development to track progress.

Diagram 3.3. shows that despite the fact that gross savings as a share of gross national income in the Kyrgyz Republic always have a positive value, the NPS index (also as a share of gross national income) is extremely low, and in 2012-2015 it was negative. This suggests that Kyrgyzstan allows the depletion of natural capital. As a result, the country's overall wealth is increasing slowly, the interests of future generations are threatened, the development of the country is not sustainable.

If we take into account the UNDP Human Development Index, which gradually grew from 2010 to 2015 (from 0.632 to 0.664)[4], it becomes clear that the negative trend of the NPS is most likely due to the depletion of natural capital.

Diagram 3.3. Net present savings and gross savings in the Kyrgyz Republic, % of net national income



Source: World Bank Open Data, http://data.worldbank.org/

[3] Net present savings is an indicator calculated by the World Bank. It shows the ratio of investment in future generations and the current exploitation of resources. In a relatively simple form, this indicator can be represented as the sum of a number of indicators: NPS = Net savings + Investments in human capital (primarily in education)- Consumption of resources – Environmental pollution.

[4] http://hdr.undp.org

4. ENVIRONMENT, BIODIVERSITY AND CLIMATE CHANGE ADAPTTION IN THE STATE BUDGET

This section covers the total expenditures of the national budget and the local budget for environmental protection, climate change adaptation, and in detail- in the context of the BIOFIN categories- for biodiversity conservation. The analysis period is 2011-2016.

4.1. Total national budget expenditures

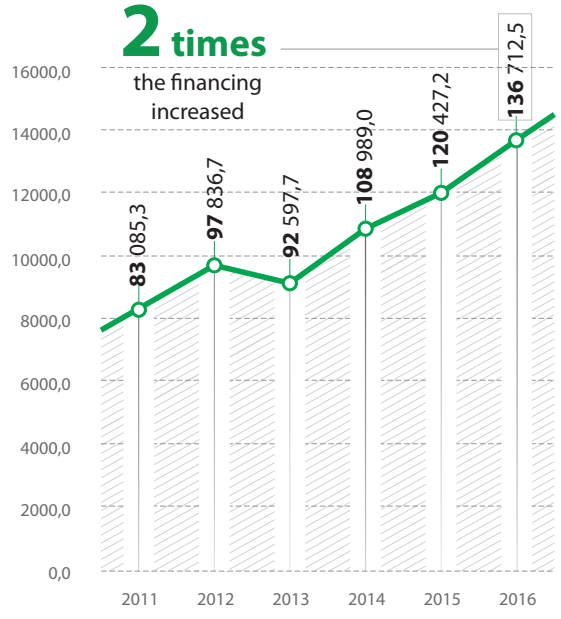
The state budget of the Kyrgyz Republic includes:
- National budget – the aggregate funds intended for financial provision of responsibilities and functions of state bodies and their respective subordinate budgetary institutions.
- Local budget – the aggregate budgets of *aiyl aimaks* and cities (municipalities).

The social and economic situation in the Kyrgyz Republic stipulates that any budget expenditures that do not give immediate effect are considered low priority. The budget of the Kyrgyz Republic is socially oriented.

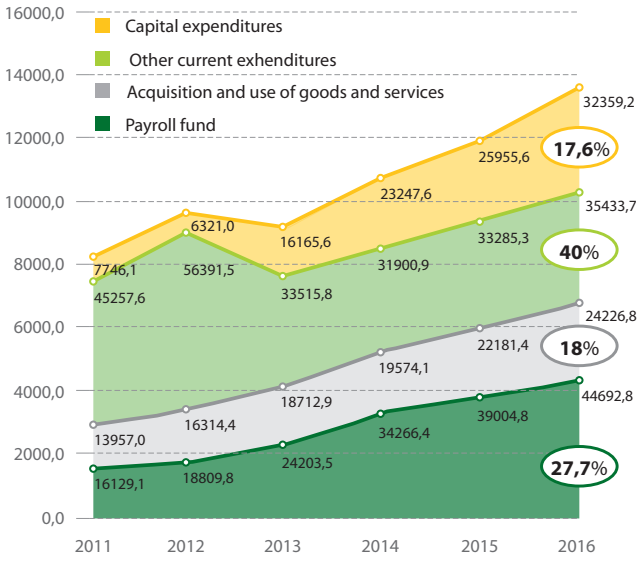
Total national budget expenditures in 2011-2016 amounted to 639,648.3 million KGS. Over a period of 6 years, the financing of the national budget has increased 2 times (see Diagram 4.1.a). The increase in expenditures was mainly due to wage increase and rise in the prices of goods and services. Capital expenditures also grew: in 2016 the volume of their financing increased by more than 4 times compared to 2011 and amounted to 32,359.1 million KGS.

Diagram 4.1. Total national budget expenditures in 2011-2016, million KGS.

a) Dynamics of the national budget expenditures



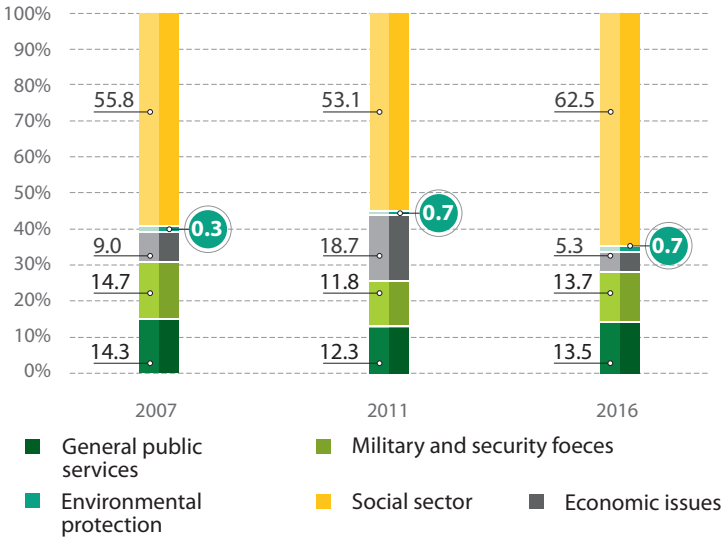
b) Expenditures by economic classification categories



Source: MF KR, own calculations

The main share of the national budget- 82%- was recurrent expenditures (including 27.7%- payroll fund, 18% expenses for the acquisition and use of goods and services, 40% other current expenditures). The remaining 17.6% went to capital expenditures- for development.

Diagram 4.2. Structure of the state budget expenditures according to the functional classification in 2007-2016 (official statistics)



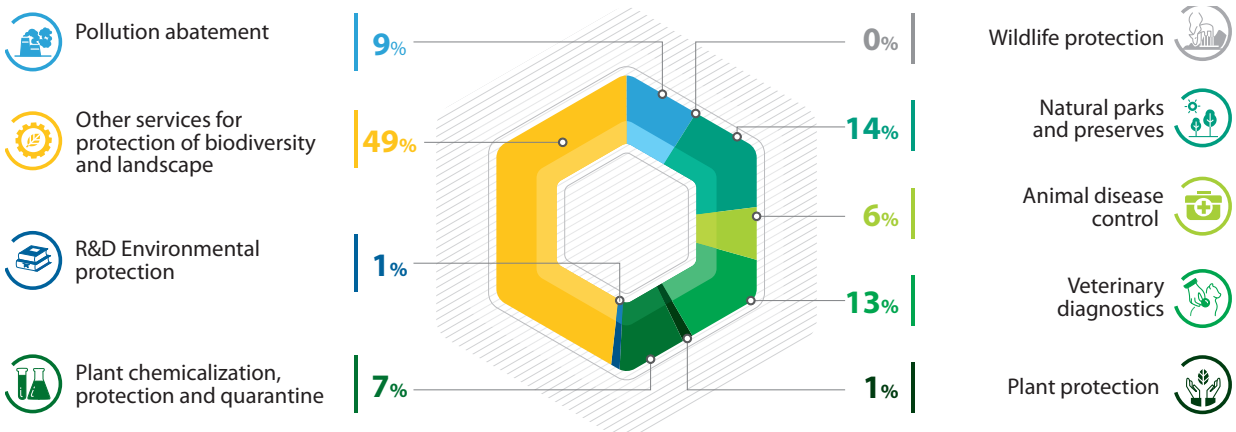
Source: NSC KR, own calculations

According to the official statistics of the NSC KR- the fixed assets of the state budget in the context of the functional classification are directed to the social sector: 62.5% were allocated for it in 2016. Environmental issues remain insignificant- at the level of 0.3% in 2007 to 0.7% in 2016 (see Diagram 4.2).

Formally, in official statistics, environmental expenditures are amounts reflected in code 705 of the functional budget classification "Environmental Protection", which includes the biodiversity expenditure. Financing for climate change adaptation is not clearly assigned to a particular sub-code of the functional classification.

Code 705 "Environmental Protection" consists of 11 groups of expenditures, of which 9 were financed in 2015 (see Diagram 4.3). Among these groups of expenditures, the largest share relates to "Other services for protection of biodiversity and landscape". In 2015, it accounted for 49% of the total expenditures under code 705 of the functional classification. The natural parks and reserves account for 14%, veterinary diagnostics- 13%.

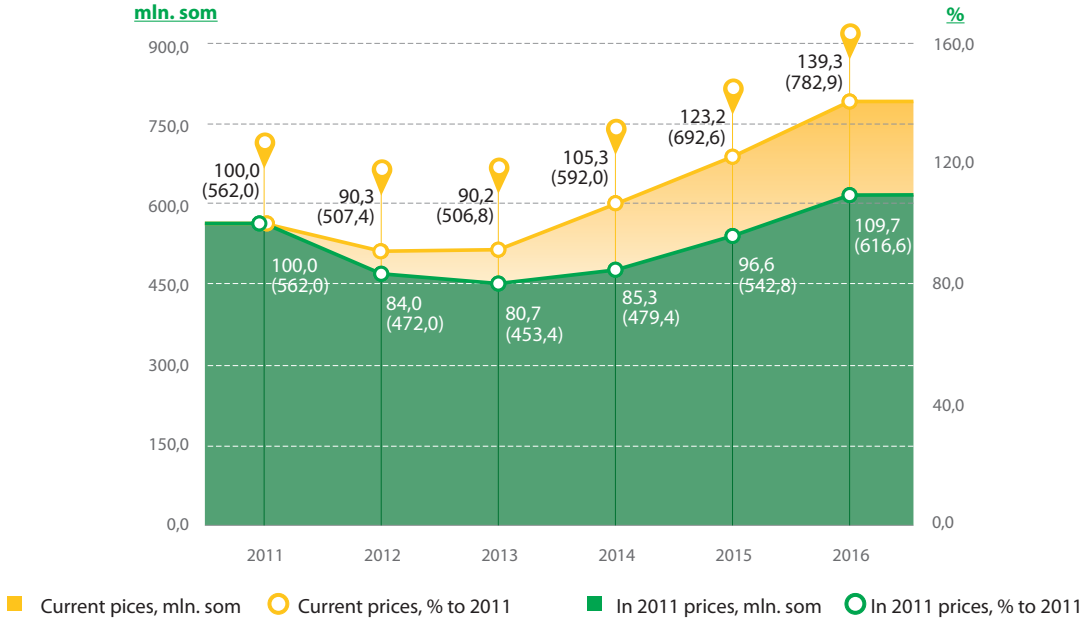
Diagram 4.3. Structure of the state budget expenditures under code 705 "Environmental Protection" (official statistics)



Source: MF KR

In 2016, the financing of environmental expenditures under code 705 of the functional classification from the state budget increased by 39.3% compared to 2011 (see Diagram 4.4). In 2012 and 2013, the appropriations were lower than in 2011; the growth began only in 2014.

Diagram 4.4. State budget expenditures under code 705 of the functional classification according to the NSC KR data (a) in nominal prices and real 2011 prices (million KGS), (b) growth rate by 2011 (%)



Source: NSC KR, own calculations

However, the analysis of real growth shows that the expenditures in 2011 prices were lower than 2011, up to 2015. This peculiar threshold was overcome in 2016 with an increase of 9.7%.

The share of environmental expenditure in the total state budget spending increased only by 0.4 percentage points- from 0.3 to 0.7%. Almost all the funds under code 705 of the functional budget classification can be attributed to the national budget.

Environmental expenditure according to the BIOFIN methodology

In Kyrgyzstan, the functional classification is not fundamental in planning and budget execution. Therefore, it is not sufficiently developed. As a result, section 705 of the functional budget classification does not reflect all environmental expenditures. Many relevant ministries and other government agencies incur expenditures that include the environmental component, but they do not report on them, operating within their main codes of the functional budget classification, for example, Ministry of Agriculture, Food Industry and Melioration (MAFIM) classifies its main measures under code 704 of the functional classification- "Economic Issues".

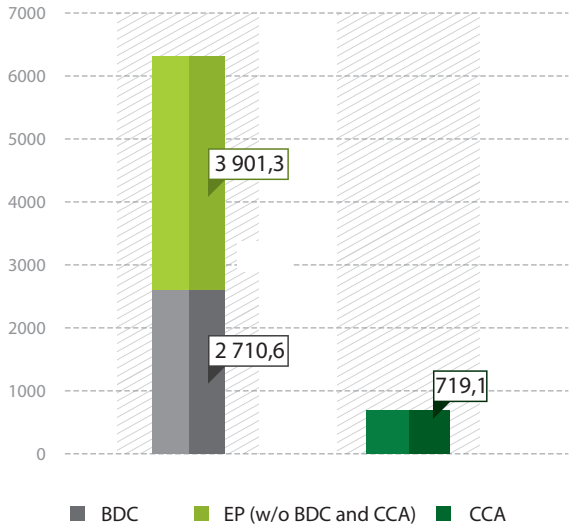
Therefore, an analysis has been carried out using the BIOFIN methodology to identify all expenditures on environmental protection, biodiversity conservation and climate change adaptation. It allows to more accurately determine the environmental expenditure of agencies, their structural units and subordinate institutions (the methodology is described in Section 2.3).

Environmental protection (EP) activities include measures for 1) biodiversity conservation (BDC), 2) climate change adaptation (CCA), and 3) other environmental protection measures (see Section 2.1).

The total environmental expenditure of ministries and agencies for the entire period from 2011 to 2016, determined according to the BIOFIN methodology, amounted to 6,611.9 million KGS, making 1.0% of the total national budget expenditures of Kyrgyzstan. Of these 2,710.6 million KGS or 0.4% of the national budget were spent for BDC, in addition and 719.1 million KGS or 0.1% of the national budget for CCA (see Diagram 4.5.a).

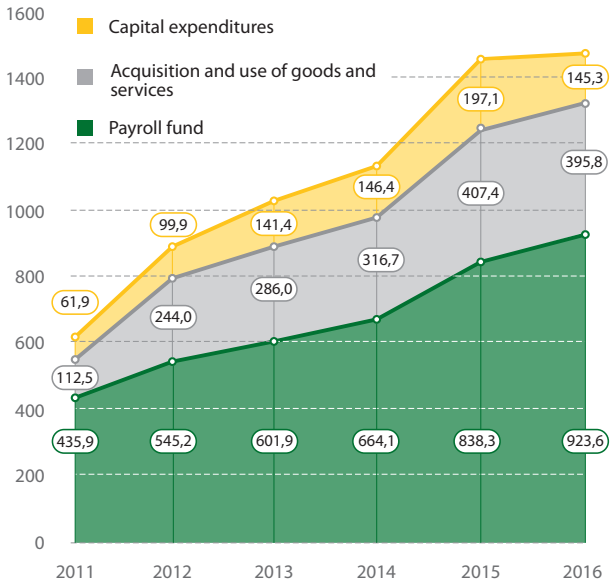
Diagram 4.5. National budget expenditures on environmental protection (EP) in 2011-2016, million KGS

a) Expenditures on EP, biodiversity conservation (BDC) and climate change adaptation (CCA)



Source: MF, own calculations

b) National budget expenditures on EP by groups of codes of economic classification



The largest environmental expenditures are undertaken by the relevant agency – ***the State Agency for Environmental Protection and Forestry (SAEPF)***. The goal of the SAEPF is to ensure the preservation of the unique ecological system of the republic and to protect the environment. For this purpose, the agency performs the following main functions: ensuring the environmental safety of the country; preservation of forest ecosystems, increase of the forest area of the country, increase of the ecological and economic potential of the forest; sustainable management of the state forest fund, specially protected natural areas and hunting areas on the basis of actual accounting and monitoring information; conservation of biodiversity and restoration of natural ecosystems in a changing climate.

Over a period of 6 years, the environmental expenditure of the SAEPF amounted to 3,262.7 billion KGS or 49% of the total national budget environmental expenditures of Kyrgyzstan (see Diagram 4.6.a). All expenditures of the agency are related to environmental protection, including 42.9%- for biodiversity conservation (see Diagram 4.6.b and c).

The second important agency undertaking environmental expenditure is ***the Ministry of Agriculture, Food Industry and Melioration (MAFIM)***, which over a period of 6 years directed for environmental activities 1,046.3 million KGS which is 16% of the total national budget environmental expenditures of Kyrgyzstan. This amount is 13.3% of the total expenditures of the ministry, including 5.7% for biodiversity conservation (see Diagram 4.6). Measures for sustainable use of natural resources: watershed management, agriculture, management of land resources, pastures and fisheries were financed from these funds.

Part of expenditures of the ***Agency for Hydrometeorology under the Ministry of Emergency Situations of the Kyrgyz Republic (Kyrgyzhydromet)*** is determined as environmental, which conducts systematic observations of meteorological, hydrological, agrometeorological conditions, the state of crops and pasture vegetation, pollution of surface waters, soil, atmospheric air, including radioactive conditions. About 558.5 million KGS or 9% of the national budget environmental expenditures are attributable to environmental protection. This amounts to 43.8% of the total expenditures of the Agency, including 11.7% for biodiversity conservation (see Diagram 4.6).

The state budget finances research studies in the field of EP and BDC, which are conducted by ***the National Academy of Sciences of the Kyrgyz Republic (NAS)***. The NAS, in addition to research, forms and maintains genetic banks and a botanical garden. Over the 6 years under consideration the NAS institutes spent 421.9 million KGS for environmental protection (6.4% of the national budgets environmental expenditures). This amounts to 24.3% of the total expenditures of the agency, including 23.3% for biodiversity conservation (see Diagram 4.6).

The Ministry of Education and Science (MoES) funded research studies in the field of environmental protection and carried out formal training in universities on EP and BDC funded by the national budget which amounted to 265.5 million KGS or 4% of the national budgets environmental expenditures. This amounts to 0.4% of the ministry's total expenditures, including 0.13% for biodiversity conservation (see Diagram 4.6).

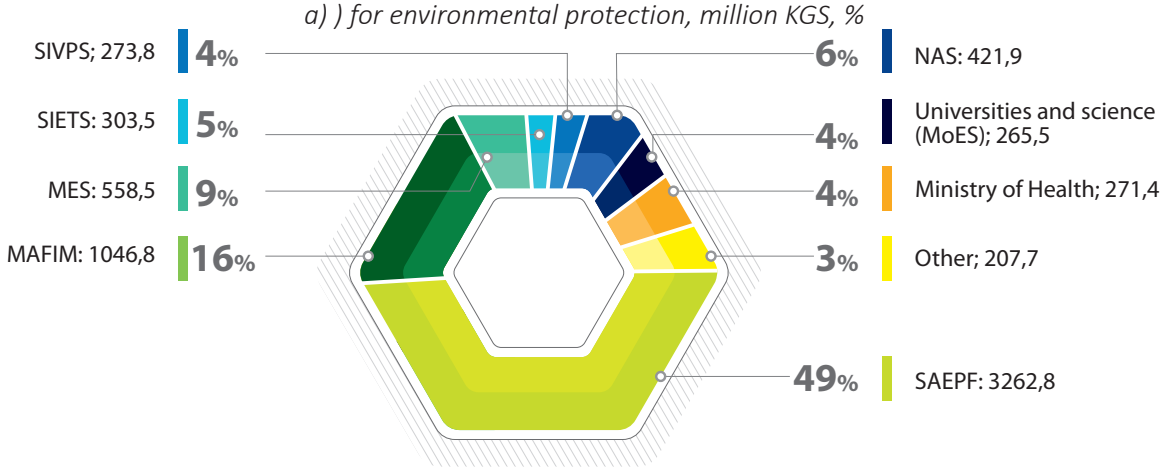
The State Inspectorate for Environmental and Technical Safety (SIETS) spent 303.5 million KGS for EP or 4.6% of the national budgets environmental expenditures. This amounts to 30.3% of the total expenditures of the agency, including 12.2% for biodiversity conservation (see Diagram 4.6). Supervision and monitoring of compliance with environmental legislation and legislation on the use of natural resources were financed from these funds.

The State Inspectorate for Veterinary and Phytosanitary Security (SIVPS) implemented measures to ensure sustainable development of agriculture, which amounted to 273.8 million KGS or 4.1% of the national budget environmental expenditures. This amounts to 16.6% of the total expenditures of the agency, including 4.2% for biodiversity conservation (see Diagram 4.6).

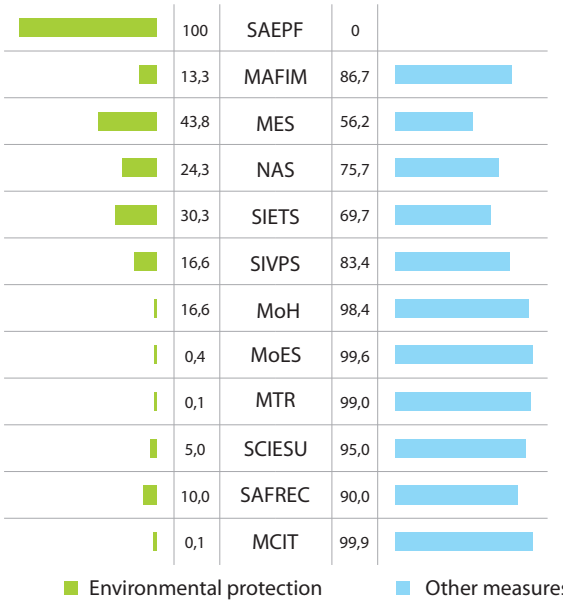
The Ministry of Health (MoH) also implemented measures related to environmental protection. Basically, these are activities to monitor compliance with sanitary and hygienic standards for environmental protection, including protection from harmful physical effects that have a negative impact on human health (noise, electromagnetic radiation, etc.), as well as the sanitary condition of the territories, settlements and places of rest (responsible- the Department for Disease Prevention and State Sanitary and Epidemiological Surveillance). 271.4 million KGS or 4.1% of the national budget environmental expenditures were allocated for these activities. This amounts to 1.6% of the ministry's total expenditures, including 0.17% for biodiversity conservation (see Diagram 4.6).

Diagram 4.6. Expenditures of ministries and agencies in 2011-2016

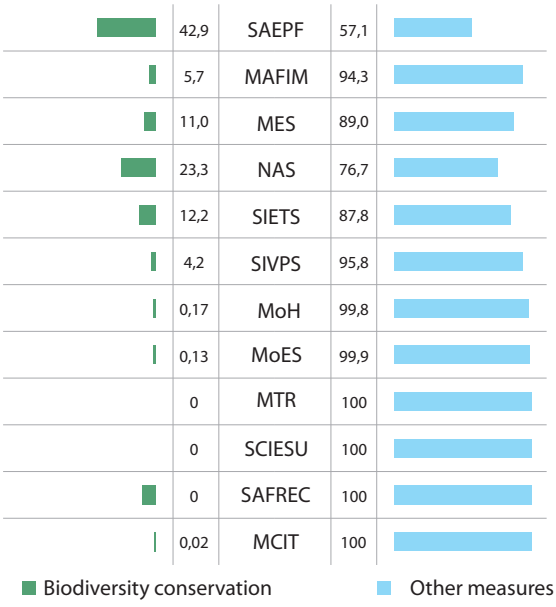
a)) for environmental protection, million KGS, %



b) the result of expenditures attribution by BIOFIN categories: environmental protection, %



c) the result of expenditures attribution by BIOFIN categories: biodiversity conservation, %



Source: ministries and agencies of the Kyrgyz Republic, own calculations

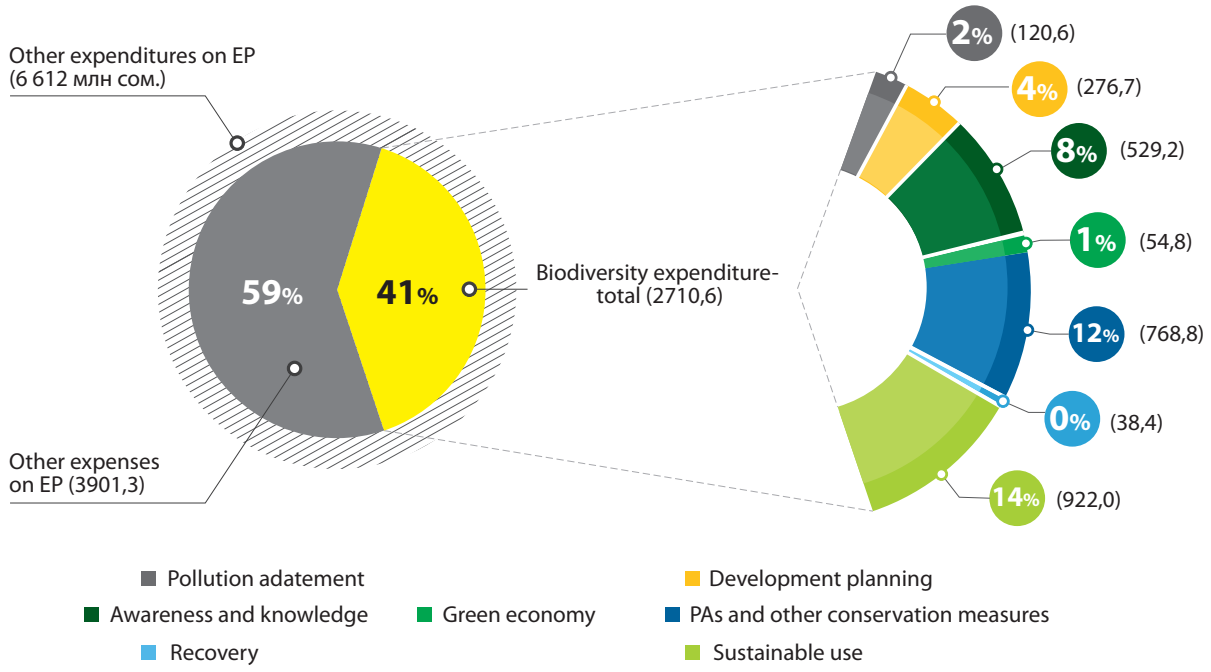
The environmental expenditures of other agencies are insignificant and in total amount to about 3% of the national budget environmental expenditures. These are expenditures of: *the Ministry of Transport and Roads (MTR)* to support "sustainable transport" which is a category of environmental protection. They accounted for 2.2% of the total national budget environmental expenditures; *the State Committee for Industry, Energy and Mineral Resources - 0.6%, the State Agency for Regulation of Fuel and Energy Complex - 0.1%; the Ministry of Culture, Information and Tourism - 0.1%.*

The Ministry of Economy, although it deals with the sustainable development of Kyrgyzstan, incurs relatively insignificant expenses for these purposes. Therefore, it is not considered in this review.

4.2. National budget expenditures on biodiversity conservation in the context of BIOFIN categories

Most of the ministries and agencies listed in section 4.1 implement measures for biodiversity conservation. Their activities in 2011-2016 were carried out under seven categories of BIOFIN (see Diagram 4.7). The expenditures of the agencies were classified by categories on the basis of an analysis of the activities of ministries and agencies involved in the conservation of biodiversity.

Diagram 4.7. National budget expenditures on biodiversity conservation by BIOFIN categories in 2011-2016, million KGS, % in the total national budget environmental expenditures



Source: MF, own calculations

2,710.6 million KGS from the national budget, making 41% of environmental expenditure and 0.4% of all total national budget expenditures of Kyrgyzstan, were used for biodiversity conservation over a period of 6 years.

Category "Sustainable use"

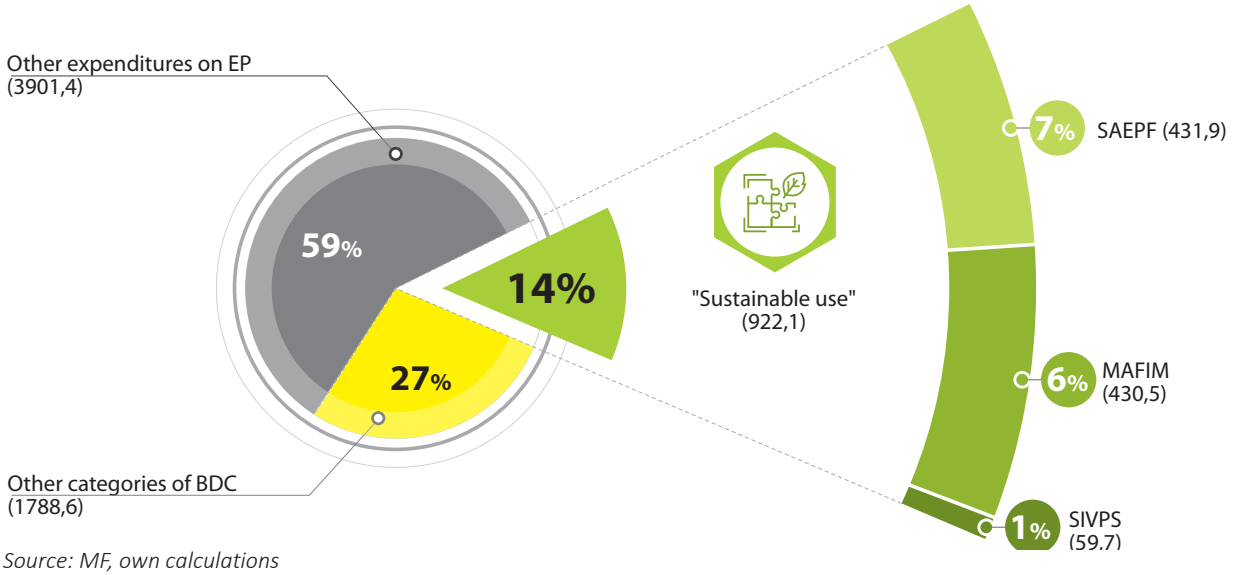
Financing from the national budget of the activities of ministries and agencies on biodiversity conservation within the category "Sustainable use" occupied in 2011-2016 the largest share in the national budget expenditures aimed at protecting the environment- 14%, amounting to 922.0 million KGS (see Diagrams 4.7, 4.8 and Table 4.1). Three agencies carried out their activities within this category: SAEPF, MAFIM and SIVPS, the first two agencies spent roughly the same amount, working however under different BIOFIN sub-categories.

The category's main sub-category is "Sustainable forestry", implemented by the SAEPF, 5.6% of the national budget expenditures aimed at environmental protection in 2011-2016 is accounted for by it. This sub-category is under the responsibility of the SAEPF, which manages the state forestry fund (SFF) and conducts a unified state policy in the field of development, conservation of forest ecosystems and rational forest management, as well as the forestry enterprises (leskhozes) that

are subordinate to it, which carry out operational management of the forest fund assigned to them. There are 51 forestry enterprises in the country.

Under this sub-category the activities are carried out aimed at the protection and restoration of forests of the SFF, maintaining the proper sanitary condition of forests and forming valuable productive forest crops, protecting the forest from illegal logging and fires. Biological and aerosol treatment of trees against pests is carried out to protect forests.

Diagram 4.8. National budget expenditures on biodiversity conservation (BDC) under the category of "Sustainable use" in 2011-2016, million KGS, % in the total national budget expenditures on environmental protection (EP)



Source: MF, own calculations

Acronyms: SAEPF – State Agency for Environmental Protection and Forestry; MAFIM - Ministry of Agriculture, Food Industry and Melioration; SIVPS - State Inspectorate for Veterinary and Phytosanitary Security.

The SAEPF also implements the sub-category ***"Sustainable wildlife"***, within which it has carried out biotechnical measures (improving the animal feed base, protecting them, carrying out veterinary and preventive measures, etc.) and operations on regulation of hunting and fishing activities, hunting and fishing management. This sub-category also includes the functions of issuing and canceling permits for hunting and for using the resources of flora and fauna. A total of 1.2% of the budget environmental expenditures was spent on all these activities.

The second in terms of funding in the category is the sub-category "***Sustainable agriculture***"- for its financing in 2011-2016 was allocated 2.5% of the national budget environmental expenditures. The sub-category combines activities of two agencies- MAFIM and SIVPS.

The SIVPS's contribution to sustainable agriculture is its powers for state supervision and control in the field of veterinary and phytosanitary security. Over a period of 6 years, the agency spent 59.7 million KGS for BDC under this sub-category.

The structural subdivisions of the MAFIM under this sub-category spent 105.1 million KGS for BDC, which were used to carry out the following activities:

- protection of agricultural plants against pests, diseases and weeds;
- preservation and improvement of soil fertility;
- testing of varieties and conservation of plant genetic resources;

- control over the operation of seed farms to comply with state standards for the production, storage and sale of seed and planting stock of agricultural crops;
- examination of grain and products of its processing;
- organization and coordination of selection and breeding work and artificial insemination of farm animals;
- certification and registration of veterinary medicinal products, feed and feed additives;
- measures to improve the ecological and phytosanitary situation in the country through large-scale production of biological means of plant and animal protection.

Table 4.1. Financing under the category of "Sustainable use" for biodiversity conservation (BDC) in 2011-2016, million KGS, % in the national budget environmental expenditures

Category / sub-categorie	SAEPF		MAFIM		SIVPS		Total	
	million KGS	%	million KGS	%	million KGS	%	million KGS	%
Sustainable use of natural resources	**431,9**	**6,5**	**430,5**	**6,5**	**59,7**	**0,9**	**922,0**	**13,9**
including:								
Sustainable agriculture			105,1	1,6	59,7	0,9	164,7	2,5
Sustainable fisheries			13,1	0,2			13,1	0,2
Sustainable forestry	352,3	5,3					352,3	5,3
Sustainable land management			55,6	0,8			55,6	0,8
Sustainable rangelands			6,4	0,1			6,4	0,1
Sustainable wildlife	79,6	1,2					79,6	1,2
Watershed management			250,3	3,8			250,3	3,8

Source: MF KR, own calculations

The MAFIM has been independently operating in the remaining four sub-categories of the category ***"Sustainable use"***.

Thus, MAFIM ensured management, monitoring and regulation of the condition and use of water resources, objects of irrigation and melioration infrastructure. The Ministry carried out rehabilitation of existing and construction of new water management facilities. This activity is classified as the ***BIOFIN "Watershed management"*** sub-category. In 2011-2016 it was financed from the national budget in the amount of 250.3 million KGS.

The design and survey land management and land cadastral works influencing the BDC which are carried out by the State Enterprise "State Design Institute for Land Management ("Kyrgyzgiprozem") under the MAFIM on the whole territory of the republic are classified as expenditures under the ***sub-category "Sustainable land management"***. They amounted to 0.8% of the national budget environmental expenditure.

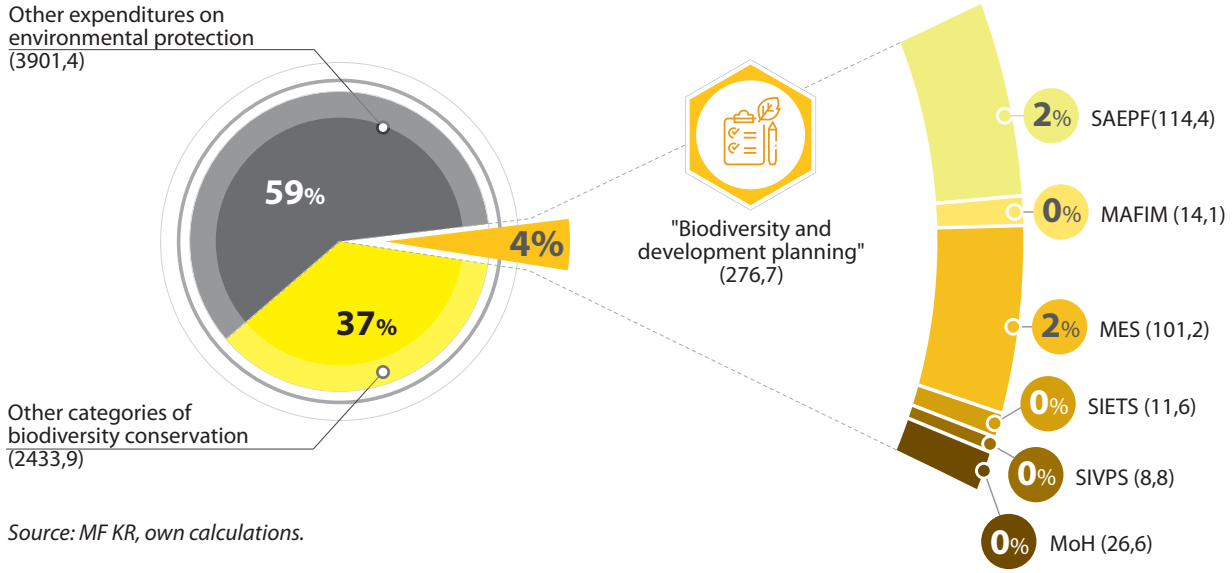
The Department of Fisheries of the MAFIM has implemented activities that are classified as the ***BIOFIN "Sustainable fisheries" sub-category*** with a budget equivalent to 0.2% of the national budget environmental expenditures. The department implemented the policy in the field of development and management of fisheries: studied and monitored the state of fish stocks and numbers, organized work on reproduction and departmental protection of fish stocks, controlled fishing in fisheries and other natural and artificial water bodies of Kyrgyzstan.

The functions of another subdivision of the MAFIM - the Pasture Department - correspond to the *BIOFIN "Sustainable rangelands" sub-category*. Under this sub-category the Pasture Department implemented measures to protect rangelands from water erosion, mudflows, landslides, flooding, water logging, desiccation, salinization and reclamation of disturbed rangelands. It monitors the effective and rational management and use of rangelands by all economic entities.

Category "Biodiversity and development planning"

The BIOFIN category "Biodiversity and development planning" in the period from 2011 to 2016 was the second by the volume of expenditures in the total amount of the national budget expenditures spent on biodiversity conservation. The issues of biodiversity conservation under this category over a period of 6 years were financed in the amount of 276.7 million KGS, which was 4.2% of the national budget expenditures on environmental protection (see Diagrams 4.7, 4.9 and Table 4.2).

Diagram 4.9. National budget expenditures on biodiversity conservation (BDC) under the category "Biodiversity and development planning" in 2011-2016, million KGS, % in the total national budget expenditures on environmental protection (EP)



Source: MF KR, own calculations.

Acronyms: SAEPF – State Agency for Environmental Protection and Forestry; MAFIM - Ministry of Agriculture, Food Industry and Melioration; MES – Ministry of Emergency Situation; SIETS - State Inspectorate for Environmental and Technical Safety; SIVPS - State Inspectorate for Veterinary and Phytosanitary Security; MoH – Ministry of Health.

The category reflects the relevant functions of the six agencies related to the management of biodiversity conservation. The main role in this category belongs to the SAEPF Central Office, 9 structural divisions of which are engaged in the issues of environmental impact assessment and nature management, environmental strategy and policy, environmental management and management of PAs (protected areas). The agency implements policies under all sub-categories of the category "Biodiversity and development planning".

In addition to the SAEPF, measures under this category were implemented by the MES, MoH, MAFIM, SIETS and SIVPS.

Table 4.2. Financing under the category "Biodiversity and development planning" for biodiversity conservation in 2011-2016, million KGS, % in the national budget expenditures on EP

Category / sub-categories	SAEPF		MAFIM		MES		SIETS		SIVPS		MoH		Total	
	million KGS	%	million KGS	%	million KGS	%	million KGS	%	million KGS	%	million KGS	%	million KGS	%
Biodiversity and development planning	114,4	1,7	14,1	0,2	101,2	1,5	11,6	0,2	8,8	0,1	26,6	0,4	276,7	4,2
including:														
Biodiversity laws, policies, plans	10,9	0,2											10,9	0,2
Biodiversity coordination and management	27,6	0,4	14,1	0,2	101,2	1,5	11,6	0,2	8,8	0,1	26,6	0,4	189,9	2,9
Biodiversity finance	5,6	0,1											5,6	0,1
Spatial planning	59,6	0,9											59,6	0,9
Multilateral environment agreements	10,6	0,2											10,6	0,2

Source: MF KR, own calculations

Acronyms: SAEPF – State Agency for Environmental Protection and Forestry; MAFIM - Ministry of Agriculture, Food Industry and Melioration; MES – Ministry of Emergency Situation; SIETS - State Inspectorate for Environmental and Technical Safety; SIVPS - State Inspectorate for Veterinary and Phytosanitary Security; MoH – Ministry of Health.

Within the category under consideration, the interagency sub-category was ***"Biodiversity coordination and management"***. Six agencies functioned under it:

- SAEPF which deals with the issues of developing environmental strategy and policy, coordinating the nature management economy, as well as managing PAs and SFF.

- Ministry of Emergency Situations, more precisely its subordinate organization Kyrgyzhydromet, which monitors the natural environment to ensure timely protection of the population from natural hydrometeorological phenomena, prevent or reduce the damage that may be caused by them, forecasts of dangerous hydrometeorological phenomena. The agency is responsible for the issue of weather forecasts, water availability of rivers and water inflow into reservoirs, forecasts of avalanche danger, agrometeorological forecasts, forecasts of high and extremely high environmental pollution.

- Ministry of Health which coordinates and monitors compliance with sanitary and hygienic standards for environmental protection, as well as the sanitary condition of territories, settlements and recreation areas.

- Central Office of MAFIM which coordinates the activities of the whole MAFIM system in terms of agrarian policy, including the issues of crop and livestock development. The subdivisions of the office are responsible for the issues of seed production and organic agricultural production, breeding business. The Office coordinates the introduction of advanced technologies, ensuring food security, work of veterinary services and development of agricultural cooperation.

- SIETS which deals with the issues of developing a policy on environmental safety.

- SIVPS which implements the policy in the field of veterinary and state supervision and control related to veterinary and phytosanitary security, as well as coordinates and manages EP and BDC.

Total expenditures under the sub-category "Biodiversity coordination and management" in 2011-2016 accounted for 2.9% of the total national budget environmental expenditures (see Table 4.2).

The other sub-categories of the BIOFIN category ***"Biodiversity and development planning"*** were fully implemented by the SAEPF.

The functions of the SAEPF related to accounting and assessment of forest and hunting resources, forest management planning and hunting activities are classified as BIOFIN ***"Spatial planning"*** sub-category with the expenditures on biodiversity conservation objectives over a period of 6 years at the level of 0.9% of the national budget environmental expenditures.

The SAEPF was engaged in improving existing and developing new normative legal acts, strategies and programs in the field of ecology and nature management under the sub-category ***"Biodiversity laws, policies, plans"***. The total financing of environmental issues under the sub-category was amounted in 2011-2016 to 34.9 million KGS, including NLAs, policies and plans in the field of BDC amounted to 10.9 million KGS.

Another function of the SAEPF is to coordinate the activities of the Government within the framework of multilateral agreements in the field of biodiversity conservation, including work to implement the provisions of the conventions and protocols thereto. For all conventions, Kyrgyzstan submits relevant national reports and papers, informing the secretariats of the conventions on the status of implementation of commitments. This activity of the SAEPF is part of the sub-category "***Multilateral environment agreement"*** and its expenditures in 2001-2016 made 0.2% of the national budget environmental expenditures.

The sub-category "Biodiversity finance" unites the activities of the SAEPF to manage public financing of environmental expenditures. It amounted to 0.1% of the total national budget environmental expenditures.

Category "Biodiversity awareness and knowledge"

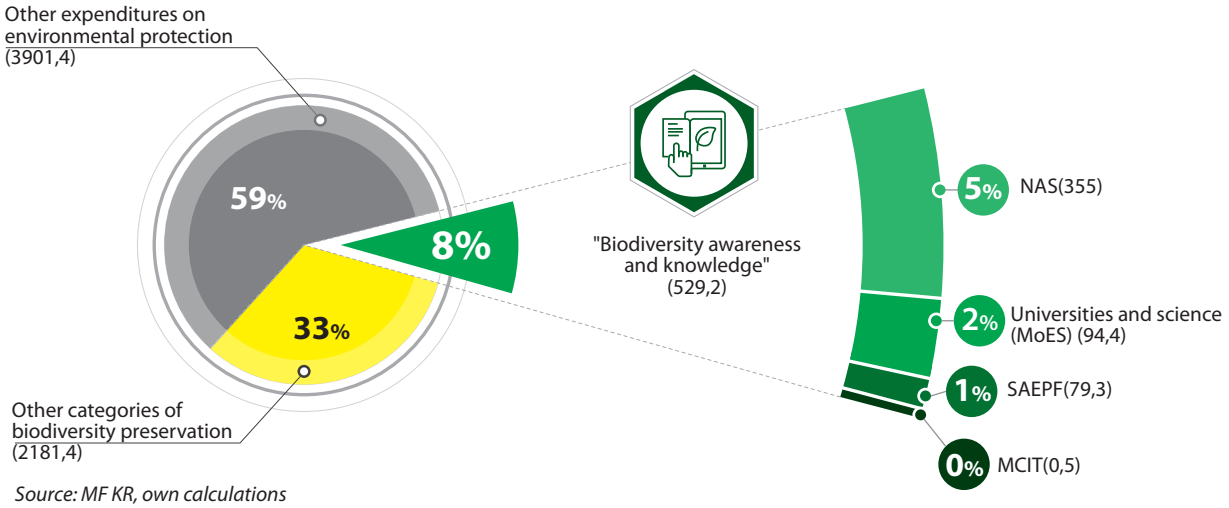
The category "Biodiversity awareness and knowledge" is the third most resource-intensive category of BIOFIN. Under this category there were implemented 7 sub-categories, the expenditures for which in 2011-2016 amounted to 529.2 million KGS or 8% of the national budget environmental expenditures (see Diagrams 4.7, 4.10 and Table 4.3).

The main sub-category of the category is ***"Biodiversity scientific research"***. It corresponds to research activities in the field of biodiversity carried out by scientific institutions of the National Academy of Sciences and the Ministry of Education and Science.

13 of the 25 scientific research institutions of the NAS carry out scientific work in the field of biodiversity conservation. For this purpose, they used funds amounted to 4.7% of the national budget environmental expenditures.

Scientific institutions of the Ministry of Education and Science used funds for research in the field of biodiversity that accounted for 0.4% of the national budget environmental expenditures. Only 9 of the 37 research institutions under the higher education institutions of the MoES carry out research in the field of BDC.

Diagram 4.10. National budget expenditures on biodiversity conservation (BDC) under the category "Biodiversity awareness and knowledge" in 2011-2016, millions KGS, % in the total national budget environmental expenditures



Source: MF KR, own calculations

Acronyms: SAEPF – State Agency for Environmental Protection and Forestry; NAS - National Academy of Sciences of the Kyrgyz Republic; MoES - Ministry of Education and Science; MCIT - Ministry of Culture, Information and Tourism.

Table 4.3. Financing under the category "Biodiversity awareness and knowledge" in 2011-2016, million KGS, % in the national budget environmental expenditures

Category / sub-categories	SAEPF		NAS		Universities and science (MoES)		MCIT		Total	
	million KGS	%	million KGS	%	million KGS	%	million KGS	%	million KGS	%
Biodiversity awareness and knowledge	79,3	1,2	355,0	5,4	94,4	1,4	0,5	0,0	529,2	8,0
including:										
Formal biodiversity education					70,1	1,1			70,1	1,1
Non-formal biodiversity education, including technical training	54,4	0,82							54,4	0,8
Biodiversity awareness	24,9	0,4							24,9	0,4
Biodiversity communication							0,5	0,0	0,5	0,0
Biodiversity scientific research			311,4	4,7	24,4	0,4			335,8	5,1
Technology innovation for biodiversity			26,5	0,4					26,5	0,4
Valuation of biodiversity and ecosystems			17,1	0,3					17,1	0,3

Source: MF KR, own calculations

Acronyms: SAEPF – State Agency for Environmental Protection and Forestry; NAS - National Academy of Sciences of the Kyrgyz Republic; MoES - Ministry of Education and Science; MCIT - Ministry of Culture, Information and Tourism.

The Institute of Walnut and Fruit Cultures of the NAS develops and introduces effective methods of breeding new highly productive varieties of fruit crops (walnut, almond, pistachio, etc.), which falls under the BIOFIN sub-category ***"Technology innovation for biodiversity"***. In total, over a period of 6 years, 0.4% of the national budget environmental expenditures were used for this purpose.

Two other scientific institutions of the NAS - Forest Institute named after P.A. Gan and the Institute of Water Problems and Hydropower were working within the framework of the BIOFIN sub-category *"Valuation of biodiversity and ecosystems*". Main subjects of work:

- ecological and silvicultural bases for increasing productivity and reproduction of forests;
- forest plant resources of Kyrgyzstan, their conservation and use on a sustainable basis;
- methods of environmental and economic assessment of forest lands;
- study of regional patterns of formation, regime and interrelation of surface and groundwater;
- scientific basis for rational use, protection of water and hydropower resources in the market economy conditions;
- information support system for water and land resources management, conservation of ecosystem sustainability.

The expenditures on BDC-related research under the sub-category amounted to 0.3% of the national budget environmental expenditures.

The BIOFIN sub-category *"Formal biodiversity education"* covers state educational grants of the MoES system allocated to higher educational institutions and the Agrotechnical College of the Kyrgyz National Agrarian University named after Skriabin for training specialists in biodiversity. For this purpose, in 2011-2016 there were allocated funds in the amount of 1.1% of the national budget environmental expenditures.

Under the BIOFIN sub-category *"Non-formal biodiversity education, including technical training"* mainly the employees of state and municipal government bodies were trained. It was financed from the funds of the SAEPF's Nature Protection Funds in the amount of 0.8% of the national budget environmental expenditures.

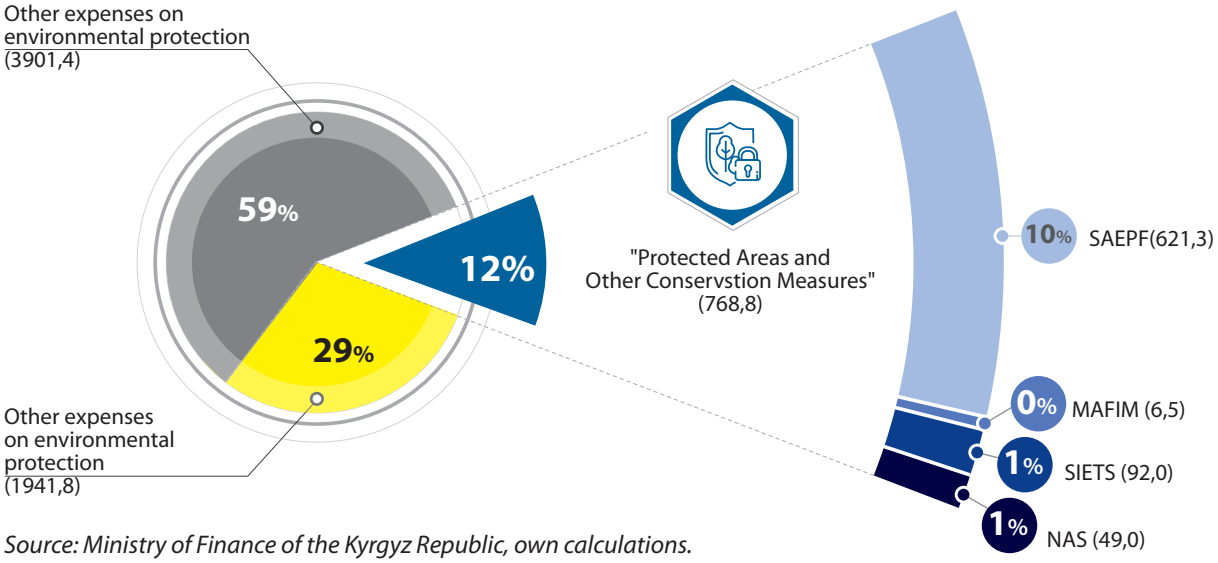
The sub-category *"Biodiversity awareness"* has been implemented by the SAEPF, one of whose functions is the environmental education and training of the population with a view to forming its due regard to sustainable nature management. To ensure biodiversity awareness, the agency used 0.4% of the national budget environmental expenditures over a period of 6 years.

"Protected Areas and Other Conservation Measures" Category

The "Protected Areas and Other Conservation Measures" Category is the fourth most resource intensive category of BIOFIN. In 2011-2016, expenditures of the national budget for it amounted to 768.8 million soms, or 11.3% of the environmental expenditures of the national budget of Kyrgyzstan (see Diagrams 4.7, 4.11 and Table 4.4). Under this category, measures are being financed in five areas related to the activities of PAs, regulation of wildlife trade, including CITES species, included in the lists of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, genetic banks and buffer zone.

The BIOFIN *"Protected Area Management"* sub-category is the priority in the category. It includes the SAEPF's activities on the management of specially protected natural areas (PAs), that are territories with unique, reference or other valuable natural complexes and objects of special ecological, scientific and aesthetic importance. They have a special regime of protection and use.

Diagram 4.11. National budget expenditures for biodiversity conservation (BDC) in the "Protected Areas and Other Conservation Measures" Category in 2011-2016, in million soms, % in total expenditures of the national budget for environmental protection (EP)



Source: Ministry of Finance of the Kyrgyz Republic, own calculations.

The sub-category budget corresponds to the entire budget of the PAs, which in 2011-2016 amounted to 17.7% of the expenditures of the national budget aimed at environmental protection.

The activities of SAEPF to expand the area of state reserves and state national parks correspond to the *"Expansion of Protected Areas sub-category"*. As a result of this sub-category, the area of state reserves and state national parks in 2011-2016 was expanded by 19.7%- from 4.0 to 4.8 % of the total country area[5]. According to expert estimates, in 2011-2016, the amount of KGS 2.8 million was spent for this purpose.

Table 4.4. Financing of biodiversity conservation in the "Protected Areas and Other Conservation Measures" Category for environmental protection, including for biodiversity conservation in 2011-2016, in million soms, % in expenditures of the national budget for environmental protection

Category / sub-categories	SAEPF		MAFIM		SIETS		NAS		Total	
	Mln. KGS	%	Mln. KGS	%	Mln. KGS	%	Mln. KGS	%	Mln. KGS	%
Protected areas and other conservation measures	**621,3**	**9,1**	**6,5**	**0,1**	**92,0**	**1,4**	**49,0**	**0,7**	**768,8**	**11,3**
including:										
Protected Area Management, including those protected by indigenous peoples	525,3	7,7							525,3	7,7
Expansion of protected areas	2,8	0,0		0					2,8	0,0
Poaching, trade in wild fauna and flora and CITES	52,3	0,8			92,0	1,4			144,4	2,1
Conservation of species outside habitats (botanical gardens and genetic banks)		0,0	6,5	0,1			49,0	0,7	55,4	0,8
Other effective regional measures for biodiversity conservation	40,9	0,6							40,9	0,6

Source: Ministry of Finance of the Kyrgyz Republic, own calculations

[5] www.stat.kg. Figures are for state reserves and state national parks

It should be noted that for the reasons mentioned in the description of the "Protected Area Management" sub-category, the expansion of the area of PAs occurs in the context of deterioration in the overall situation. I.e., increasing the coverage of a territory with the protected status does not guarantee a reduction in the risk of loss of valuable natural objects.

In 2011-2016, 2.1% of environmental expenditures of the national budget was spent on the ***"Fight against Poaching, Illegal Wildlife Trade, including CITES[6] Species" sub-category.*** Two departments- SAEPF and SIETS worked in this area

Control over wildlife trade, including CITES species is carried out by the ***Department of Environmental Economics and the implementation of the Single Window (One-Stop Shop) Information System of SAEPF***. In particular, the department is a party to the licensing system in the sphere of use of flora objects, export of wild animals and plants, including those from the CITES listings. Besides, SAEPF, represented by the Department of Hunting and Natural Resource Management, carries out protection activities and measures to identify and restraint acts of violations by legal entities and individuals of environmental legislation and other illegal acts that damage the resources of the animal and plant world and their habitats/ vegetation areas. The Department is working on the regular protection of hunting areas, organization of the fight against violators of hunting rules and poaching. The Department keeps records of the number of wild game animals, as well as rare and endangered species of animals listed in the Red Data Book of the Kyrgyz Republic and the National Wild Animals Database. SAEPF expenditures under this sub-category amounted to 0.8% of the environmental expenditures of the national budget.

Under this sub-category, SIETS carries out state supervision and control over observance of legislation and other regulatory legal acts on environmental protection and use of natural resources; environmental legislation, established rules, limits, quotas and environmental management standards, etc. The competencies of the Department include ensuring compliance with wildlife and environment safety standards and requirements, and preventing negative consequences. The SIETS expenditures on the environmental protection and the BDC under this sub-category amounted to 1.4% of the environmental expenditures of the national budget.

Activities of the Issyk-Kul Biosphere Reserve in the part of conservation, restoration and use of natural areas with a rich natural and cultural heritage of the water areas of Issyk-Kul Lake in the field of biodiversity conservation is referred to the ***BIOFIN "Other Effective Regional Measures for Biodiversity Conservation" sub-category***. The biosphere reserve was created in order to support long-term, sustainable economic and social development, including recreational use of them taking into account the conservation and restoration of natural resources. To address the challenges of the Biosphere Reserve related to the conservation of biodiversity, 0.6% of the environmental expenditures of the national budget were spent in 2011-2016.

The ***Conservation of Species outside Habitat (Botanical Gardens and Genetic Banks)"*** sub-category combines biodiversity conservation activities of the two departments- MAFIM and NAS, the total expenditures for which amounted to 0.8% of the national budget expenditures for environmental protection.

The MAFIM expenditures for this sub-category amounted to 0.1% of the environmental expenditures of the national budget. They were used to finance the work of the ***State Centre for Testing Varieties and Genetic Resources of Plants*** to maintain and replenish the Bank of Plant Genetic Resources. To date, the collection of the State Centre has about 1,784 samples of agricultural crops and their wild congeners.

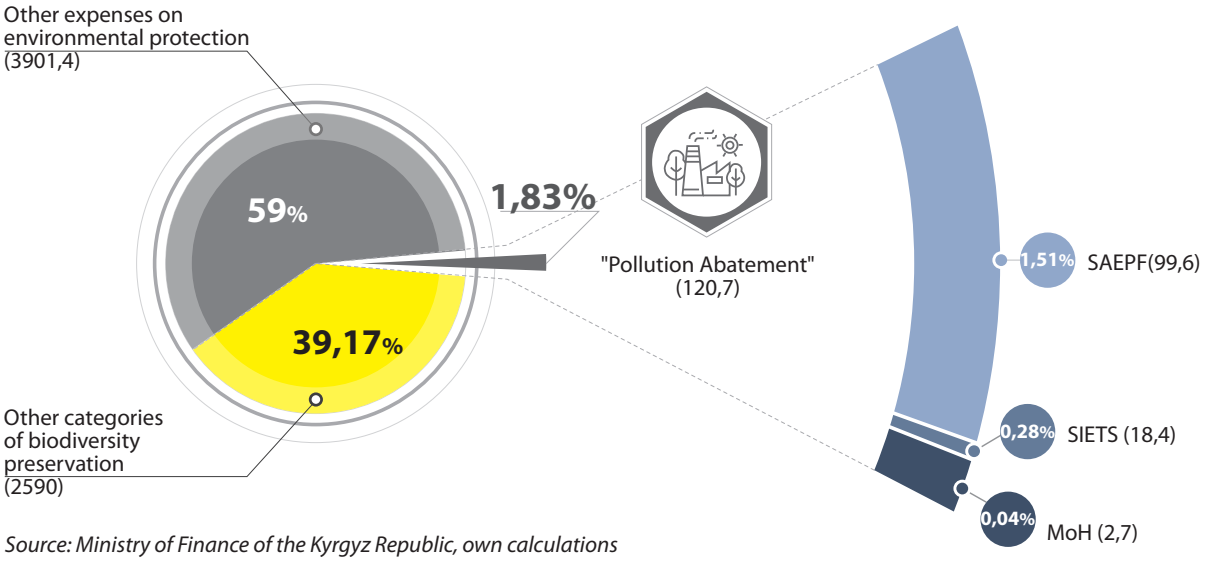
5 Convention on International Trade in Endangered Species of Wild Fauna and Flora

The use of genetic resources is aimed at improving and creating valuable genotypes and varieties resistant to abiotic and biotic factors of the environment, with high technological qualities and adapted to certain ecological zones of Kyrgyzstan.

NAS financing of this sub-category, amounting to 0.7% of the national budget expenditures targeted at environmental protection was allocated to cover the expenses of the Institute of Biotechnology- to create a bank of genetic resources of animals, plants and microorganisms in the territory of the country, and the Botanical Garden named after E.Z. Gareyev, who was engaged in:

- introduction, preservation, rational use of wood and shrub plants;
- introduction, selection and plantation of ornamental plants;
- introduction, selection and genetic research of fruit plants;
- Introduction and development of technologies for the reproduction of medicinal plants;
- innovative technologies for regulating the growth and development of plants;
- introduction and acclimatization of plants in high altitude conditions.

Diagram 4.12. National budget expenditures for the biodiversity conservation (BDC) in the Pollution Abatement Category in 2011-2016, in million soms, % in total expenditures of the national budget for environmental protection (EP)



Source: Ministry of Finance of the Kyrgyz Republic, own calculations

Acronyms: SAEPF – State Agency for Environmental Protection and Forestry; SIETS - State Inspectorate for Environmental and Technical Safety; MoH - Ministry of Health.

Pollution Abatement Category

BIOFIN "Pollution Abatement" Category is one of the most important for the protection of the environment. However, with respect to biodiversity, the costs of agencies within this category are relatively small: in 2011-2016 the costs amounted to 120.6 million soms, or 1.8% of the national budget expenditures on environmental protection (see Diagrams 4.7, 4.12 and Table 4.5). The category reflects the SAEPF, SIETS and the Ministry of Health's functions related to the monitoring of environmental pollution.

The Protection of Atmospheric Air sub-category is included in the functions of the Territorial Environmental Protection Offices (TEPO), SAEPF. They carry out state environmental monitoring and environmental control of the state of atmospheric air, participating in the state permitting process for conducting economic activities, issuing an environmental report (positive or negative)

on environmental impact assessment. SAEPF's expenditures on atmospheric air protection related to biodiversity conservation amounted to an insignificant amount, which was 0.014% of the environmental expenditures of the national budget.

Table 4.5. Financing biodiversity conservation in the Pollution Abatement Category in 2011-2016, in million soms, % in the national budget expenditures for EP

Category / sub-categories	SAEPF		SIETS		MoH		Total	
	Mln. KGS	%	Mln. KGS	%	Mln. KGS	%	Mln. KGS	%
Pollution Abatement	**99,6**	**1,5**	**18,4**	**0,3**	**2,7**	**0,0**	**120,6**	**1,8**
including:								
Protection and Remediation of Soils, Underground and Surface Water	91,2	1,3					91,2	1,3
Protection of Atmospheric Air	0,9	0,0					0,9	0,0
Other measures on Pollution Abatement	7,4	0,1	18,4	0,3	2,7	0,0	28,5	0,4

Source: Ministry of Finance of the Kyrgyz Republic, own calculations

Acronyms: SAEPF – State Agency for Environmental Protection and Forestry; SIETS - State Inspectorate for Environmental and Technical Safety; MoH - Ministry of Health.

TEPO, SAEPF implemented measures on environmental monitoring and environmental control and in the field of the *Protection and Remediation of Soils, Underground and Surface Water sub-category.* The *Republican and local conservation foundations* made their contribution to the work in this area. The foundations financed repairs and equipment of water management facilities at both the national and local levels. Special machinery and equipment for work on soils and waters were purchased. SAEPF expenditures under this sub-category made up 1.4% of environmental expenditures of the national budget for 6 years.

As part of the *"Other Measures on Pollution Abatement" sub-category,* activities were implemented to ensure radiation safety, management of solid domestic waste, for which SAEPF is responsible.

Monitoring of microbiological and chemical parameters related to pesticides, drinking water and bathing water is carried out by the *Ministry of Health.* It sporadically selects soils in residential and recreational areas of cities, in industrial zones, in plots allocated for construction and in settlements to analyze the concentration of nitrates, heavy metals and bacteriological contamination. The Ministry of Health also measures the radioactivity of samples of drinking water and surface waters.

State supervision and control over environmental safety issues, including compliance with legislation and other regulatory legal acts on environmental protection; limit values of emissions and discharges of pollutants and waste disposal in the natural environment; as well as requirements for environmental protection are carried out by SIETS.

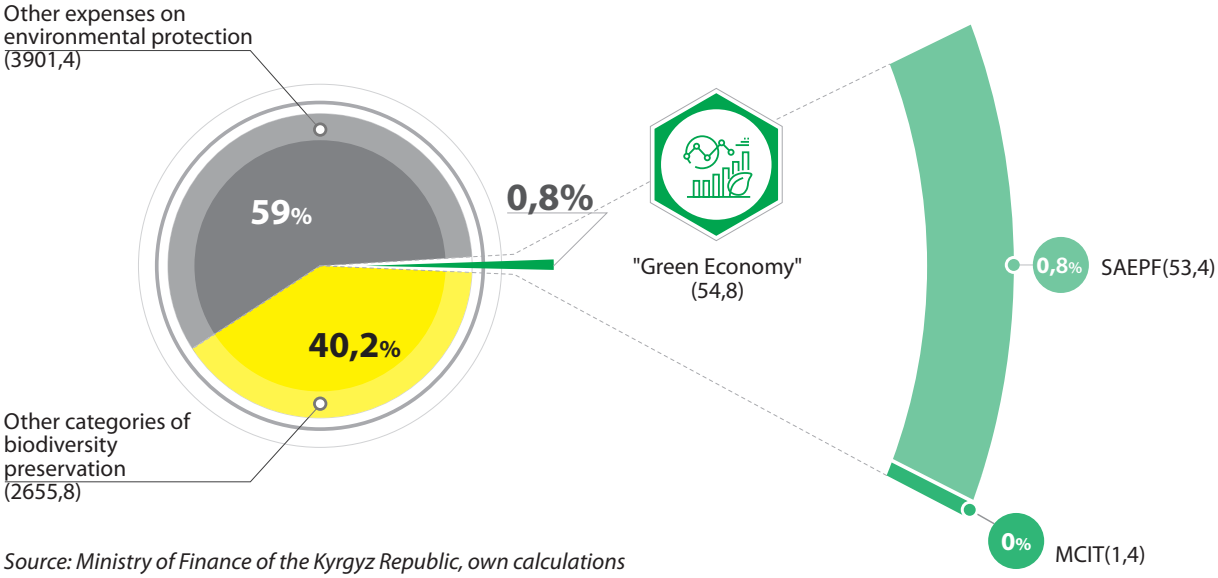
The total expenditure of these three agencies on biodiversity conservation under this sub-category amounted to 0.4% of the national budget expenditures for EP.

Green Economy Category

Under this category, two agencies operated on two sub-categories: SAEPF and Ministry of Culture, Information and Tourism (MCIT). Expenses of these departments under this category are relatively low: in 2011-2016, 54.8 million soms were spent from the national budget, or 0.8% of the national budget expenditures for the EP (see Diagrams 4.7 and 4.13 and Table 4.6).

The *BIOFIN State Environmental Appraisal sub-category* is the only sub-category of the Green Economy Category in which SAEPF worked. State Environmental Appraisal is carried out to prevent possible negative impact from the planned economic and other activities on public health and the environment. The objects of state expertise are regulatory and technical documents that regulate economic and other activities, pre-design and design estimates, as well as materials justifying the issuance of licenses, permits and certificates for activities that may have an impact on the environment, including import, export and natural resources. On average, 1,100-1,400 appraisals a year is carried out. In total, to carry out appraisals to preserve biodiversity in 2011- 2016, 0.8% of the expenditures of the national budget aimed at the EP were spent (see Table 4.6).

Diagram 4.13. Expenditures of the national budget for biodiversity conservation (BDC) in the Green Economy Category in 2011-2016, in million soms, % in total expenditures of the national budget for environmental protection (EP)



Source: Ministry of Finance of the Kyrgyz Republic, own calculations

Acronyms: SAEPF – State Agency for Environmental Protection and Forestry; MCIT - Ministry of Culture, Information and Tourism.

The Central Office and TEPO, SAEPF issue positive or negative conclusions based on the results of the state environmental appraisal for the projects of the republican and local values. The *State Directorate of the Issyk-Kul Biosphere Reserve* conducts appraisals of the pre-project and design estimates of economic activities planned in the territory of the biosphere reserve.

Table 4.6. Financing of environmental protection in the Green Economy Category in 2011-2016, in million soms, % in expenditures of the national budget for EP

Category / sub-categories	SAEPF		MCIT		Total	
	Mln soms	%	Mln soms	%	Mln soms	%
Green Economy	**53,4**	**0,8**	**1,4**	**0,0**	**54,8**	**0,8**
including:						
State Environmental Appraisal	53,4	0,78			53,4	0,8
Sustainable tourism			1,4	0,0	1,4	0,0

Source: Ministry of Finance of the Kyrgyz Republic, own calculations

Acronyms: SAEPF – State Agency for Environmental Protection and Forestry; MCIT - Ministry of Culture, Information and Tourism.

Activities on implementation of the state policy in the field of tourism, carried out by the Department of Tourism, MCIT, are classified as the *BIOFIN Sustainable Tourism sub-category*. The Department of Tourism addresses the issues of creating favorable conditions for the development of the tourism industry and the formation of a positive image of the country.

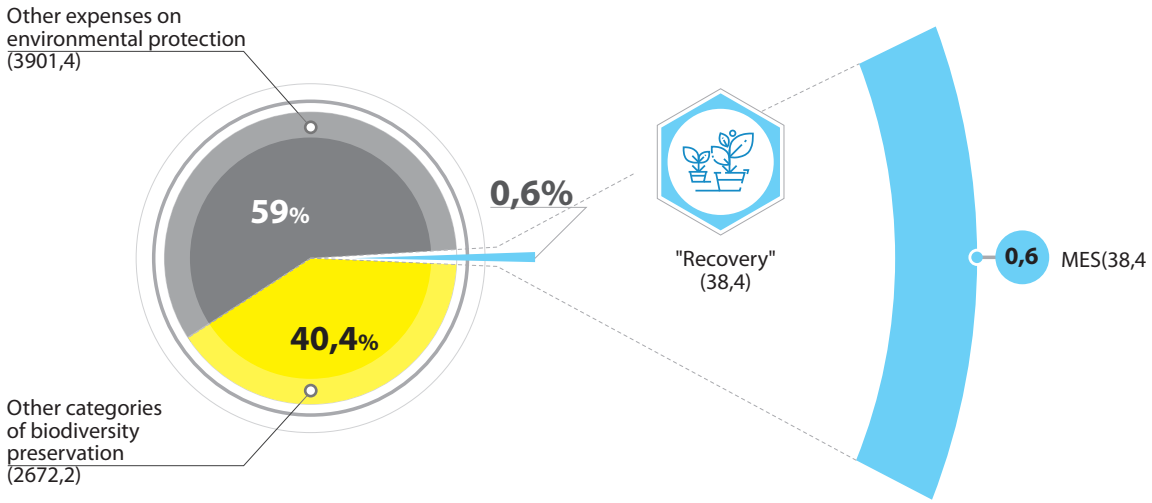
Besides, the Department develops proposals for creating equal conditions for all subjects of tourism activities and preserving tourism resources, including natural complexes and historical and cultural sites. The Department does not have a sufficient budget- its expenses related to biodiversity conservation amounted to 1.4 million soms.

In this connection, from the Department's expenditures, for environmental protection only 7.0 million soms or 0.1% of the expenditures of the National budget on EP are allocated, and 0.02% of the environmental expenditures of the national budget are allocated for biodiversity.

Recovery Category

In this category, under the *BIOFIN single sub-category that is Assistance in Eliminating the Consequences of Catastrophes*, the *State Agency "Selvodzashchita" under the Ministry of Emergency Situations* carried out its activities. The main purpose of the Agency is to protect human settlements and agricultural lands from the harmful effects of mudflows and floods, using its own mud protection facilities.

Diagram 4.14. Expenditures of the national budget for biodiversity conservation (BDC) under the Recovery Category in 2011-2016, in million soms, % in total expenditures of the national budget for environmental protection (EP)



Source: Ministry of Finance of the Kyrgyz Republic, own calculations

The Agency addresses the following issues:

- formation and implementation of annual and short-term programmes of repair and rehabilitation and recovery works;
- maintenance of the mudflow and flood control infrastructure (bank dams and mudflow storage reservoirs) in proper technical condition;
- performance of works on the prevention and liquidation of consequences of natural disasters.

Expenditures on this sub-category amounted to 0.6% of the environmental expenditures of the national budget.

4.3. The national budget expenditures on measures to adapt to climate change

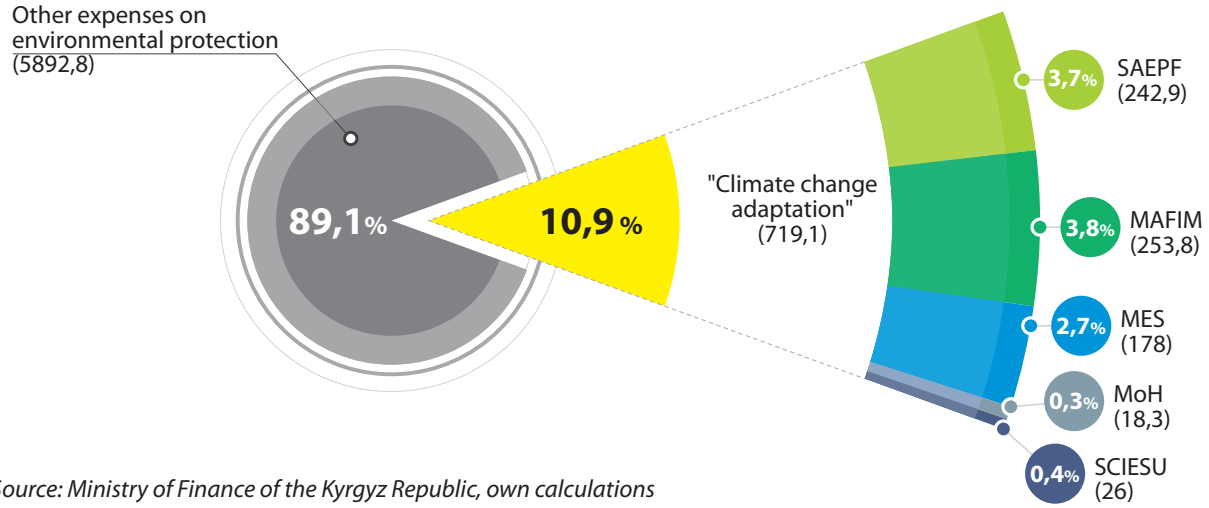
As mentioned above (see Section 2.1), this review examines the measures taken by ministries and agencies for climate change adaptation that are part of environmental protection functions.

For activities related to climate change adaptation (CCA) from the national budget in 2011-2016, 719.1 million soms were allocated, which is 0.1% of the total volume of the national budget of Kyrgyzstan and 10.8% of environmental expenditures of the national budget.

Current expenses made up 80.5% of this amount, incl. 58.1%- payroll fund. Capital expenditures amounted to 19.5%.

Measures related to ACC were implemented by five agencies (see Figure 4.15).

Diagram 4.15. Distribution of the expenditures of the national budget on measures for climate change adaptation (CCA) in 2011-2016, in million soms, % in the total expenditures of the national budget for environmental protection (EP)



Source: Ministry of Finance of the Kyrgyz Republic, own calculations

The State Agency for Environmental Protection and Forestry (SAEPF) coordinated the implementation of the Priority Areas for Climate Change Adaptation in the Kyrgyz Republic until 2017[7], conducted work to improve effectiveness of the management of specially protected natural areas (PAs) for the conservation and restoration of wetlands, an essential component of the natural environment that plays a decisive role in the process of climate change adaptation.

[7] Resolution of the GKR No. 549 dated October 2, 2013 "On approval of priority areas of climate change adaptation in the Kyrgyz Republic until 2017"

The Agency promoted the principles of social afforestation, carried out work to restore forests and expand the forested area, and performed forest management fieldwork[8]. This activity is considered as adaptational work to climate change.

ГBesides, SAEPF implemented activities to improve effectiveness of the management of protected areas, which are also classified as CCA measures. *The General Directorate of the Biosphere Reserve "Issyk-Kul"* is a structural subdivision of SAEPF; it is engaged in the restoration of wetlands in the territory of the biosphere reserve located in the water area of Lake Issyk-Kul and in the adjacent territories. SAEPF, implemented activities on protection of atmospheric air and PAs. Part of the costs of these activities were related to the financing of the climate change measure adaptation.

For the period from 2011 to 2016, SAEPF expended 242.9 million soms on CCA (3.7% of the national budget allocated for EP).

The Ministry of Agriculture, Food Industry and Melioration (MAFIM) is also involved in implementing activities to adapt to climate change. For 6 years 253.8 million soms were allocated for them (3.8% of the national budget allocated on EP), at the same time, the largest share of the MAFIM expenses for the CCA is accounted for by the Department of Water Resources with subordinated institutions- 98% of all MAFIM expenses targeted at CCA.

In accordance with the priorities for climate change adaptation in the Kyrgyz Republic until 2017, the MAFIM measures aimed at CCA are as follows:

- rehabilitation of existing waterworks of water facilities and construction of new ones
- carrying out selection work on growing drought-tolerant and salt-tolerant crops;
- integrated pasture management and pasture livestock development, taking into account climate change adaptation.

Activities related to CCA, implemented by the **Ministry of Emergency Situations (MES)**, required 178.1 million soms (2.7% of the expenditures of the national budget aimed at the EP) for their implementation. The Ministry of Emergency Situations was engaged in improving the system of monitoring and forecasting of hazardous weather events, building norms for ensuring the infrastructure stability to dangerous climatic manifestations.

An important area of climate change adaptation and mitigation is to increase energy efficiency by reducing energy losses and optimizing consumer demand, especially for heat and electric power, as well as the development of renewable energy sources. These issues are dealt with by the **State Committee for Industry, Energy and Subsoil Use (SCIESU)**, which expended 26.0 million soms. (0.4% of the expenditures of the national budget aimed at the EP) for these purposes in 2011-2016.

The **Ministry of Health,** in the context of climate change adaptation, addressed the challenges of increasing the health sector's capacity to protect public health from the impact of changing climate and conducted outreach activities through health promotion centres with local communities. In total, the Ministry allocated 18.3 million soms (0.3% of the expenditures of the national budget aimed at the EP) for the CCA.

[8] According to the SAEPF's plan of activities under the Programme and Action Plan for Climate Change Adaptation of the Forest and Biodiversity Sector for 2015-2017"

4.4. Local budget expenditures on environmental protection, biodiversity conservation and climate change adaptation

In accordance with Article 50 of the Budget Code of the Kyrgyz Republic, environmental protection refers to expenditure obligations of the Government of the Kyrgyz Republic and is financed from the national budget.

In accordance with the functional classification, the funds for environmental protection are not allocated from the local budget. The main authority of local self-government bodies (LSGB) related to environmental protection is the management of solid domestic waste and treatment facilities. To this end, annually, funds under Article 706 "Housing and Communal Services" are approved in local budgets in accordance with functional budget classification; part of the funds are aimed at activities for the management of solid domestic waste and treatment facilities. According to the Law on the Administrative and Territorial Structure of the Kyrgyz Republic, the local budget includes the following administrative and territorial units: 40 districts/ raions, 31 cities, including 2 cities of the national significance, 12 cities of the regional/ oblast significance and 17 cities of the district/ raion status, and 453 ayil aimaks.

In ayil aimaks, under the housing and communal services (utilities) item, activities are annually financed for carrying out repair and restoration works, general improvement and landscaping of parks and streets, besides, funds are allocated for central streets' lighting. However, these expenditures are insignificant in terms of the degree of impact on the EP.

From the local budget, expenditures on the management of solid domestic wastes and treatment facilities are carried out mainly in the cities of the national (Bishkek and Osh), regional /oblast and district/ raion significance.

At the same time, water supply services are provided by the municipal enterprises "Vodokanal" and individual state enterprises. The enterprises are accountable to the respective city administrations / city halls. "Vodokanals" also manage sewerage systems and access of the population to sewerage systems.

Services for the management of solid waste are provided by the municipal services (SE "Tazalyk" and municipal enterprises for gardening and landscaping). These organizations also provide municipal services for the improvement and maintenance of urban infrastructure: the maintenance of public areas, such as street lighting and landscaping of urban areas; planting flower seeds and seedlings; the maintenance of parks, squares, lawns and mini-parks of the city, etc.

The majority of municipal enterprises are self-supporting organizations and collect money from the population and business entities of cities for services related to removal of solid domestic waste, water supply and sewerage.

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

For the calculation of local budget expenditures on EP and biodiversity, the costs of cities of the national, oblast and district significance aimed at financing municipal enterprises were analyzed. Moreover, given that the funds are mainly allocated for the running costs of public utility enterprises and they indirectly affect the EP and BD, the calculation of costs is made at the minimum values.

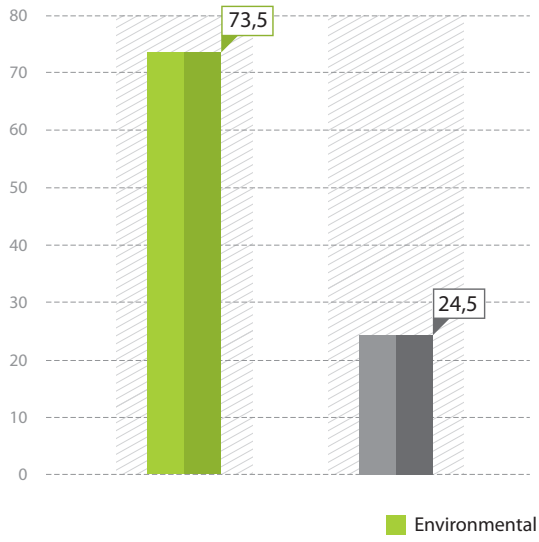
For the period from 2011 to 2016, 73.5 million soms were allocated from the local budget or 1% of the total national budget expenditures for the purposes of the EP, 0.4% of them were allocated for activities related to the BDC (see Diagram 4.16). 92% of this amount are current expenses, including 18%- payroll fund, 39 subsidies and 35% expenses for the purchase of goods and services. Capital expenditures account for 7%.

On two categories of the nine BIOFIN categories, expenditures were allocated from the local budget in 2011-2016:

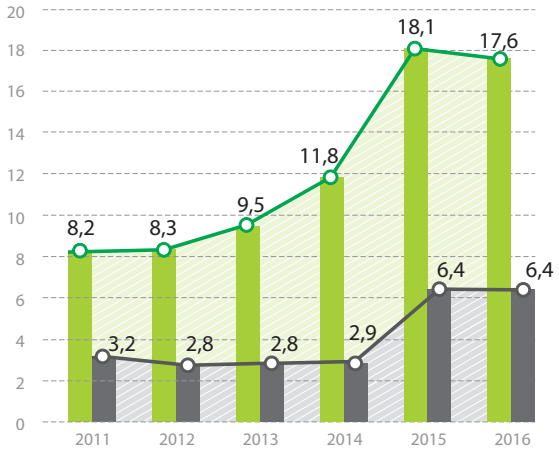
- Green Economy" category, "Sustainable Urban Environment" subcategory (0.5% of local budget expenditures were allocated to public utility enterprises for landscaping);
- "Pollution Abatement" category including such subcategories as "Waste Management" (from 1 to 2% of local budget expenditures were allocated to enterprises for the management of solid waste) and "Wastewater Management" (0.3% of the local budget funds were allocated to Vodokanals (water and wastewater treatment enterprises)).

Diagram 4.16. Expenditures of the local budget on environmental protection (EP) and biological diversity (BD) in 2011-2016.

a) Total EP, BD for the period, mln. soms.



b) EP, BD by years, mln. soms .



Source: Ministry of Finance of the Kyrgyz Republic, own calculations

5. EXPENDITURES OF DEVELOPMENT PARTNERS (DONORS) AND NON-GOVERNMENTAL ORGANIZATIONS (NGOS) ON THE ENVIRONMENT, BIODIVERSITY AND MEASURES FOR CLIMATE CHANGE ADAPTATION

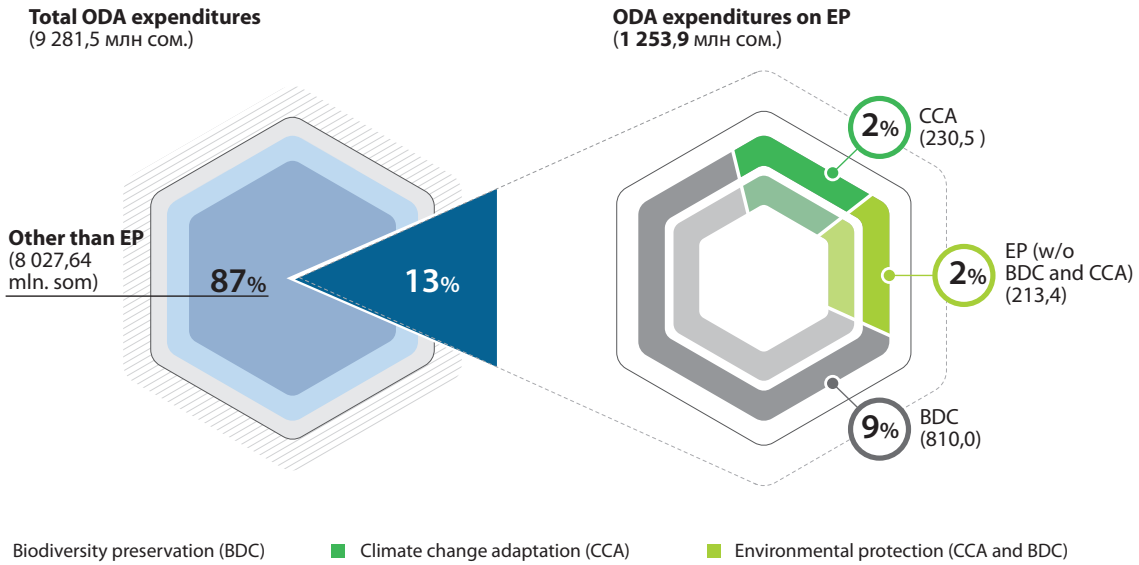
Development Partners

Donors are a great help to the development of the Kyrgyz Republic. During the years of independence, the partners invested ***at least*** 9,8 billion dollars USA in the development of the country. Basically, these are infrastructure projects and technical assistance projects. The funds were received by the country both on a grant basis and in the form of loans.

The collection of data on development partners' assistance posed some difficulties firstly because part of the assistance has not been accounted for by state bodies. First of all, these are grant projects implemented by local communities, academic and non-governmental organizations. Secondly, the country does not have a centralized database of donors and their funds disburse.

The Ministry of Finance of the Kyrgyz Republic has information mainly on PIP projects. Besides, in 2016 the Ministry of Finance of the Kyrgyz Republic made an attempt to create a database on projects that are not included in the PIP list. For the purposes of the PPEER, information from the Ministry of Finance of the Kyrgyz Republic was used. It is not complete[9], but it allows us to assess the general trends in financing environmental protection by major donors. The database made it possible to cover the period of the PPEER- from 2011 to 2016.

Diagram 5.1. Expenditures of Official Development Assistance (ODA) partners in Kyrgyzstan, including environmental protection (EP), biodiversity conservation (BDC) and climate change adaptation measures (CCA), in 2011-2016, in million soms, %



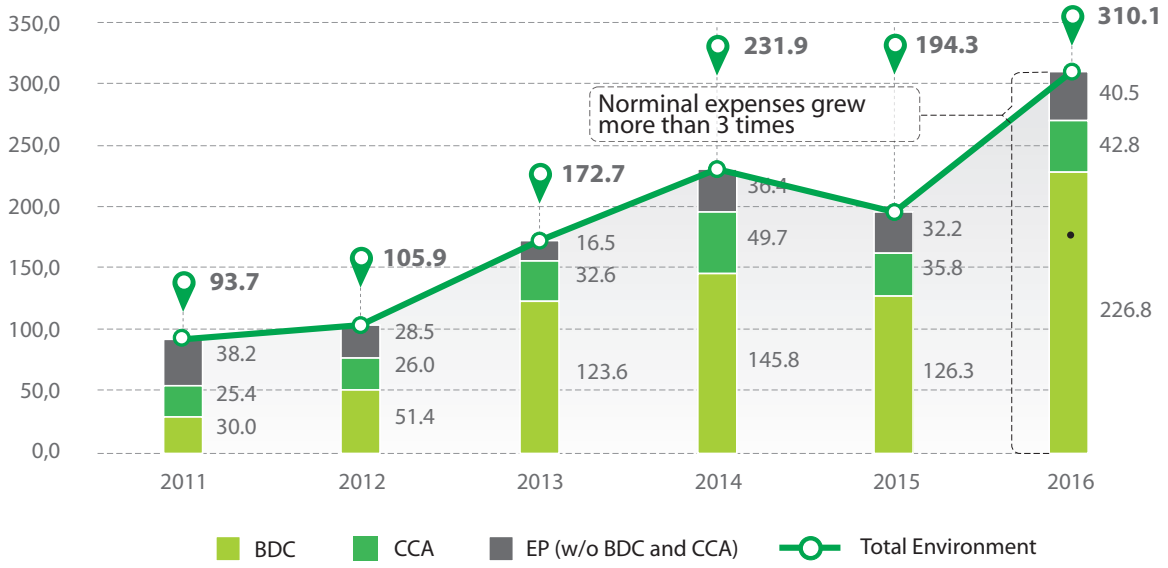
Source: Database of the Ministry of Finance of the Kyrgyz Republic, own calculations

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

The amount of official development assistance for environmental protection, according to the available data for 2011-2016, amounted to 1,253.9 million soms. The largest share is spent on biodiversity conservation issues- 809.5 million soms, or 65% of ODA expenditures on environmental protection. The rest is accounted for climate change measure adaptations- 230.5 million soms, or 17%, other measures to protect the environment- 213.5 million soms, or 18% (see Figure 5.1).

The dynamics of ODA movement in the period under review was positive. The donors' nominal expenses for 6 years have grown more than threefold. At the same time, expenditures on biodiversity increased at a faster rate- more than sevenfold. This, in particular, is associated with the start of the implementation of the Pesticide Management Project (FAO) in 2016 and the GIZ / EKF project "Biodiversity Conservation and Poverty Reduction through Joint Management of Walnut Fruits and Pastures" and others. Costs of activities aimed at adaptation to climate change and other environmental measures also grew, but at a moderate pace (Fig. 5.2).

Diagram 5.2. Movement of official development assistance in the Kyrgyz Republic in 2011-2016, million soms.



Source: Database of the Ministry of Finance of the Kyrgyz Republic, own calculations

More than 30 countries and organizations provided assistance to Kyrgyzstan in the sphere of environmental protection. Diagram 5.3 shows the contribution of the eight major development partners, which accounted for 95% of the expenditures on environmental protection. It can be seen that the largest share is taken up by the UN expenditures (48% of EP expenses), uniting the activities of such organizations as the World Food Programme, FAO, UNDP, UNEP, IFAD, UNHCR. At the same time, it should be noted that UN organizations implemented projects that were financed by other organizations or countries, for example, GEF, Switzerland, Austria, etc.

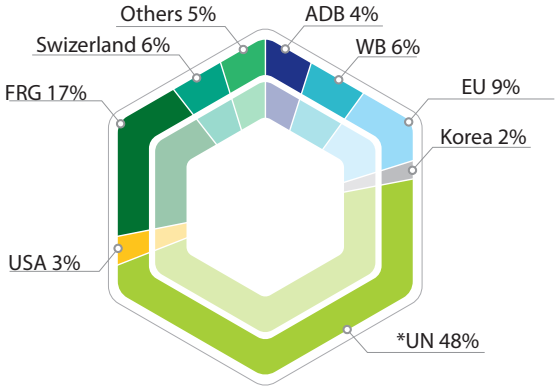
UN agencies implement projects and programs in the Kyrgyz Republic with grant funds from donor countries and specialized financial institutions (for example, the Global Environment Facility, Green Climate Fund).

The analysis showed that the United Nations' organizations, the Federal Republic of Germany, the European Union and the Republic of Korea mainly financed activities related to biodiversity

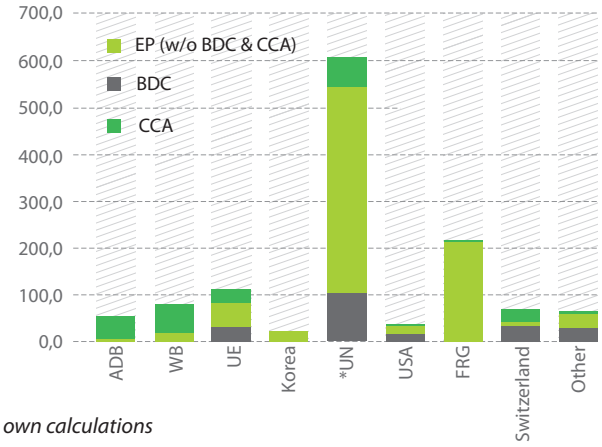
conservation (see Diagram 5.3.b. and Table 5.1); while multilateral financial organizations such as the World Bank (WB) and the Asian Development Bank (ADB) financed measures related to climate change adaptation.

Diagram 5.3. Contribution of major development partners to financing environmental protection (EP), biodiversity conservation (BDC) and climate change adaptation (CCA) measures in the Kyrgyz Republic in 2011-2016, %

a) EP, total for the period, %



b) EP, BDC and CCA, million soms



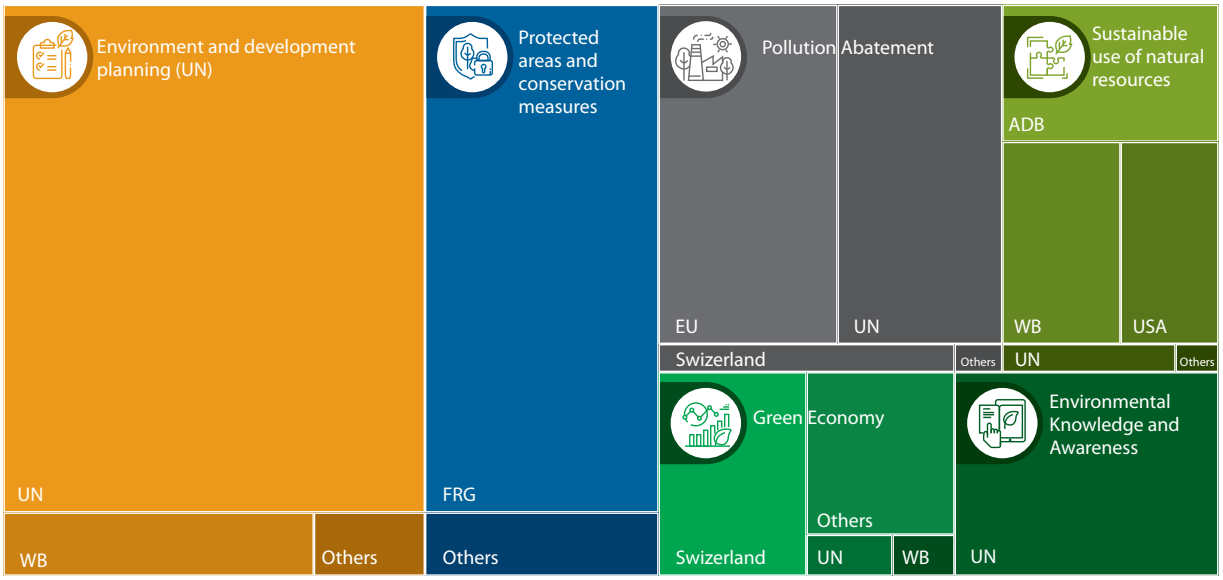
**UN – implemented through UN instructions*

Source: Database of the Ministry of Finance of the Kyrgyz Republic, own calculations

BIOFIN Categories and development partners

The development partners' activities in Kyrgyzstan related to environmental protection correspond to six BIOFIN categories (see Diagram 5.4 and Table 5.1.).

Diagram 5.4. BIOFIN categories and sub-categories funded within the framework of environmental protection (EP) and by development partners in the Kyrgyz Republic in 2011-2016.



Source: Database of the Ministry of Finance of the Kyrgyz Republic, own calculations

Table 5.1. BIOFIN categories and sub-categories financed under the environmental protection (EP) and biodiversity conservation (BDC) by development partners of the Kyrgyz Republic in 2011-2016, % to donor expenditures on EP

Category / Directions	ADB		WB		EU		UN		USA		FRG		Switzerland		Others		Total	
	EP	BD	EP	BD	EP	BD	EP	BD	EP	BD	EP	BD	EP	BD	EP	BD	EP	BD
Green Economy	0,5	0,0	4,8	1,6	0,1	0,0	6,2	3,7	0,5	0,5	0,5	0,3	53,9	5,4	41,8	16,5	108,2	28,0
Green Supply Chain	-	-	-	-	-	-	4,2	3,2	-	-	-	-	-	-	-	-	4,2	3,2
Sustainable Energy	-	-	-	-	-	-	0,8	0,2	-	-	-	-	-	-	40,7	16,3	41,5	16,5
Sustainable Urban Areas	0,5	0,05	4,8	1,6	0,1	0,01	1,2	0,4	-	-	0,5	0,3	53,9	5,4	1,1	0,2	62,0	7,9
Sustainable Tourism	-	-	-	-	-	-	-	-	0,5	0,5	-	-	-	-	-	-	0,5	0,5
Environment and Development Planning	**-**	**-**	**34,4**	**5,5**	**-**	**-**	**390,6**	**292,3**	**-**	**-**	**-**	**-**	**-**	**-**	**12,7**	**6,9**	**437,6**	**304,7**
Other relevant laws, policies and plans	-	-	-	-	-	-	376,5	289,8	-	-	-	-	-	-	3,3	0,3	379,7	290,2
Coordination and management of the environment	-	-	34,4	5,5	-	-	14,1	2,4	-	-	-	-	-	-	9,4	6,6	57,9	14,6
Environmental Awareness and Knowledge	**-**	**-**	**0,0**	**0,0**	**-**	**-**	**4,2**	**0,4**	**-**	**-**	**0,1**	**-**	**-**	**-**	**0,3**	**0,2**	**4,6**	**0,6**
Informal environmental and biodiversity education including technical training	-	-	0,0	0,0	-	-	-	-	-	-	0,1	-	-	-	0,3	0,2	0,3	0,2
Environmental Awareness	-	-	-	-	-	-	4,2	0,4	-	-	-	-	-	-	-	-	4,2	0,4
Protected areas and other conservation measures	**-**	**-**	**-**	**-**	**-**	**-**	**89,8**	**89,7**	**0,0**	**0,0**	**211,9**	**211,9**	**-**	**-**	**27,3**	**27,3**	**329,2**	**329,0**
PAs	-	-	-	-	-	-	89,6	89,6	-	-	-	-	-	-	-	-	89,6	89,6

Category / Directions	ADB		WB		EU		UN		USA		FRG		Switzerland		Others		Total	
	EP	BD	EP	BD	EP	BD	EP	BD	EP	BD	EP	BD	EP	BD	EP	BD	EP	BD
Loss of valuable habitats, including targeted conservation of species outside PAs	-	-	-	-	-	-	0,1	0,1	-	-	-	-	-	-	-	-	0,1	0,1
Conservation of species beyond their habitats: botanical gardens and gene banks	-	-	-	-	-	-	0,2	0,0	0,0	0,0	211,9	211,9	-	-	27,3	27,3	239,5	239,4
Pollution Abatement	-	-	-	-	110,6	55,3	103,2	51,6	0,6	0,1	0,01	0,003	15,3	1,6	2,6	2,5	232,3	111,1
Protection and Remediation of Soils, Underground and Surface Water	-	-	-	-	110,6	55,3	0,0	0,0	0,6	0,1	0,01	0,003	-	-	2,6	2,5	113,9	57,9
Waste management	-	-	-	-	-	-	103,1	51,6	-	-	-	-	15,3	1,6	-	-	118,4	53,2
Sustainable use of natural resources	53,3	5,3	40,7	10,2	0,3	0,03	11,5	2,7	32,9	16,5	0,1	0,01	-	-	2,6	1,3	141,6	36,1
Watershed management	-	-	12,9	1,3	0,0	0,002	4,7	0,5	-	-	-	-	-	-	-	-	17,6	1,8
Sustainable aquaculture	-	-	-	-	-	-	1,6	-	-	-	-	-	-	-	-	-	1,6	-
Sustainable wildlife	-	-	-	-	-	-	0,1	0,1	-	-	-	-	-	-	-	-	0,1	0,1
Sustainable forestry	-	-	-	-	-	-	0,1	0,1	-	-	-	-	-	-	-	-	0,1	0,1
Sustainable agriculture	53,3	5,3	27,9	9,0	0,3	0,03	5,1	2,1	32,9	16,5	0,1	0,01	-	-	2,6	1,3	122,3	34,2
Grand Total	**53,8**	**5,4**	**79,9**	**17,4**	**111,0**	**55,4**	**605,6**	**440,4**	**34,1**	**17,0**	**212,6**	**212,2**	**69,1**	**7,0**	**87,3**	**54,8**	**1253,4**	**809,6**

Sources: MF KR Database, own calculations

The BIOFIN category, which received the largest funding from development partners, is *"Environment and Development Planning"*; it accounted for almost 35% of ODA expenditures for EP in the Kyrgyz Republic for the period under review. The main donors of this category were the UN organizations, such as UNDP, UNEP, IFAD and FAO. They provided technical assistance in the development of strategic documents for sustainable development and methodologies for their development (in line with BIOFIN's "Other relevant laws, policies and plans"), as well as coordination and management of the environment (sub-category "Coordination and management of the environment"). First of all, these are projects on creating conditions for the transition to sustainable development, for technical assistance in the development and implementation of information systems and databases, on increasing the capacity of agencies whose activities are related to EP, on the management of persistent organic pollutants, etc.

An important activity under this category of BIOFIN was carried out by the World Bank. It was connected with overcoming the risks of natural disasters and improving the physical infrastructure and facilities of the meteorological service of Kyrgyzstan.

Other donors worked in the areas of enhancing the country's potential in the livestock sector and monitoring water quality.

The second BIOFIN category in terms of funding is *"Protected areas and other conservation measures"*. It made up 19.1% of ODA expenditures for EP in the Kyrgyz Republic. Basically, within its framework, activities on *"Conservation of species beyond their habitats: botanical gardens and gene banks"* were implemented. The main donor of the sub-category was Germany, which through the German Society for International Cooperation (GIZ) began to introduce models of sustainable management of forests and pastures.

The project "Sustainable Management of Mountain Forests and Land Resources of the Kyrgyz Republic" was implemented by the UN FAO organization with GEF funds.

A small but significant contribution was made by the governments of the Republic of Korea, the United States and other donors who helped to provide conditions for the creation of a genetic bank in Kyrgyzstan. Assistance was provided in organizing the collection of seeds and herbaria to replenish the genetic bank of Kyrgyzstan.

The GEF financed projects on improvement of efficiency of the coverage and management of specially protected natural areas in the mountains of the Central Tien Shan, which are in line with the sub-category *"Specially Protected Natural Areas"*

Under the category *"Pollution Abatement"* the development partners carried out their activities in three areas:

- *"Protection and Remediation of Soils, Underground and Surface Water"* with contributions received from the European Union (projects on creating a legal framework for an integrated assessment of the impact on the environment and the restoration of legacy uranium sites), Germany and the United States (to the action on cleaning up the territories and the mudflow channels), etc.

- *"Waste management",* in which the following organizations made contributions: UNDP / GEF, the Government of Switzerland, the Swiss Red Cross, which implemented medical waste management projects, and UNEP / GEF worked with the Reducing global and local environmental risks from primary mercury mining in Khaidarkan project.

Category *"Sustainable use of natural resources"* required 11.3% of ODA expenditures for EP in 2011-2016. The main sub-category in this category is "Sustainable agriculture", which received about 90% of the category resources. Under this sub-category, water supply projects (the World Bank and the Asian Development Bank) and veterinary and seed fund support (the World Bank) were implemented.

The remaining part of the funding category is almost entirely under the *"Watershed management"* sub-category, within the framework of which the World Bank, the European Union and UN organizations (UNDP, UNECE and FAO) implemented water management projects, including cross-border ones.

Very small-scale projects were implemented under the sub-categories *"Sustainable aquaculture", "Sustainable wildlife"* and *"Sustainable forestry"*. They were implemented by UN organizations.

Under the *"Green Economy"* category, the main sub-category is *"Sustainable Urban Areas"*, which brought together donors' assistance in improving urban and rural drinking water supply and sanitation systems, as well as in the landscaping of settlements. The assistance was provided by a large number of donors: The World Bank, ADB, the EBRD, the OSCE, the European Union, the United Nations organizations, the governments of Germany, the United States and Switzerland, international non-governmental and non-profit organizations, etc.

The sub-category *"Sustainable Energy"*, that is important for sustainable development of the country, received 3.3% of the total amount of ODA on the EP of the Kyrgyz Republic. Almost all of the resources were spent on financing the introduction of energy efficient technologies (Women Engage for a Common Future (WECF) / Kyrgyz Alliance for Water and Sanitation (KAWS)), as well as the construction of solar greenhouses in the regions of the country (UNDP), financing solar panels equipment.

"Green Supply Chain" and *"Sustainable Tourism"* were implemented under the same project: the FAO project on creating efficient agricultural value chains of Small and Medium Agro-Enterprises (SMAEs) and the USAID (USA) Ecotourism Project.

In the BIOFIN category *"Environmental Awareness and Knowledge"*, the main activities in 2011-2016 were the donors' activities on conducting workshops and installation of information stands (WB-ARIS), the Government of Germany, the Botanic Gardens Conservation Programme) that is covered by the sub-category *"Informal environmental and biodiversity education including technical training"*. Under the sub-category *"Environmental Awareness"*, a UNDP project was implemented to support the strengthening of the capacity of government agencies and civil society in order to integrate climate change resilience into policies and programmes aimed at (socio-economic) improvement of the situation of the poor.

Environmental non-governmental organizations

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

More than 50 environmental NGOs operate in the Kyrgyz Republic. However, in the country there is no system for collecting financial information on these institutions - they do not report

[10] Обзор экологических НПО в Кыргызской Республике, РЭЦЦА. – Бишкек, 2017.

on the revenues received to the state bodies. NGOs most often use a simplified taxation regime, which does not reflect real amounts received by the taxpayer under financing programmes.

In 2017, the Regional Environmental Center in Central Asia conducted a survey of environmental NGOs[10]. 30 environmental NGOs took part in the survey, of which 7 organizations were the most collaborative.

The average age of environmental NGOs in Kyrgyzstan is 9 years. About 65% of the NGOs surveyed have a small annual budget - from 10 thousand to 100 thousand US dollars, and only 14% of NGOs have a budget of more than US$100 thousand per year.

The majority of the respondents are engaged in issues of environmental education and awareness, climate change issues and Sustainable Development Goals. The most proactive NGOs cover several areas.

Seven organizations or 27% of the organizations surveyed work in the field of natural resources management, in particular, in management of forests and pastures. Eleven organizations or 37% are engaged in water management issues. Seven NGOs or 27% of respondents noted that they work in the field of conservation of species diversity of flora and fauna. About 20% of the surveyed NGOs are involved in the promotion of organic agriculture, certification and marketing of organic products.

Another most interesting area of activity of NGOs in Kyrgyzstan is the resurgence and preservation of traditional ecological knowledge. The issues of raising environmental awareness and promoting environmental education are included in the work of more than 80% of the NGOs surveyed.

About 37% of respondents do not participate in any working groups. More than 40% took part in 1 - 2 working groups, and 20% or 6 organizations are members of interdepartmental, national or other working groups.

The working groups included: the Coordination and Advisory Council for Forestry Sector Reform, supervisory boards under ministries and departments, working groups for the conservation of the snow leopard, working groups for pasture management, working groups for drafting various bills, etc. The most proactive ones are UNISON, CAMP Ala-Too, RDF, AZLK, Kyrgyz Zhaiyty and others.

6. PRIVATE SECTOR EXPENDITURES ON THE ENVIRONMENT, BIODIVERSITY AND CLIMATE CHANGE ADAPTATION

The private sector bears expenses on the environment, 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 not complete at the moment.

Not all enterprises and organizations report to state statistics bodies: according to the NSC, 407 economic entities[11] submitted such reports in 2016, while as many as 1620 enterprises[12] operated in industrial sector only. At the same time, we can note a positive trend- the coverage of enterprises in general is increasing (see Figure 6.1.a): for two years the number of those reporting has almost doubled.

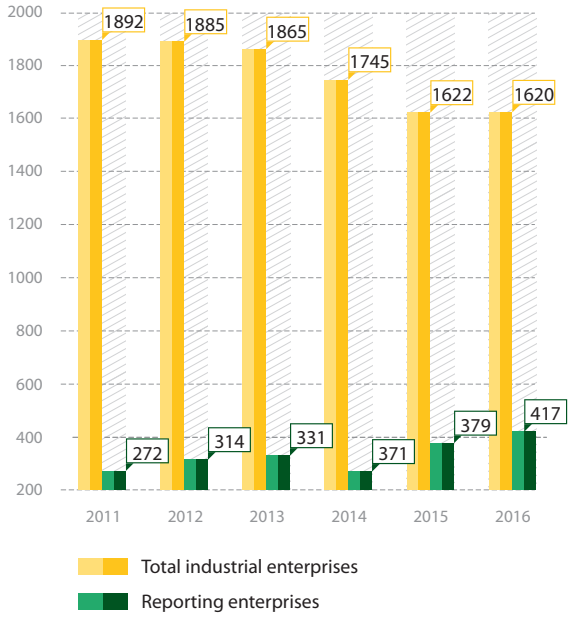
> Current expenses were not included in the Review in order to avoid double counting, in view of the fact that a certain proportion of these expenses are accounted for by payments to the budget and spent from the national budget

For the purposes of this Review, data were used on the enterprises and organizations' expenses for investments in environmental protection.

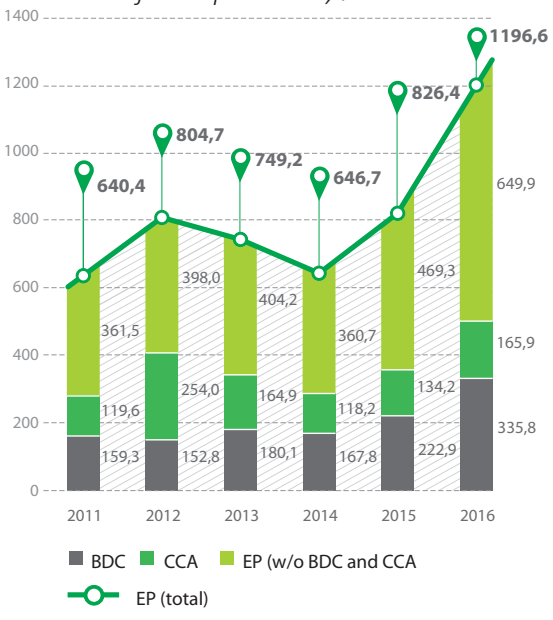
According to official data, the expenditures of enterprises and organizations on the EP made up from 640.7 (2012) to 1,196.6 million soms (2016, see Diagram 6.1.b). These amounts are comparable with the expenditures of the state budget (see Section 4).

Diagram 6.1. Expenditures of enterprises and organizations for environmental protection (EP), biodiversity conservation (BDC) and climate change adaptation (CCA) in 2011-2016.

a) Number of reporting entities, units



b) Structure of EP expenditure, %



Source: NSC KR, own calculations

[11] Environment in the Kyrgyz Republic: NSC KR,- B: 2018.
[12] Kyrgyzstan in figures. Statistical collection: NSC KR,- B .: 2017.

A quarter of enterprises' environmental expenditures can be attributed to the financing of measures to conserve biodiversity, 19.7%- for climate change adaptation measures, while the remaining amount- to other environmental protection measures (see Diagram 6.1.b). Enterprises and plants' investments were made *mainly in sewerage treatment plants*.

All enterprises' expenditures are covered by the BIOFIN category *"Pollution Abatement"* on four sub-categories (see Table 6.1):

- *"Protection and Remediation of Soils, Underground and Surface Water",* which accounts for the largest share of enterprises' expenditures on EP- 73.3%, including BDC funding- 22.0%, and corresponds to the sub-category "Protection and rational use of lands" of the national statistics system*;*

- *"Protection of the ambient air and climate",* which corresponds to the line "Protection of atmospheric air and climate" of the national statistics system and makes the smallest share in the enterprises' expenditures on EP (see Table 6.1)*;*

- *"Wastewater Management",* corresponds to the line "Wastewater treatment" of the statistical system, which occupies 22.1% of the enterprises' expenditures on EP, including 2.2%- for BDC;

- *"Other Measures on Pollution Abatement",* corresponding to the line "Other", also gives a small contribution to EP.

Diagram 6.1. Expenditures of enterprises and organizations on environmental protection (EP), including biodiversity conservation (BDC) on sub-categories under the BIOFIN category "Pollution Abatement", as well as on measures for climate change adaptation (CCA) in 2011-2016, million soms, % in total expenditures for EP

	Environmental protection					
	Total		Incl. BDC		Incl. CCA	
	Mln soms	%	Mln soms	%	Mln soms	%
Protection of the ambient air and climate	58,6	1,2	8,8	0,2	-	-
Protection and Remediation of Soils, Underground and Surface Water	3564,7	73,3	1069,4	22,0	-	-
Wastewater Management	1076,2	22,1	107,6	2,2	-	-
Other measures on Pollution Abatement	164,5	3,4	32,9	0,7	-	-
Grand Total	**4864,0**	**100,0**	**1218,7**	**25,1**	**-**	**-**

Source: NSC KR, own calculations.

The structure of environmental expenditures of enterprises shows that official statistics more reflects the enterprises' expenditures stipulated by formal obligations, which they assumed upon receipt of a positive conclusion of the state environmental appraisal panel. The expenses that businesses bear voluntarily or that go beyond the specifics of the technological process are not shown. This does not mean that the private sector of the country does not bear such expenses.

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

It should be noted that there is a problem of insufficiency of monitoring of efficiency and degree of use (whether the equipment operates in the required mode) of the installed equipment. Therefore, it is difficult to judge about whether the enterprises and organizations' expenses are a real contribution to environmental protection, biodiversity conservation and climate change adaptation and about the extent of the contribution.

7. TOTAL EXPENDITURES ON THE ENVIRONMENT, BIODIVERSITY AND CLIMATE CHANGE ADAPTATION. FORECAST TILL 2020

The total amount of environmental expenditures in Kyrgyzstan in 2011-2016 from all sources specified in the PPEER, was amounted to a very small amount: 12 802,9 million soms or 0.57% of GDP, including 4 734,1 million soms (0.21% of GDP) biodiversity. For measures of climate change adaptation- 3775,8 million soms (0,17% of GDP).

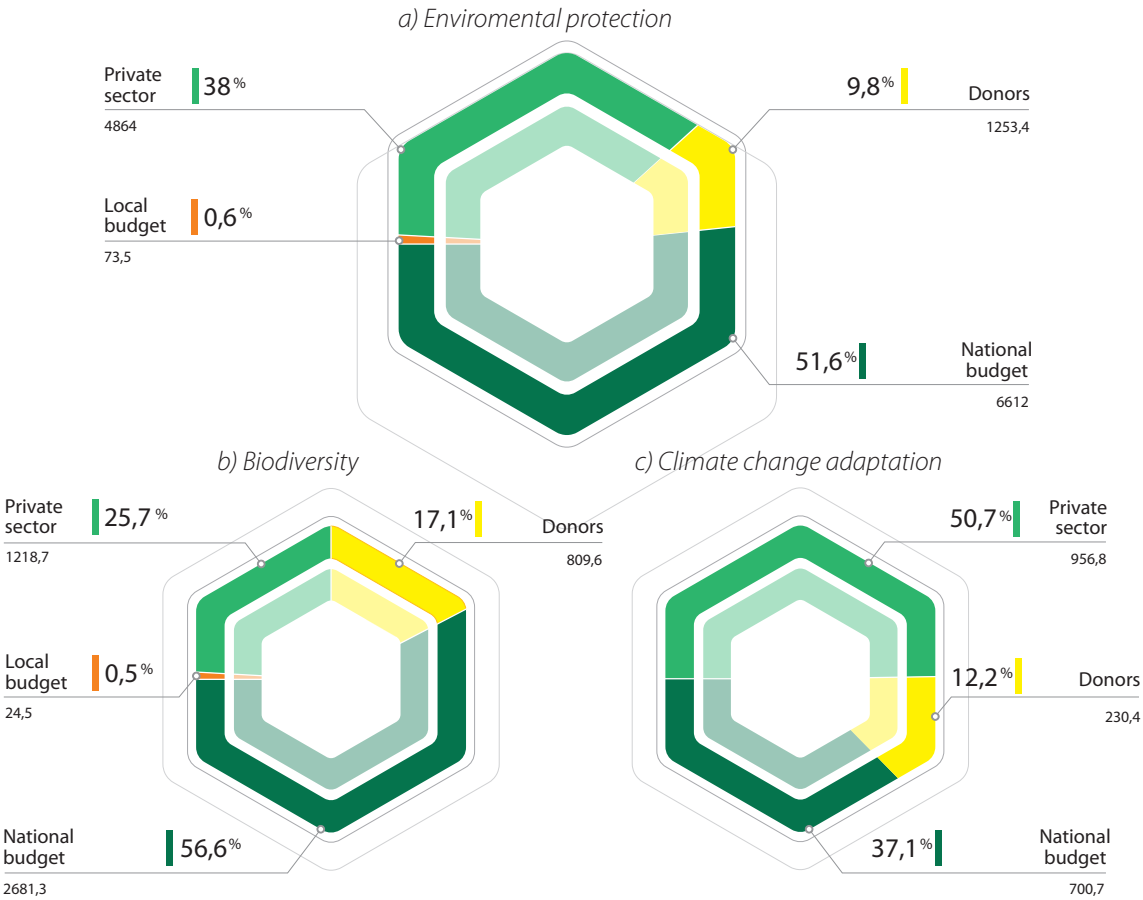
If we consider the financing structure for each area of expenditure, then it shows the following.

Total expenses in all areas of environmental protection in 2011-2016 mostly carried by national budget: out of 12 802.9 million soms spent on environmental protection 51.2% accounts for it (see Fig. 7.1.a). The private sector is the second in terms of environmental protection financing with a share of 38.0%. According to available reports, the donor community has financed 9.8% of the total financing of measures related to the environment.

The structure of expenditures on biodiversity conservation over the 6-year period under review is the same: out of 4,734, 1 million soms 56.6% are allocated to the national budget (see Fig. 7.1.b), 17.1% to the donor community, and 25.7% to the private sector.

The private sector leads the climate change adaptation costs, in this direction in 2011-2016 it was invested 50.7% of 3,775.8 million soms (Fig. 7.1.c). The national budget and the donor community are the second and third largest investors in the field.

Diagram 7.1. Structure of financing of EP, BD and CCA in 2011-2016, %



Source: MF KR, ministries and departments of the Kyrgyz Republic, own calculations

The total amount of EP funding grew from 1,319.1 million soms in 2011 to 2,726.4 million soms in 2016. The nominal growth made up 206.7%, the real growth made up 162.8%.

Forecast

The forecast of biodiversity financing was made using two approaches:

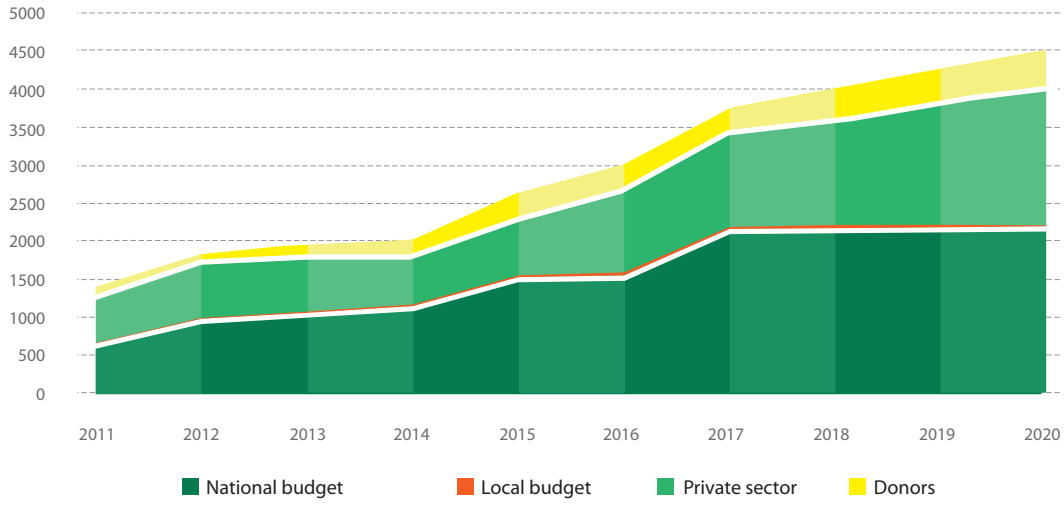
1. As for the national budget, the budget growth rates were obtained on the basis of the data on planned expenditures according to the draft national budget for 2018 and the forecasts for 2019 and 2020.

2.As for other sources, the moving average method was applied.

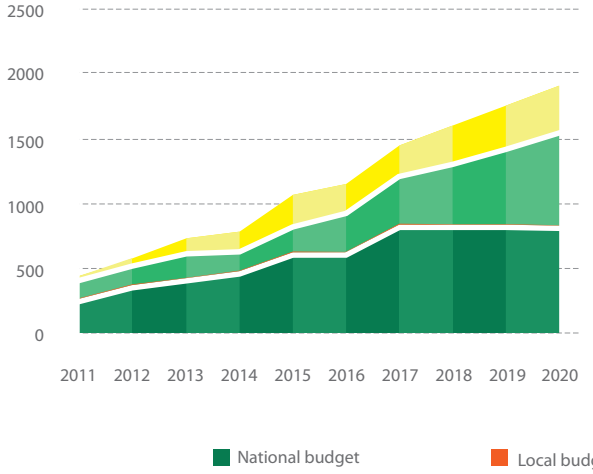
The results of the forecast are shown in Diagram 7.2. It is evident that the national budget will play a major role in financing EP and CCA. At the same time, the steep increase was due to the increase in budget financing of SAEPF from the national budget in 2017 (by almost 60%).

Diagram 7.2. Forecast of financing of EP, BD and CCA by sources; 2011-2016 – actual data, 2017-2020 – forecast data, million soms

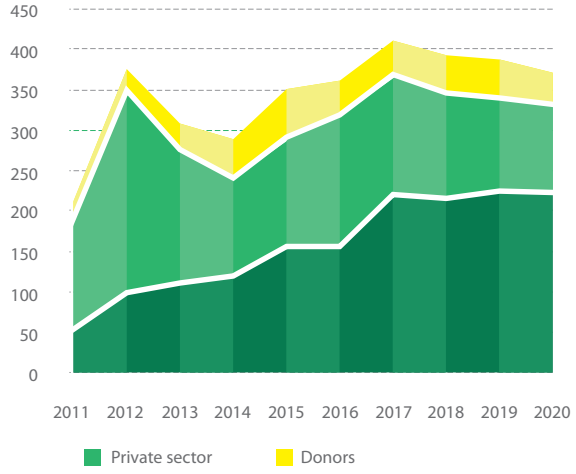
a) Environmental protection



b) Biodiversity



c) aClimate change adaptation

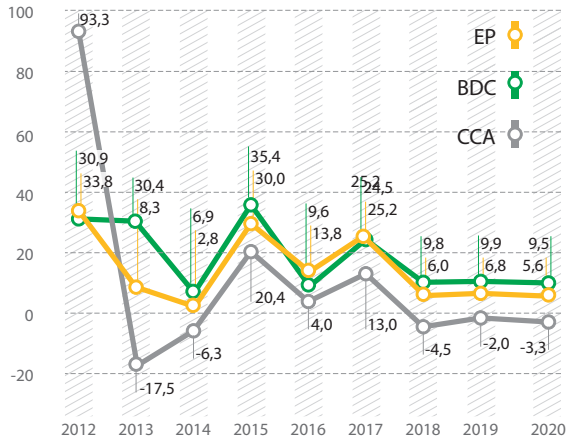


Source: own calculations

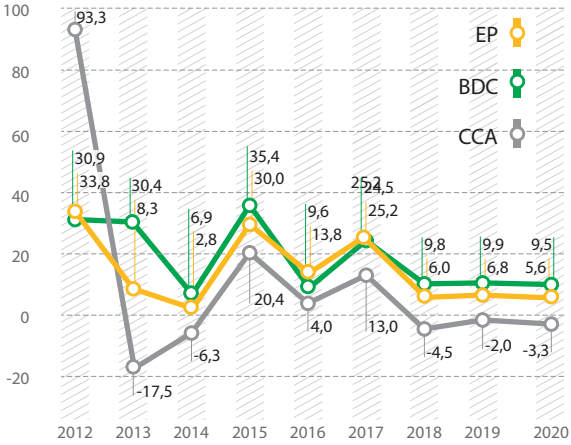
This is also shown in Diagram 7.3: By 2020, the total amount of EP funding can reach 4 484,4 million soms per year from all sources. At the same time, the growth rate by 2011 will be up to 342,4% (average 9.5% per year) for BDC activities, while the funding for CCA will grow with negative growth rates.

Diagram 7.3. Forecast of financing of EP, BR and CCA; 2011-2016 – actual data, 2017-2020 – forecast data, million soms

a) Million soms



b) Growth rate, % to the previous year



The forecast is based on the assumption that existing trends in financing environmental protection, biodiversity conservation and climate change adaptation will continue. Taking into consideration the continuing large share of government bodies, this assumption also implies that a fairly large share of the projected amount will be spent on maintaining the personnel of ministries and agencies

The private sector will continue investing in the environmental infrastructure of enterprises. At the same time, there will still be no possibility to carry out the necessary monitoring of the quality and the extent of use of this equipment.

The most efficient fundings will still remain donors' funds.

FINDINGS AND RECOMMENDATIONS

Findings

In the process of the development of the Public and Private Environmental Expenditure Review with a Focus on Biodiversity and Climate Change Adaptation, the following features of environmental financing have been identified and confirmed:

1) Despite the fact that sustainable development is defined as a principle of public administration, financing of environmental protection issues is relatively small- 0.57% of GDP from all known sources.
2) In addition to SAEPF, many ministries and departments have environmental expenditures that are not accounted for in Section 705 of the Kyrgyz Republic's functional budget classification "Environmental Protection".
3) Opportunities of ministries and agencies/ departments and their subordinated and territorial units are limited to the amount of budget appropriations. About 85% of agencies' expenditures are directed to recurrent expenses; this fact does not guarantee the full implementation of the state policy on environmental protection.
4) Local budgets do not use Section 705 of the functional classification "Environmental protection", mistakenly posting this item expense to other items, for example, 706 "Housing and communal services". Financing of LSGB's environmental protection activities 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 ones.
6) According to official data, the private sector bears relatively high environmental expenses, but they are stipulated by the enterprises' obligations rather than by the desire to preserve nature.
7) Donors and NGOs spend significant resources on environmental protection. However, not all information on such financing is available for analysis. This affects the management decisions and reduces the effectiveness of public policy in environmental protection.

Recommendations

Despite quite optimistic forecasts of the growth of the economy of the Kyrgyz Republic, the national budget will always be under pressure from other sectors that require financing, particularly the social sector. And now it is clear that a sharp increase in government expenditures on the environment is not yet possible. Nevertheless, the proposed Review shows the opportunities for improving financing for the environment, biodiversity and climate change adaptation, taking these constraints into account, through increasing the efficiency of expenditures.

The Review Recommendations cover four fundamental areas:

- Creating conditions for increasing the efficiency of government expenditures in Kyrgyzstan;
- Integrating environment, biodiversity and climate change adaptation in planning and budgeting and improving coordination between agencies/ departments and sectors;
- Continuation of decentralization of public administration and transfer of functions related to the environment to local authorities;
- Greening of the fiscal framework, including the reform of budgetary subsidies that are potentially harmful to the environment and biodiversity.

Creating conditions for increasing the efficiency of government expenditures in Kyrgyzstan will provide a solid foundation for improvement of public funding for biodiversity conservation.

The transparency of budgeting will be increased, which will increase the transparency of the government bodies' work. As a result, the private sector's confidence in the government bodies will improve, which will lead to expansion of cooperation between businesses and the government in all spheres, including in the sphere of biodiversity conservation. Within this sphere of work, first of all, it is necessary to improve the practice of applying a functional budget classification, in particular, the "Environmental Protection" section (code 705), and implement result-oriented budgeting in environmental agencies- forestry and protected areas.

Consideration of the environment, biodiversity and climate change adaptation in planning and budgeting and improving coordination between agencies/ departments and sectors.

The programme budget based on the effectiveness of budget spending should be a tool to ensure better alignment between government priorities and expenditures, to improve the use of complementarity between environmental, biodiversity and climate change adaptation activities, and to balance current expenses and capital investment expenditures.

At the same time, key ministries and agencies/ departments have their own roles:

- The Ministry of Economy and the Coordinating Committee for the Adaptation, Implementation and Monitoring of Sustainable Development Goals by 2030 should provide governance for intersectoral coordination and the alignment of environmental, biodiversity and climate change adaptation issues with national development priorities. They should also monitor implementation, taking into account not only the implementation of planned measures, but also environmental sustainability based on relevant indicators. This will contribute to the fact that the development agenda will not be conditioned by short-term economic priorities but will take into account the long-term interests of the country and society;
- The Ministry of Economy, ministries and departments in the spheres of energy, agriculture, tourism and transport and SAEPF should perform a thorough functional analysis in order to clarify the roles, tasks and functions relevant to the integration of environmental sustainability in planning and budgeting, and, if necessary, revise their regulations;
- Ministries and agencies/ departments should follow the instructions for development of the programme budget and include in the budget programmes environmental measures/ activities and relevant performance indicators.

Continuation of decentralization of public administration and transfer of functions related to the environment to local authorities. The Ministry of Finance and SAEPF should cooperate with the State Agency for Local Self-Government to continue the decentralization of public administration and delegate to local authorities the development and implementation of measures to protect the environment in accordance with the laws. Delegation of authorities should be accompanied by appropriate budgets.

Since the legislation of the Kyrgyz Republic does not provide municipalities with any powers (both rights and obligations) in the sphere of environmental protection, an analysis of law enforcement practice in the field of environmental protection at the local level is required, including financial, organizational and statistical accounting. Therefore, it is necessary to clarify the powers of local authorities through making appropriate changes in the legal acts of the Kyrgyz Republic, in particular, in the Law of the Kyrgyz Republic "On Local Self-Government".

It is necessary to correct the revealed shortcomings in law enforcement practice, such as accounting policies at the local level, the collection and provision of statistical data, the application of budget classification in the formation and execution of local budgets. These works should include

not only making changes to the decisions of the Government and the council of local “keneshes”, but also carrying out awareness-raising activities, capacity-building, changing business processes.

The Ministry of Finance in association with local authorities, should evaluate the possibility of applying Code 705 at the municipal level.

LSGBs should take into account the issues of environmental protection, biodiversity and climate change adaptation in the preparation of regional plans for social and economic development. At the same time, it is important to build mechanisms for coordinating the actions of ministries, agencies/ departments and LSGBs in the sphere of environmental protection, biodiversity conservation and climate change adaptation.

“Greening” of the fiscal framework, including the reform of budgetary subsidies that are potentially harmful to the environment and biodiversity. The private sector has a significant impact on the environment, and the government has the necessary tools to reduce the negative environmental impact of the private sector and even increase its positive contribution. Such instruments include tax regimes and payments for the use of natural resources, “green investments”, public-private partnerships, certification, etc. The Ministry of Economy should collaborate with SAEPF and relevant line ministries (with emphasis on agriculture, tourism, energy and mining) and private sector organizations to develop and introduce such tools.

A significant share of the national budget is used to support measures with potentially negative consequences (especially in energy and agriculture). A reform of such expenditures will have a dual effect: reducing the burden on nature and saving budget funds. At the same time, special attention should be paid to the needs and interests of socially vulnerable groups of the population.