BIOFIN
THE BIODIVERSITY FINANCE INITIATIVE

UNDP

KAZAKHSTAN BIODIVERSITY FINANCE PLAN

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CONTENTS

ABBREVIATIONS AND ACRONYMS

AIC	Agro-Industrial Complex
BIOFIN	The Biodiversity Finance Initiative
SFE	State Forest Estate
GMO	Genetically modified organism
SNNP	State National Nature Park
SNR	State Nature Reserve
SNCA	State Nature Conservation Area
IIT	Individual Income Tax
MPI	Municipal Public Institution
CFW	Committee of Forestry and Wildlife
CIT	Corporate Income Tax
KTA	Kazakhstan Tourism Organization
MNE	Ministry of National Economy
MCI	Monthly Calculation Index
MA	Ministry of Agriculture
MF	Ministry of Finance
VAT	Value Added Tax
NGO	Non-Governmental Organization
PA	Protected area
PC	Production Cooperative
UNDP	United Nations Development Programme
PES	Payments for Ecosystem Services
RSE “PA”	Republic State Enterprise - Production Association
RK	Republic of Kazakhstan
LLC	Limited Liability Company
SDG	Sustainable Development Goals
ES	Ecosystem Services
UNESCO	United Nations Educational, Scientific and Cultural Organization

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EXECUTIVE SUMMARY

The Biodiversity Finance Initiative (BIOFIN) is a global partnership that comprehensively addresses the issue of biodiversity finance. Experts of the BIOFIN project developed an innovative methodology that allows countries to measure their current costs for biodiversity, assess financial needs in the medium term and identify the most appropriate financial and economic mechanisms to cover the biodiversity finance gap.

According to studies conducted under the BIOFIN, the financial needs for the implementation of Concept for conservation and sustainable use of the biodiversity of Kazakhstan are 285.9 billion KZT. The finance gap estimated in the framework of study for biodiversity conservation in Kazakhstan is at least 157.7 billion KZT or more than 50% of the total finance of biodiversity in the country. The dynamics of the state biodiversity financing is unstable and decreasing from year to year. A rough estimate of the amount of private investments is less than 2% of the total financing of biodiversity in Kazakhstan.[1]

[1] In accordance with the commitments undertaken in the framework of the Convention on Biological Diversity, each country should develop the National Biodiversity Strategy and Action Plan. According to the state planning regulations, this document is referred to as the Concept for the Conservation and Sustainable Use of Biodiversity in the Republic of Kazakhstan.

This plan presents eight mechanisms that were not previously used in Kazakhstan's practice of biodiversity and ecosystem conservation: (1) improved financing of Kazakhstan's hunting concessions will increase the interest of the private sector in the reasonable management of the animal world and the effective hunting system creation; (2) subsidizing game breeding to save animal species and develop hunting concessions may solve the problem of pressure on natural populations and restoration of numbers of local wild species; (3) state support for the development of organic farming by subsidizing the lost revenues during the 3 to 5-year transition period from conventional to organic farming production; (4) increase investment in ecotourism infrastructure and services through enhanced government incentives; (5) capacity building of PA staff by assisting in the development of management plans; (6) involvement of industrial companies in conservation and restoration activities by introducing the biodiversity offsets; (7) implementation of forest and pasture ecosystems conservation projects (carbon offsets) in the revised emissions trading system of Kazakhstan; (8) Attracting external investments in forest protection and sustainable forest management to reduce greenhouse gas emissions will allow to conserve the existing forests and increase the forest cover of the country, while demonstrating effective management approaches based on international standards.

The implementation of the Finance Plan will prevent environment degradation and significant negative impacts on natural landscapes and biodiversity. Finance solutions included in the Finance Plan implies the active involvement of the private sector in the funding of the biodiversity and ecosystems conservation. Integration of the Finance Plan in the National and Sectoral Strategic Plans for the creation and strengthening of partnerships between private sector organizations and environmental institutions is an important aspect for achieving effective results in biodiversity and ecosystems conservation.

1. VISION OF FINANCE PLAN

1.1. Value of biodiversity and its contribution to the national economy

The concept of biodiversity embraces life at all levels: genes, species and ecosystems. At each of these levels, biodiversity contributes to human well-being and provides economies with valuable resources and regulation services, which contribute to the creation of an environment, which is safe for existence. Ecosystem services are mostly goods and services of common use, whose economic invisibility was until recently an important cause of their undervaluation, mismanagement and associated losses. Meanwhile, the value of the ecosystem services may be quite easily evaluated, and their present value determines the value of the "natural capital". Natural assets, such as forests, lakes, wetlands and river basins, are important components of the natural capital at an ecosystem level. They are vital for the stability of the water cycle in nature and its beneficial properties for agriculture and households, the carbon cycle and its role in the mitigation of climate, improvement of soil fertility and its value to crop production, local microclimates, creating a safe living environment for people, fisheries as a source of proteins, etc. All of these are critical elements of the economy.

In the global context, biodiversity conservation in Kazakhstan plays a special role due to the vastness of Kazakhstan's territory, uniqueness of its geographical position and climatic zones. According to some estimates, the flora of Kazakhstan includes more than 13 thousand species, including vascular plants, fungi, lichens, algae, and bryophytes. The fauna of Kazakhstan is represented by a variety of species both strictly protected and widely used in commercial and household purposes. It is home for 835 species of vertebrates, including mammals – 178, birds – 489 (396 nesting birds), reptiles – 49, amphibians – 12, fish – 104 and cyclostomes – 3 species. The total area of the state forest estate (SFE) is 29 301.9 thousand hectares, or 10.7% of the area of the Republic. The area of protected areas (PA) in Kazakhstan is 23.8 million hectares (8.8 % of the country's area), with the status of a legal entity – 6.5 million hectares or 2.3% of the area of the Republic[2].

Effective protection, restoration and sustainable use of the vast territories of the Republic, with a wealth of biodiversity and ecosystems, need sufficient financing. According to the study, in the period from 2008 to 2014, the state and private funding of biodiversity in Kazakhstan amounted

[2] According to the national legislation in Kazakhstan, there are two levels of governance in our system – local and national (republican). Most PAs are established in the form of legal entities at the national level. In this case a protected area is a nature protection organization that has its own charter, budget and is registered with tax bodies. And then there are PAs of the local level, it is a geographic unit, i.e. just land protected by local authorities.

to 177 billion KZT (1.2 billion US dollars), with the downward dynamics of funding from year to year. In comparison with other countries, the Kazakhstan biodiversity expenditures are very low. For example, in the same period, the public funding in Canada amounted to 51.8 billion US dollars, in Finland – 17.7 billion US dollars, in China – 143 billion US dollars[3]. Institutions, which are responsible for the conservation and restoration of biodiversity and ecosystems of Kazakhstan, are experiencing finance deficit and underfunding of the key activities, such as fire prevention and reforestation, environmental research and education.

To mobilize finance and cover the existing biodiversity finance deficit in Kazakhstan, it is necessary to revise the current biodiversity conservation mechanisms and implement new ones. The Finance Plan proposes revising the policy of subsidization and taxation of agriculture and tourism, as well as introducing new finance and economic mechanisms, biodiversity and carbon offsets. Moreover, by improving the capacity of PA staff, it is possible to increase state funding through high quality management plans prepared for PAs. By implementing these mechanisms, it is possible to mobilize finance from the private sector and establish public-private partnerships for biodiversity conservation.

1.2. Links between the Finance Plan and strategic documents

In 2015, the United Nations member states adopted the Sustainable Development Agenda until 2030, based on the Sustainable Development Goals (SDGs). The SDGs cover three sustainable development dimensions – economic growth, social inclusion and environmental protection. Biodiversity is the subject of two SDGs: Goal 14 – Life below water and Goal 15 – Life on land. It also contributes to a wide range of other goals.

Currently, in Kazakhstan, the main strategic document is the Strategy "Kazakhstan-2050" (Strategy-2050), aimed at strengthening and developing statehood, economic policy, social development, etc. Important issues in the Strategy-2050 include sustainable development and environmental safety. The Strategy-2050 mentions ten global threats of the 21st century, which include the exhaustion of natural resources, global energy security, acute water deficit, and threats to global food security, all of which need urgent addressing. The Strategy-2050 is a new political course of the well-established state, which sets clear guidelines for building a sustainable and efficient economic model based on the country's transition to a "green" development path.

[3] https://chm.cbd.int/search/reporting-map?filter=resourceMobilisation

In 2013, Kazakhstan adopted the Concept of Transition to a "Green Economy", with the objective of economic development with a high level of living standards of the population and rational use of natural resources in the interests of the present and future generations and in accordance with the country's international environmental obligations. "Green economy" is an important tool ensuring sustainable development of the country.

The main goal of all the above strategic documents is sustainable development and environmental protection. Biodiversity is an essential factor of the country's sustainable development, which requires sufficient financial resources for conservation and restoration. The goal of the Plan is to mobilize finance from all the sources of funding, develop public-private partnerships, and revitalize businesses in the implementation of environmental protection activities

1.3. Business case of the Finance Plan

The dependence of people on non-renewable natural resources, especially fuel, is well known. Dependence on biodiversity is not so obvious. Some people think that the main value of biodiversity is in information, research and education. However, biodiversity is important for obtaining high-quality agricultural products (vegetable and animal food, natural fibers for fabrics, etc.), forest and fish products, medicines from medicinal herbs (e.g., aspirin – a salicylic acid derivative – was first obtained from willow bark, but now it is produced synthetically; the anti-cancer drug Taxol is obtained from the Pacific yew; 80% of the 150 most commonly used drugs in the United States are produced from natural materials). Tourism, and especially ecotourism, is directly linked to biodiversity and is very profitable.

In recent decades, research and calculations of the economic benefits and value of biodiversity have been conducted around the world. The global economic and environmental benefits of biodiversity in the world are estimated at 3 trillion USD per year, which is equivalent to almost 11% of the annual global economic output. Similar studies have been conducted in Kazakhstan, which estimated the value of ecosystem services in the protected areas, whose main activity is biodiversity conservation. According to the evaluation results, the economic value of ecosystem services of the Karkaraly State National Nature Park is 86.4 thousand US dollars. The economic value of the planned Ile-Balkhash Reserve is 21.2 million US dollars. As compared to these figures, the combined annual funding of all 27 protected areas in Kazakhstan is 19 million US dollars, well below what is likely needed. These figures indicate

that biodiversity is undervalued, and the values of ecosystem services are not well understood.[4]

According to the studies conducted under Millennium Ecosystem Assessment, it was established that sustainable management of biodiversity and ecosystems is economically more profitable than funding their restoration. To save the state finance in the future, it is necessary to revise the country's biodiversity policy and finance now. The Finance Plan offers a number of finance solutions for the revision of subsidy and taxation policies in the field of biodiversity without imposing a large burden on the state budget. At the same time, the Plan presents finance solutions to attract the private sector. The targets of biodiversity conservation cannot be achieved using only state funding. It is also necessary to mobilize private finance through regulatory frameworks, reasonable incentives and awareness about sustainable business frameworks. The role of the state in these areas is in political and legislative support of the new financial mechanisms for biodiversity conservation.

The private sector is a large stakeholder in biodiversity. Especially in industry sectors, which have a significant impact on biodiversity, a company's productivity and competitiveness often depend on its reputation in relation to biodiversity. The reputation of a company may be determined by its compliance with legal requirements; implementation of industry standards and reporting mechanisms; responding to the needs of local communities, civil society and stakeholders; and implementation of standards defined by the consumers, such as certification programs.

[4] According to the data of the Committee of Forestry and Fauna of the Ministry of Agriculture of the Republic of Kazakhstan

2. GOALS AND TARGETS OF THE FINANCE PLAN

The main objective of the Finance Plan is to improve the state of biodiversity conservation funding in Kazakhstan through the transformation of existing economic and finance incentives and the introduction of innovative methods of ecosystem and biodiversity financing. For this purpose, the BIOFIN project reviewed all the biodiversity financing mechanisms which exist in the country. These include direct financing from the state budget, paid services of environment protection agencies, international funding through the implementation of projects and investments of the private sector. It also reconsidered the policy of subsidizing and the provision of tax incentives, which have an indirect impact on biodiversity. Thus, the financial amounts and their impact on the country's biodiversity were analyzed. According to studies, around 90% of all the finance for biodiversity conservation is allocated from the state budget. The private sector's involvement in biodiversity conservation is low. The share of the country's environmentally friendly subsidies is small, and they do not bring about the desired results, particularly in forestry and fishery. According to the tax legislation of Kazakhstan, the rate of fees for bio-resource use are understated due to undervaluation of the economic value of resources. Moreover, a significant gap in the tax legislation is the absence of revenues targeting from the use of the country's bio-resources.

The Finance Plan will contribute to the improvement of the financing of the protection and restoration of ecosystems and biodiversity in Kazakhstan, by improving the policy of subsidizing and taxation, and by introducing new mechanisms promoting the involvement of the private sector in biodiversity issues.

The Plan proposes to put into practice mechanisms such as tax incentives, subsidies, and offsets in order to mobilize financial resources which are presented in the form of "ready-to-use" finance solutions. The process of elaboration of these solutions was based on the methodology developed by the global team of the BIOFIN project. At the first stage, stakeholders including the public and private sectors, and non-governmental organizations (NGOs) participated in a technical workshop and conducted the screening and prioritization of the global finance and economic mechanisms of biodiversity conservation. Further, experts were involved in selected areas, who developed finance solutions described below.

2.1. Improved financing of Kazakhstan's hunting concessions

Kazakhstan's hunting concessions are valuable public private partnerships which seek to serve the needs of the hunting community and landscape/ wildlife management, while saving government money that would otherwise be needed to manage the 700 hunting concessions (HC) which represent 53% of the country's land area. According to studies, the system of hunting concessions is not profitable for the concession holders (and in some cases expenses may exceed income by six times) resulting in inadequate expenditures for management and risks to the system. The aim of the finance solution is to redirect revenues generated from the hunting sector to help finance hunting concessions and assure adequate management. Funds will be generated from a percentage of fees collected for the use of wildlife (quota permit) and/or a new tax on hunting equipment and placed into a government or semi-autonomous fund to be used to finance hunting concession investment and management. To implement this solution, it is necessary to create a partnership with the republic association "Kansonar" (RA "Kansonar") and other hunting associations, produce a financial and economic analysis of the hunting concessions, determine operational issues and work with the Ministry of Finance and the Committee on Forestry and Wildlife to design, draft and implement new regulations.

2.2. Subsidizing game breeding to save animal species and develop hunting concessions

Game breeding in the context of Kazakhstan may help to ease the challenge of pressure on natural populations and restoration of numbers of local wild species. Under legislation, captive wild animals are privately owned, however after released into the wild they become public property under the control of the state. The aim of the finance solution is to subsidize and therefore support the growth of a biodiversity friendly game breeding industry, in order to preserve wildlife resources and develop hunting. Game that is bred will be released into the wild, while some of the animals will be used for hunting, sale and placing on the market (horns, meat, skin, etc.). Application of this solution will allow Kazakhstan to address several challenges: reduce pressure on animal populations, restore numbers of wild animals, reduce poaching levels and enhance economic resilience of hunting concessions. Safeguards would need to be put in place to ensure that no breeding practices are followed which may become harmful for the species or the natural environment.

2.3. Promotion of organic farming

Conventional farming in Kazakhstan, for crops and livestock, has resulted in significant degradation of soils and vegetative cover in large areas – it is estimated that fully 30% of the agricultural land in the country is either degraded or under current stress. To address this challenge identified in the "Transition to the Green Economy" Concept, Kazakhstan has been promoting sustainable agriculture solutions including organic agriculture, which is much better for soils, vegetation, and biodiversity. The country established a law on organic farming in 2016 and regulations are currently being established.

The proposed finance solution is the introduction of a State subsidy or lending facility to private farmers to cover lost revenues they will experience during the 3 to 5-year transition period from conventional to organic farming production. The steps required include the definition of what the target subsidy would do, a detailed cost/benefit analysis of the defined subsidy (and alternative formulations such as loan guarantees or blended finance), the drafting of legislation, support for the new legislation with key decision makers, pilot implementation in select areas, and scaling up of the solution through awareness raising.

2.4. Tax incentives for ecotourism development

Ecotourism development in Kazakhstan would support economic development, expand opportunities for local livelihoods for men and women, and help finance Protected Areas. The government sees tourism development as a great opportunity for sustainable development, as the country has huge natural areas and a large number of national parks and reserves, as well as outstanding cultural heritage. Studies have shown that there is strong interest from European and Asian tourists for ecological tours in the country. Current ecotourism infrastructure is inadequate, and this limits tourism development. The aim of the finance solution is to increase investment in ecotourism infrastructure and services through enhanced government incentives. There is currently a subsidized loan program for sustainable enterprises around protected areas that will be complemented by a targeted tax break for certified ecotourism operations. The steps required include: a cost/benefit analysis of proposed tax break, the preparation of legislative amendments, development and verification of an ecotourism certification system and the capacity needed to implement it, submission of legislation to Parliament, piloting and awareness raising, and scaling in target areas.

2.5. Enhanced Government Financing of Protected Areas

Kazakhstan has 27 protected areas with legal status covering 7 million ha (2,6% of the land area) that are key locations for maintaining the country's biodiversity and ecosystem services. They are represented by diverse types of ecosystems and are essential habitats for key native and endemic species. The PAs have been largely underfunded and most have very limited management capacity. To address this challenge, the government established a new Protected Areas Law that stipulated that government would finance the PAs according to their management plans. The aim of this solution will be to assure that the 27 PAs have high quality budgeted management plans capable of securing adequate government funding for their successful management. The solution supports and builds on an existing initiative for developing quality management plans for 12 pilot PAs under the project "Conservation and sustainable management of key globally important ecosystems for multiple benefits" (forestry project) that begins in 2018 and runs for the next 5 years. Specific steps include: implementation of the forestry project, building lessons learned into specific best practice guidance for management plans and training the remaining 15 PAs on management plan preparation, improving management and communication between CFW and the PAs to assure high quality management plans, and if necessary lobbying government to fund the management plans.

2.6. Introduction of biodiversity offsets in Kazakhstan based on the example of the Ustyurt pilot area

In the Mangistau region of the Karakiyansky region, a large investment is being launched to develop the Kansu gas field. The implementation of this project is of great importance due to its social and economic significance on the one hand and on the other hand – the location of the project on the territory adjacent to the globally important World Heritage protected area. The purpose of the finance solution is to introduce an effective offset mechanism to the country by implementing a pilot offset (expanding the territory of the reserve) to compensate for the loss of biodiversity caused by the gas field development. To implement this decision, it is necessary to collaborate with the Ustyurt Reserve and local executive bodies, the Ministry of Energy, the Ministry of Investment and Development, and further negotiations and partnership with the developer of the Kansu gas field: KazTransGas.

2.7. Promote carbon offset financing for biodiversity projects in the revised Emission Trading System (ETS)

Carbon offsets support low-carbon green development and provide a flexible mechanism for reducing carbon in the atmosphere. The planned re-establishment of the Kazakhstan Emissions Trading System (ETS) creates an opportunity to include biodiversity friendly carbon offsets as an official option for the ETS. The solution aims to develop and promote an accepted carbon offset standard in the Agriculture, Forestry and Other Land Use (AFOLU) sector for Kazakhstan (and regionally) that includes an effective monitoring and evaluation and verification system. Establishing such a system will offer lower cost options to offset emissions and increase financing for biodiversity friendly AFOLU projects.

2.8. Attracting external investments in forest protection and sustainable forest management to reduce greenhouse gas emissions

The forest coverage is approximately 4.6% of the total area of the country or 12,5 million ha. According to experts, total forest carbon stocks in Kazakhstan constituted 718,3 million t CO_2-eq for 2013. If the current area of forest land is sustained, the country's forest ecosystems can ensure additional carbon sequestration for each five-year period, at the level of 50,5 million tons of CO_2 equivalent. If forest cover is expanded from 4,6% to 5,0% by 2020, carbon sequestration potential of forests would additionally increase up to 2,9 million t CO_2-eq annually after forests reach the age of 5-10 years.

Kazakhstan's carbon-emissions trading market is small compared to other countries, therefore, external investments can be a kick-off to forest sector development. This finance solution is in compliance with country's green growth policy.

There is strong interest from European investors in financing sustainable forest management and reforestation projects to provide further carbon offsets resulting from those forests that will be attributed to investors. The interest of these investors is to offset the emissions of greenhouse gases generated in the course of their production activities, through projects in Kazakhstan. Such proposals are attractive for the Kazakhstani forest sector due to the limited budget for funding and the small carbon trading market within the country.

3. FINANCE SOLUTIONS

A finance solution is an existing and/or new financial and economic mechanism which is fully ready for implementation. The goal of each finance solution is to conserve and restore the country's biodiversity and ecosystems by mobilizing financial resources. This section provides further detail on each of the proposed finance solutions in the Finance plan.

3.1. Improved financing of Kazakhstan's hunting concessions

Kazakhstan's hunting concessions are valuable public private partnerships that seek to serve the needs of the hunting community and landscape/wildlife management while saving government money that would otherwise be needed to manage the 700 hunting concessions (HC) which represent 53% of the country's land area. According to studies, the system of hunting concessions is not profitable for the concession holders (and in some cases expenses may exceed income by six times) resulting in inadequate expenditures for management and risks to the system. The aim of the finance solution is to redirect revenues generated from the hunting sector to help finance hunting concessions and assure adequate management. Funds will be generated from a percentage of fees collected for the use of wildlife (quota permit) and/or a new tax on hunting equipment and placed into a government or semi-autonomous fund to be used to finance hunting concession investment and management. To implement this solution, to the following steps will need to be undertaken:

- Create a partnership with the republic association "Kansonar" (RA "Kansonar") and other hunting associations to support the development of this finance solution,
- Produce a financial and economic analysis of the hunting concessions and the impact that the proposed finance solution would have on the hunting concessions
- Determine operational issues for implementing the finance solution
- Design, draft and implement new regulations together with the Ministry of Finance and the Committee on Forestry and Wildlife to.

In Kazakhstan, hunting management is a centuries-old tradition and is still a popular social and economic activity, particularly in rural areas. Currently, there are 130,000 registered hunters in Kazakhstan (about 0.6% of the total population). Since 2012, the CFW MA RK has

been implementing a public-private partnership with RA "Kansonar", representing interests of hunters in Kazakhstan through an association including the Republican Union of Hunters and Fishers of Kazakhstan, the Regional Union of Hunters and Hunt Users (HC owners). On the basis of a tender, CFW MA RK selected the RA "Kansonar" and delegated certain powers to the association for the management of hunting concessions. These powers and responsibilities include: conducting training, issuing licenses, reviewing monitoring data and requests for quotas from the HC, based on quota limits defined at the regional level by the CFW MA RK and approved by the MA RK allocating quotas for each HC, awareness raising and general support of HCs.

The system of hunting concessions of Kazakhstan is considered innovative in the spirit of decentralization for wildlife management and reduction of government spending. Public-private partnerships are a method for diversifying risks and attracting investments from the private sector. In this case, the system of hunting concessions led to a significant reduction in government costs and provided new ways to generate income from tax payments for hunting quotas. Quotas (limits) for hunting activities are recommended by the CFW MA RK and approved by the Government. Quotas are set for each oblast, based on the review of reports on monitoring of wildlife and requests for annual quotas provided by individual HC to the regional territorial inspection committee. The RA "Kansonar" evaluates requests and data and distributes quotas for each HC and HC holders, who then pay the state for permits, the cost of which varies, depending on the species. This type of income in the Tax Code is called "payment for the use of wildlife". Owners of HCs can then sell permits to hunters, but only for the same price that they paid to the State. Since they cannot charge extra for the hunting permits, the main source of income for HC owners is the price for services offered to hunters during the time they are hunting in the HC.

To date, one of the main problems for hunting concessions is limited financing due to lack of profitability. This is due to the fact that the revenues from hunters are not sufficient to cover land and wildlife management expenses, including measures to clean the hunting area of domestic waste, restore the livestock of wild animals, conduct sanitary measures to protect animals from dangerous diseases, and protect animals from poachers and predators. HCs managed by regional unions of hunters and fishermen or private hunting clubs mobilize additional funding through membership dues, while individual owners incur losses. Due to these financial struggles, HCs are likely to reduce spending on critical activities such as monitoring and protection, or simply leave the area unoccupied and open to illegal hunting. The failure of individual HCs or the HC system results in increased poaching, which occurs in many areas of Kazakhstan, and is currently threating the survival of the most valuable

species and populations of wildlife, such as saiga, koulan, goitered gazelle and others. If the financial crisis of HC becomes systemic, the State will have to intervene directly at high administrative and operational costs. Reforming the financial and administrative provisions for hunting facilities is an important measure for the sustainable development of biodiversity.

According to the biodiversity expenditure review, the revenues generated from taxing the use of natural resources for 2008-2014 in Kazakhstan were three time higher than the expenditures incurred by the State for the protection of biodiversity. This is since all tax revenues for the use of renewable natural resources, including payments for the use of wildlife, are received in the Republic account. It is proposed to reform the current system to create incentives for the sustainable use of natural resources through a fair sharing of the revenues from the use of natural resources. When fees are collected for the use of wildlife, the funds could be allocated in two accounts – to allow a portion to be directly reallocated to the HC themselves. For example, the State budget could receive the 65% while the remaining – 35% could be transferred to a special account[5] to be returned to the hunting concessions, through a transparent mechanism.

An alternative or complementary measure is the introduction of a tax on the purchase of hunting weapons and related products. For example, in 1937 the United States introduced an 11% tax on the purchase of hunting weapons, cartridges, bows and arrows, and then distributed these funds to conservation activities – effectively financing the new National Parks system. In Kazakhstan, it should be possible to introduce this type of tax with the allocation of 50% of tax revenue to conservation of wildlife – the remainder being retained by Treasury. Hunters, being conscientious nature users, understand the need to protect the fauna of Kazakhstan, therefore, the introduced tax, if adequately and transparently allocated towards wildlife conservation and management, will likely be accepted by this special interest group. If well managed, wildlife numbers will rebound and this will make the recreational hunting process more interesting, profitable, and sustainable. Moreover, for ensuring greater sustainability, it is possible to expand the scope of services provided by HC in certain areas, such as photo safari, bird watching and others.[6]

In this solution, two alternative or complementary scenarios have been proposed for improving the financing of hunting concessions. In the first scenario, a redistribution of "payments for the use of wildlife" is proposed. According to the State Revenue Committee of the Ministry of Finance of the Republic of Kazakhstan for 2005-2014 considering the average rate

[5] This Fund should act to operators on the target allocation of funds for environmental activities. They can be any existing fund created with the support of the state or international organizations.

[6] It should be noted that photo tourism is incompatible with hunting as the animals will flee but different approaches could be used in different HCs.

of growth, the amount of payments for the use of wildlife in 2018 will be KZT 1,014,758 thousand and by 2021 will reach KZT 1,291,269 thousand. The proposed 35% transfer of revenues to the Fund (to be allocated to HC) will be KZT 355,165 thousand in 2018 and will increase to KZT 451,944 thousand by 2021.

Table 1. Cost of redistribution of fees for the payment for the use of wildlife, in thousand KZT

Name	2018	2019	2020	2021	Total
Payment for the use of wildlife	1 014 758	1 099 632	1 191 604	1 291 269	4 597 263
Financing of hunting farms, 35% of the amount of payment	355 165	384 871	417 061	451 944	1 609 041
Revenues to the republic budget (65%)	659 593	714 761	774 543	839 325	2 988 222

Under the second scenario, with the introduction of a tax on the purchase of hunting weapons and related products, with an equal distribution of revenues to the state budget (50%) and conservation and restoration of wildlife (50%) in 2018, KZT 383,670 thousand and by 2021 will reach KZT 482,585 thousand should be available.

Table 2. Calculations for the introduction and distribution of a tax on hunting weapons, in thousand KZT

Name	2018	2019	2020	2021	Total
The annual market for hunting weapons	7 100 000	7 703 500	8 358 297	9 068 752	32 230 549
Tax, 10% of the market	710 000	770 350	835 830	906 875	3 223 055
Revenues to the state budget (50%)	355 000	385 175	417 915	453 437	1 611 527
Financing for conservation of wildlife (50%)	355 000	385 175	417 915	453 437	1 611 527

The responsible agency for finance solution will be the authorized body for HC management CFW MA RK with the support of the United Nations Development Program (UNDP) in Kazakhstan. The HC is highly interested in the implementation of this finance solution and will be actively involved in the process. The main stakeholders are RA “Kansonar”, the Republican Union of Hunters and Fishermen of Kazakhstan and other hunting associations.

To implement this finance solution it is necessary to implement the following steps:

1. Cooperation with hunting associations for joint promotion of proposals for improving financing of hunting concessions in Kazakhstan;
2. Conducting financial and economic analysis of hunting enterprises;
3. Elaboration and promotion of the financial decision in the CFW MA RK and MF RK;
4. Determine the appropriate Fund to manage the finances;
5. Establish a granting mechanism;
6. Test, refine and implement the granting mechanism with effective impact measurements.

3.2. Subsidising game breeding to save animal species and develop hunting concessions

The basic principle of sustainable hunting management seeks to balance the wildlife needs and human needs using the approaches and knowledge that are aimed at saving animals and their habitats. This involves wildlife management in the long term without affecting the environment. Therefore, activities of hunting concessions are aimed not only at organising hunting but also at restoring numbers of animals and protecting wildlife habitats.

More than half of Kazakhstan's territory that is suitable for hunting is earmarked for hunting concessions. However, very few hunting concessions are engaged in increasing numbers of hunted animals within their lands. It is a costly investment, originally requiring big capital investments and operating costs associated with animal care and feeding. The main and in most cases the only profit of Kazakh hunting concessions is a small margin in the form of a hunting permit that does not cover their real costs. Therefore, owners of hunting concessions invest their own funds in protection and reproduction of numbers of wildlife resources while having only limited income from the sale of permits and having no additional funding from the national budget.

Under legislation, captive wild animals are privately owned, however after released into the wild they become public property under the control of the state. Therefore, this finance solution is aimed at providing government subsidies for this kind of activity.

Game breeding in the context of Kazakhstan may solve the problem of pressure on natural populations and restoration of numbers of local wild species. The end result of the finance solution is to preserve wildlife resources and develop the market for sustainable hunting by releasing some animals in the wild while using some animals for hunting, sale and placing on the market (horns, meat, skin, etc.). Safeguards would need to be put in place to ensure that no breeding practices are followed which may become harmful to the species or the natural environment.

Various studies have shown interest from many large hunting concessions in enhancing their economic resilience of hunting concessions through the reproduction of tradeable species. Some hunting concessions are already engaged in breeding animals using their own resources, such as Bukhara deers, Houbara bustards, pheasants and marals. However, this has been limited to hunting concessions. Small hunting concessions are unable to tack on the costs to costs associated with animal housing, even though they may have the scientific knowledge and desire.

Determining the compensation formula for subsidising game breeding in the national budget could build upon the pedigree agricultural animal breeding subsisidising scheme. This scheme has been successfully practiced in Kazakhstan and supported by government. Maral breeding is already successfully subsidised under this scheme.

Application of this solution will allow several challenges to be addressed, by resulting in:

- A reduction of pressure on animal populations;
- Restoration of the numbers of wild animals ;
- Reduce of poaching levels;
- Enhancement of the economic resilience of hunting concessions, especially small-scale hunting concessions.

The mechanism of subsidising game breeding is supported by government. The analysis of government costs and benefits from this solution is being conducted under the BIOFIN project.

3.3. Promotion of organic farming

Conventional farming in Kazakhstan, for crops and livestock, has resulted in significant degradation of soils and vegetative cover in large areas – it is estimated that 30% of the agricultural land in the country is either degraded or under current stress. To address this challenge identified in the “Transition to the Green Economy” Concept, Kazakhstan has

been promoting sustainable agriculture solutions, including organic agriculture, which results in improved soils, vegetation and water ecosystems. The country established a law on organic farming in 2016 and regulations are currently being established. The proposed finance solution is the introduction of a State subsidy to private farmers to cover lost revenues they will experience during the 3 to 5-year transition period from conventional to organic farming production. The steps required include:

- The definition of what the target subsidy would do;
- A detailed cost/benefit analysis of the defined subsidy (and alternative formulations);
- Analysis of climate conditions, irrigation system, production retrospective, technology;
- Perspective planning for development of organic production on cross-section of country's regions;
- Improvement of existing and development of new rules of subsidy provision;
- Establishment of a certification system;
- Prioritization of projects by production of organic product in the agriculture subsidizing system;
- Promotion of organic production by the way of brand designing, exhibitions and presentations;
- Scaling up of the solution through awareness raising;
- Preparation of human resources to ensure production of organic product;
- Transfer of knowledge and technologies.

Agriculture has been (and remains) one of the main income-generating activities of the country and is an important livelihood source for many people at the low end of the income spectrum. With the functioning and development of agriculture, the daily activities, welfare and needs of the population of the country are linked. Kazakhstan is the third largest agricultural producer in the Commonwealth of Independent States (CIS). As a result, environmental degradation, due in large part to poor agricultural practices, the natural balance of the country has been disrupted. The constant desire to increase productivity, reduce the cost of production and expand the scale of production has led to these impacts on the environment. Maintaining well-functioning natural landscapes and biodiversity has not been a priority, especially in those regions where agriculture is being conducted using intensive methods.

Favorable conditions for the development of organic agricultural production and the sustainable use of natural resources and their conservation will also result in the improvement of the quality of agricultural products, which is a priority for the Ministry of Agriculture of the Republic of Kazakhstan. Part of these actions are being developed by the Ministry based on the establishment of appropriate rules and regulations structured around the recently adopted law "On the production of organic products". The law requires organic producers to not use pesticides, synthetic mineral fertilizers, growth regulators, or artificial food additives, and prohibits the use of GMOs in the cultivation of certified organic products.

Organic agriculture seeks to optimize the biopotential of soil, plants and animals, while minimizing environmental, social and economic risks. Because organic agriculture often produces a price premium, and uses less dangerous and expensive chemicals, it also provides an opportunity for rural residents to raise their incomes and improve their quality of life. The opportunity for production of organic products for Kazakhstani agrarians is promising, but not yet adequately developed. Despite a rapid growth rate and strong interest in organic farming and production globally, Kazakhstani producers are just developing this branch of the agro-industrial complex (AIC). According to the Kazakhstan Federation of Organic Agriculture Movements (KAZFOAM), currently there are about 25 agricultural producers in the country that have passed international organic agricultural certification. They sell their products mainly to European countries and the United States. Certification of such agricultural producers is carried out according to the standards of the European Union, that is, certification companies from Europe are invited to inspect the farms at least once a year, take samples of soil, conduct laboratory tests, and study the practice of protecting the soil cover.

The total area in the county certified for organic agriculture is 292 thousand hectares, which produced 300 thousand tons of crops, of which one fifth was exported to Great Britain, Italy, Germany, France, Belgium, The Netherlands and other countries. The most important products are hard wheat, rape, soybean, sunflower seeds, rice, licorice, and grapes. The farms primarily engaged in organic production are in Almaty (grapes, rice, licorice root), Kostanay and North Kazakhstan regions (wheat, rye, oilseeds and other cereals).

Responsibility for risks in organic production remains with farmers, as there is no system of standardization, certification and accreditation of organic production in the country.

Currently, the process of standardizing the production of organic products and the formation of nationally legally approved requirements for the production and sale of organic products is in its infancy. Socio-economic factors point to positive trends for the speedy development of the market and for large-scale measures to promote 'eco products' both nationally and through international sales.

The transition from traditional production to organic lasts from 1 year to 3 years, depending on the history of application of chemical/synthetic substances in the field. During this period, the manufacturer cannot sell its products with an organic premium, as there is no special market for transitional products and production volumes may be lower per area without chemical fertilizer and prior to the soil recovery. Therefore, in order to support the development of organic production in Kazakhstan, it is proposed to introduce the following state subsidies to support this transition period:

1) Subsidizing the costs associated with certification (up to 50% of costs);
2) Subsidizing the provision of consulting services (up to 50% of costs), including assistance from foreign experts and consultants in the field of organic production.

According to the comparative analysis of costs and incomes of growing traditional and organic agricultural products conducted by BIOFIN, organic profitability is higher by 11 - 64%, depending on the crop. The analysis was carried out on wheat (Triticum), flax (Linum), bigseed false flax (Camelina sativa), beans (Phaseolus) and mustard crops (Sinápis). When comparing for traditionally grown products, production cost norms were used, where the technology of crop cultivation became a fundamental factor in their formation. According to polls, agricultural enterprises, the price premium on organic products, or the so-called "organic premium", ranges from 20% to 60%, compared to the market value of "conventional" products. For the crops in question, the following organic premiums are taken: wheat – 40%, flax – 40%, beans – 30%, bigseed false flax – 30%, mustard – 20% based on the study cited. The cost of growing one centner[7] of organic wheat is KZT1,828, whereas for cultivation by traditional method – KZT1,893. A reduction of production costs is achieved by eliminating the use of synthetic chemical fertilizers, instead of which organic producers use biological fertilizers and preparations. It is important to note that organic producers should agree on the choice of preparations and fertilizers with the certification company, since the certification company will validate the organic nature of the products as part of the certification process. Elimination of mineral fertilizers, herbicides and pesticides is accompanied by a decrease in yield. Additional costs to organic farmers

[7] A unit of weight in parts of the former Soviet Union equal to 100 kilograms (220.46 pounds)

are associated with the need for additional labor, organic certification and quality control of products.

Subsidizing the costs of obtaining certification and advisory services will support the efforts of agricultural producers and the state in achieving the stated sustainable agriculture goals within the framework of the "Transition to the Green Economy" Concept. Also, state support will help to offset additional costs during the farmers' transition to organic production, which will hopefully expand this segment of agriculture in the near future.

To implement the finance solution to support the development of organic production, it is necessary to conduct a more in-depth analysis of the costs and benefits of the proposed measures for subsidizing organic production, including a market study to understand demand and market opportunities. There is also a need to develop draft legislative reforms for further advancement in the Parliament of the Republic of Kazakhstan.

In the future government may consider development of organic production through the system of preferential loan. To the current day by the initiation of UNDP the JSC "Fund of financial support of agriculture" is existing and "Eco Damu" program is implemented. Program is oriented to preferential loan of agricultural population activities, which support the conservation of biodiversity. At the same time, the rate of return is 4% when according to the government programs the minimal rate is 14.5%. Rural population which is located within 50 km from PA can participate in the program. Since the GEF-UNDP provided 500 000 USD, the Fond bears the minimal risks.

In addition, in order to replicate the program of organic farming development the Government has to revise the loan rates for agricultural projects to the level up to 4% level, it has high risk for the government financial institutes, and funder completed the funding. Sufficient factor also is the necessity of collateral to get the loan. This factor also plays a barrier role in the terms of agriculture regions of country.

In this regard, the subsidy will be the most effective incentive at a formation stage of organic production.

3.4. Tax incentives for ecotourism development

Ecotourism development in Kazakhstan would support economic development, expand opportunities for local livelihoods for men and women, and help finance Protected Areas. The government sees tourism development as a great opportunity for sustainable development as the

country has vast natural areas with a large number of national parks and reserves and outstanding cultural heritage. Studies have shown there is good interest from European and Asian tourists for ecological tours in the country. Current ecotourism infrastructure is inadequate and this limits tourism development. The aim of the finance solution is to increase investment in ecotourism infrastructure and services through enhanced government incentives. There is currently a subsidized loan program for sustainable enterprises around protected areas that will be further supported and perhaps complemented by a targeted tax break for certified ecotourism operations. The steps required include:

- A Cost/benefit analysis (including the capacity needs) on the proposed tax break;
- Development and verification of an ecotourism certification system and the capacity needed to implement it;
- Preparation of the programmatic or legislative amendments required to support this tax break;
- Submission of the legislation to Parliament;
- Awareness raising and piloting of the system;
- Scaling the tax incentives in target areas.

Ecological tourism is currently a priority sector in Kazakhstan and contributes to the sustainable development of the economy. The analysis of the tourist market conducted by the experts of the Kazakhstan Tourist Association (KTA) in 2005 showed that Kazakhstan possesses a huge potential for ecotourism due to untouched nature with a large number of national parks and reserves, as well as an outstanding cultural heritage. Research and surveys (about 10 000 questionnaires) conducted in Germany, Great Britain, France, South Korea and Japan showed that among foreigners there is a high interest in ecological tours to Kazakhstan. The study also showed that 14.2 million tourists from Europe and Asia are interested in Kazakhstan as a tourist destination.

State support is very likely needed for effective development of ecotourism. This is because ecotourism is new for Kazakhstan, and capacity and awareness must be developed to reach the desired scale. For example, in Russia, for the development of ecotourism, a law is being drafted for the preferential treatment (zeroing) of the income tax rate for owners of hotels in the Eastern region.

In Kazakhstan, for the promotion of ecotourism, it is proposed to zero the Corporate Income Tax (CIT) rate for a period of no more than 10 years for individual entrepreneurs and legal entities engaged in the accommodation of tourists near PAs and actively promoting ecotourism.

Tax incentives will be provided only to those entrepreneurs able to confirm the ecological orientation of hotels with an ecotourism certificate. There are several organizations working globally involved in the development and implementation of certification and environmental management systems in the field of tourism, such as Certification for Sustainable Tourism, Green Key, HAC Green Leaf, Green Hotel.

If successful, the loan program and the tax deduction will enable an increase in the number of successful local entrepreneurs in the tourism industry and will positively affect the employment of the population in specific regions of the RK, remove a number of social problems such as increased crime, migration from remote regions to large cities, and a potentially reverse the current decline in living standards.

The lost tax revenue is minimal in value and is expected to be recovered in the medium and long term with corporate taxation and immediately through indirect taxation such as personal income tax (PIT), social tax, value added tax (VAT), transport, property and land taxes coming from the increased economic activity of tourism.

An assessment of the financial justification for the introduction of the above-mentioned tax benefit was made on the example of a business plan for organizing the activity of a hotel in Bayanaulsky District. The hotel is designed to accommodate 150 to 200 tourists at a time, with 20 units of personnel, located on one hectare of land and occupying 2,400 square meters area of buildings. In addition, this business plan was approved by the Damu Fund. In this connection, the income and expenses of the project can be considered as corresponding to the real economic situation in the Republic of Kazakhstan.

It can be said that the proposed mechanism – the privilege of 100% CIT decrease offered for legal entities and individual entrepreneurs engaged in certified ecotourism, will increase the number of jobs in regions, which in turn will give an inflow to the budget in the form of PIT and social taxes. What is more, zero CIT rate will become a strong incentive for new entrepreneurs to enter the ecotourism market. As a result, cash inflows from property, land and transportation taxes will increase. In addition, improved tourism infrastructure will increase the flow of foreign and local tourists to Kazakhstan.

According to a preliminary analysis (table below), it was determined that the CIT rate reduction would increase revenues to the state budget for other types of taxes by increasing jobs.

Table 3. Tax revenues when organizing the activity of hotel, thousand KZT

Type of tax	Descriptions	2018	2019	2020	2021
Personal income tax	PIR is a tax collected from individuals and stands at 10%	1 131	1 277	1 435	1 607
Social tax for employees	Social tax applies to all employees, at a flat rate of 11%	1 031	1 118	1 213	1 316
Transport tax (2 cars with engine capacity of 2500 cubic meters)	Transport tax is a tax collected from individuals and legal entities who owned the any type of vehicle. Rate of the tax depending from capacity of engine	34	34	34	34
Property tax	Individuals owning residential properties, garages, and other buildings and constructions in Kazakhstan are subject to property tax. The tax is assessed on the value of real estate as appraised by the authorized governmental body as of 1 January each year.	419	419	419	419
Land tax	To land taxpayers refer individuals and legal entities with taxable objects with the permanent or constantly land use.	per 1 hectare from KZT 100 to 60001			
The payment for the use of PAs	Payers are individuals and legal entities using protected areas. The fee rate for the use of PA is set in amount of coefficient of 0.1 of monthly calculation index.	2 430	2 673	2 940	3 234
VAT	The standard VAT rate is 12% and applies to revenues derived from the sale of goods or services within Kazakhstan and to the import of goods into Kazakhstan.	7 174	8 070	9 078	10 210
Total tax revenues to the budget from one tourist base		12 218	13 591	15 119	16 820
The amount of CIT per hotel		596	1 913	3 407	5 100
Excess of additional taxes over the amount of CIT lost		11 622	11 678	11 713	11 720

Since CIT is one of the main taxes that increase the financial burden of organizations, provision of a 100% reduction of this tax will enable new entrepreneurs to enter the ecotourism market and save financial resources for the development of their business. The possibility of obtaining a legal right for a zero CIT rate gives a clear message to small and medium-sized businesses regarding state support of the above-mentioned industry.

Another important aspect is employment opportunities for the female population concentrated in certain regions. The sphere of tourism and public catering is the basic employment sphere for women in Kazakh society. Therefore, the development of tourism sector makes it possible to solve social problems of unemployment among the female part of our community.

As part of this finance solution, it is important to place emphasis on ecotourism development and provision of tax incentives to those small and medium scale companies that develop ecotourism. This would avoid displacement of small ecotourism companies from the market. Development of ecological tourism has a high potential coincided with tourism becoming one of the priority areas of government policy.

An ambitious tourism development programme until 2025 is now being developed in Kazakhstan. However, there is a gap for ecotourism development, the term “ecological tourism” is not mentioned in the Kazakh legislation and not classified as tourism. Therefore, consistent actions are necessary for successful implementation of this finance solution:

1) Inclusion of the term “ecological tourism” and a new type of economic activity (definition, methodology, category, etc.) in the legislative acts;
2) After the notion “ecological tourism” is introduced in the legislation, mandatory system for separate ecotourism revenue and expense recognition for all enterprises (new and old) seeking for tax privileges should be introduced. This measure is necessary for dedicated provision of tax reliefs and prevention of fraud and tax avoidance by ordinary tourist companies;
3) After all such procedures are introduced, tax reliefs should be integrated to support companies developing ecotourism.

3.5. Enhanced Government Financing of Protected Areas

Kazakhstan has 27 protected areas with legal status covering 7 million ha (2,6% of the land area) that are key locations for maintaining the country's biodiversity and ecosystem services. Together, these protected areas represent a range of different types of ecosystems and are essential habitats for key biodiversity species. The PAs have been largely underfunded and most have very limited management capacity. To address this challenge, on BIOFIN recommendations in 2017, the government established the additions to the Protected Areas Law, which stipulated that government would finance the PAs according to their management plans. The aim of this solution is to ensure that the 27 PAs have high-quality budgeted management plans capable of securing adequate government funding for their successful management. The solution builds on an existing initiative for developing quality management plans for 12 PAs under the project "Conservation and sustainable management of key globally important ecosystems for multiple benefits" (forestry project) that begins in 2018 and runs for the next 5 years. Specific steps include: implementation of the forestry project, building lessons learned into specific best practice guidance for management plans and training the remaining 15 PAs on management plan preparation, improving management and communication between CFW and the PAs to assure high quality management plans, and if necessary lobbying government to fund the management plans.

From 1991 to 2017, the area of PAs in Kazakhstan increased from 0.3% to 2.6% of the total area of the Republic. Currently, there are 27 PAs in the country with legal status. Legal status implies that the PAs are an environmental institution and have staff, budgetary financing, perform security, environmental education and other activities. Financing of PAs is carried out using budgetary funds; revenue from tourists using natural complexes, selling souvenirs and engaging in limited economic activities; grants; donations; voluntary contributions; and in theory, according to the latest legislative amendments, from companies through compensation for unplanned harm caused or unavoidable planned harm in the conduct of economic and other activities (in international practice, called biodiversity offsets). It should be said that the largest share of funding comes from the national budget and is more than 90%.

Budgetary financing is carried out on the basis of the budget application, which is compiled by PAs and approved by the CFW of MA RK. The budget application is prepared in accordance with the rules approved by the Government. These rules determine the budget structure and the procedure for preparing and submitting a budget application for a

three-year planning period. The main objective of the budget proposal is to justify the proposed expenditures based on quantitative and financial information on the necessary resources and the results of budget programs. Budget plans are submitted to the central authorized agency for budget planning by May 15 of each fiscal year. Historically, the budget request is drawn up within the limits of expenditures determined by the Ministry of Finance of the Republic of Kazakhstan. The budget request formulated in this way is submitted for discussion to the republican budget commission, is then considered by the Parliament of the Republic of Kazakhstan, and finally approved by the Law "On the Republican Budget". With the adoption of the Law of the Republic of Kazakhstan "On the Republican Budget" for the planned year, the envisaged activities are mandatory.

According to the analysis of biodiversity financing in Kazakhstan, budget financing of PAs increased from KZT 3.6 billion in 2008 to KZT 8 billion in 2017 in nominal value. The total area of all PAs in 2008 was 5 million hectares and increased to 7 million hectares in 2017 (Table 4). In calculating the financing of 1 hectare of PA, in 2008 KZT 733.1 was allocated, and in 2017, - KZT 1,148.7. This represents an effective loss of about 40% of purchasing power per area for the PAs over this time which was partially compensated for by "own revenues" or paid services of the PAs.

Table 4. Financing of protected areas, thousand KZT

Year	Financing from the Republican budget, thous.KZT	Revenues from paid services, thous.KZT	Area of PAs with a legal entity, million hectares	Financing from Republic budget, per ha, KZT	Total available funds per hectare, KZT	Financing from Republic budget with inflation per ha, KZT	Total available funds for per hectare with inflation, KZT, adjusted for inflation
2008	3 665 626	387 504	5,0	733	811	663	734
2009	3 918 159	225 860	5,1	768	813	721	763
2010	3 926 803	386 579	5,5	714	784	658	723
2011	4 610 075	879 132	5,6	823	980	762	908
2012	8 098 711	654 513	6,2	1 306	1 412	1228	1 327
2013	8 556 053	748 957	6,2	1 380	1 501	1314	1 429
2014	6 728 661	755 076	6,2	1 085	1 207	1005	1 118
2015	6 529 887	742 023	6,4	1 020	1 136	914	1 018
2016	6 351 074	578 188	6,4	992	1 083	908	991
2017	8 041 460	630 644	7,0	1 149	1 239	1067	1 151

The funds of environmental institutions through the provision of paid services are accumulated in special PA accounts. At the beginning of the year, each PA develops an income plan based on the provision of services and a spending plan for revenue generated from this income or "own revenue". These plans are approved by the PAs themselves and the CFW MA of the RK, then agreed with the MF RK.

Compared to 2008, the amount of revenues of PAs from providing fee-based services increased from 387 million KZT to 630 million KZT (nominal value). This is attributed to growing demand for internal tourism. Adjusting for inflation, the growth of PAs' revenues to 2017 amounted 586 million KZT. The average amount of inflation for the analyzed period was 7.5%.

For the first time, management plans were introduced in two PAs in 2007 under the UNDP and the Government of Kazakhstan project "Integrated conservation of priority globally significant wetlands as habitats of migratory birds: a demonstration in three project areas" (wetlands project). Later, within the framework of the wetlands project, the development of a management plan for each PA was legislatively approved. Since 2008, each PA has been developing a management plan for a five-year period. In order to support the measures taken earlier, in 2016 under the BIOFIN project, the strengthening of the legal status of the PA Management Plan was initiated, in 2017 this proposal was supported by the Government of Kazakhstan.

The management plan for PAs is the main document of medium-term planning for a five-year period. The management plans aim to optimize management and determine the prospects for the further development of PAs, improve the organization of work on biodiversity conservation, achieve real results in improving the state of natural complexes and facilities, and reduce the risks of their loss or decline. The management plan justifies the costs of carrying out the necessary environmental measures, determines the expected results of activities and establishes a monitoring program that allows for assessing the effectiveness of PA management. Currently, all PAs have some form of management plan for a 5-year period. These management plans are coordinated with the Environmental Regulation and Supervision Committee of the Ministry of Energy of the Republic of Kazakhstan and are approved at the level of the CFW MA RK.

Within the framework of the GEF-UNDP-Government of the Republic of Kazakhstan project on the conservation of desert ecosystems, work was carried out to implement a methodology for assessing the effectiveness of PA management at the local and national level (Management Effectiveness Tracking Tool – METT). The methodology provides for an

assessment of effectiveness at the 3rd and 5th year of the implementation of the management plan, which will be carried out by a third-party expert or a third-party organization in conjunction with the PAs. At the moment, the assessment was approved at the Scientific and Technical Meeting of the CFW MA of the RK.

Despite the strengthening of the status of the PA management plan, there are gaps regarding low human resources for the preparation of meaningful management plans. Moreover, the individual nature of the PAs is not considered when drafting the management plan. Also, the lack of involvement of research institutes in the development of the management plan is evident in the quality of the document. The ability to properly set short-term and long-term priorities for PAs is also a significant shortcoming in the justification for funding activities included in the management plan.

For the preparation of high-quality management plans for protected areas within the framework of the GEF-UNDP-Government of the Republic of Kazakhstan project on the conservation of forest ecosystems, measures will be taken to improve the forest ecosystem in 2018 by increasing the capacity of the staff of 12 PAs entering the pilot areas of the project. In order to increase the probability of budgetary financing according to the PA management plan, a finance solution is proposed to support these efforts and develop high quality management plan for all 27 PAs in Kazakhstan by increasing the capacity of the PA staff responsible for developing the management plan. To implement the solution, it is necessary to start the process of working with PAs within the framework of the forestry project, drawing lessons and practical recommendations for increasing the capacity of the staff when preparing the replication management plans for the remaining 15 PAs, close cooperation with the CFW of the MA RK for further presentation of the management plans to the MF RK.

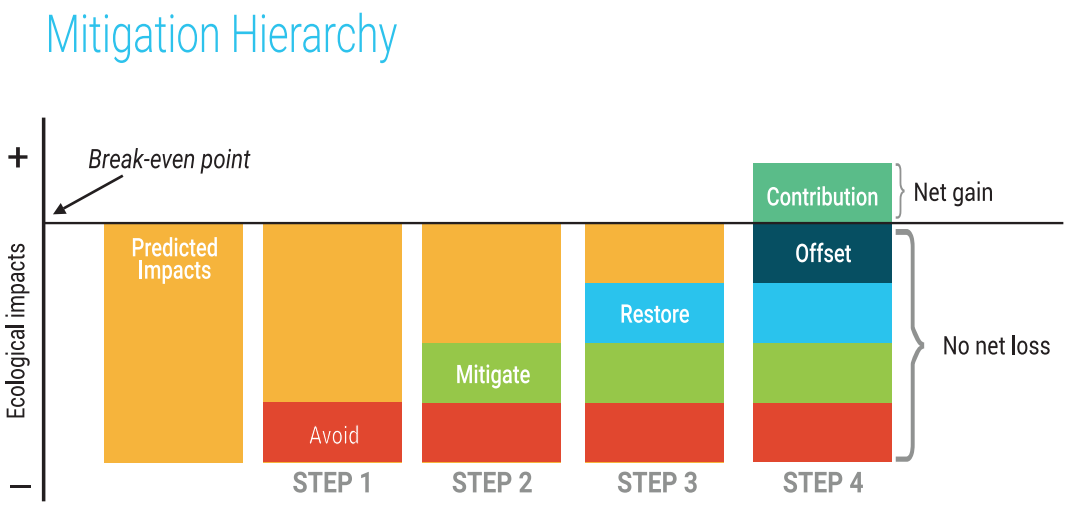
For effective cost planning, PA staff should, at their level, conduct an analysis of achievement of tasks in comparison with the received financing and its expenditure. To date, Kazakhstan does not have an extensive methodology for such an analysis and therefore it will be useful to integrate the BIOFIN methodology into the methodology for the development of PA management plans. This will allow the PA staff to approach the issues of financial planning in a comprehensive manner.

3.6. Introduction of biodiversity offsets in Kazakhstan based on the example of the Ustyurt pilot area

Biodiversity offsets are defined as measurable conservation results aimed at compensating for significant residual adverse impacts on biodiversity arising from the development of a project and remaining after appropriate application of measures to prevent and minimize such impacts and restore biodiversity. Biodiversity offsets can also be termed "compensatory mechanisms" and are based on the provision that losses to biodiversity, caused by the harmful effects of activities can be compensated if sufficient habitat for plants and animals can be preserved, improved or restored.

In international practice, a hierarchy of measures for environmental protection (including biodiversity) has been established: (1) avoiding harmful impacts, (2) minimizing them, (3) restoring or rehabilitating the disturbed environment, (4) compensating for losses. Thus, the compensation mechanism is used only in the last place, when measures to avoid, mitigate or restore the disturbed state of the environment have not allowed to completely eliminate all risks and losses. The following figure shows successive steps of mitigation hierarchy (avoidance, mitigation, restoration and offsets) for achieving the No Net Loss and ideally Net Gain during the project development. The Business and Biodiversity Offsets Programme defines the No Net Loss as a target for a project's development in which the impacts on biodiversity are balanced or over compensated by off-site conservation (offsets) additional to measures taken to avoid or minimize on-site impacts and restoration, so that no loss remains.

Figure 1. The mitigation hierarchy



Source: IISD

The biodiversity offsets are widely used throughout the world. This mechanism allows countries to find an economical and environmentally responsible compromise between the project development and implementation (such as exploration, mining, construction and other economic projects) and conservation of nature (biodiversity and ecosystems).

Within the framework of the Finance Plan, this mechanism is considered as one of the priority financial solutions for the conservation of biodiversity and ecosystems. The current situation in western Kazakhstan enables the country to develop this mechanism through a pilot project. In the Mangistau region of the Karakyyansky region, a large investment project is being launched to develop the Kansu gas field, the implementation of which is of great importance due to its social and economic significance on the one hand and on the other hand its location in the territory adjacent to the protected area of global importance in the context of nature protection and world natural heritage. Without biodiversity offsets, the Kansu project is likely to have a significant negative impact including the loss of the natural habitat of rare animal species, the modification of animal migration routes, trampling of vegetation, soil compaction, etc. In addition, actions such as gas leaks and emissions can have a physical effect on ecosystems (or parts thereof) that are outside the area of work. There is also a risk of illegal hunting for argali, saiga, gazelle, etc., due to the increased presence of people along the corridor of access to the deposit.

The site of the gas field “Kansu” is located only two kilometers from the buffer zone of the state natural reserve “Ustyurt”, a valuable reserve which includes 600 plant species and many endangered species, such as the beauty bustard, gazelle and saiga, along with many others entered in the Red Book of Kazakhstan (UNESCO, 2016).

In addition, within the Ustyurt Reserve there are many archaeological monuments, such as the Allan Fortress, the Beleuli caravanserai, the ancient city of Shahr-i-Wazir, as well as numerous ancient sites and mausoleums (UNESCO, 2016).

To prevent, minimize, restore, and compensate for potential losses of biodiversity and ecosystems on the territory, a biodiversity offset mechanism has been proposed.

In 2017, research was carried out on the impact of the Kansu gas field exploration (activities conducted by Limited Liability Partnership “KazMunaiGas-Kansu Operating” (LLP “KMG-Kansu Operating”)) on the ecosystems, biodiversity, and socio-economic situation of the Ustyurt plateau including impact of the on soils, flora and fauna. In parallel, recommendations have been developed to improve the legislative

framework in the field of environmental impact assessment and to expand mechanisms for financing biodiversity and ecosystems in Kazakhstan. As a result, in the Law on Protected Areas, the concept of biodiversity offsets is introduced as one of the new sources of financing for environmental institutions.

Based on the results of the work and initiatives described here a concept for compensating biodiversity losses has been developed for a pilot site in the Kaplankyr and the South Ustyurt sites. Financing of biodiversity offsets will be provided by LLP "KMG-Kansu Operating", a subsidiary of Joint Stock Company National Company "KazTransGas" (JSC NC "KazTransGas"). The planned compensation will be financed and implemented throughout all stages of the Kansu project. It should be noted that the example of the Kansu project has a drawback in the form of a delay between the beginning of the project itself and the start of compensatory measures, since the biodiversity offsets mechanisms is now to the country.

A number of state and private representatives as well as NGOs will be involved with the design and implementation of the offsets. These include: Republican State Enterprise PO "Okhotzooprom", Ustyurt Reserve, Mangistau Regional Territorial Inspectorate for Forestry and Wildlife, the Department of Natural Resources and Environmental Management of Mangistau Oblast, the Department of Ecology of Mangistau, UNDP projects in the field of biodiversity, the Institute of Zoology of the Science Committee of the Ministry of Education and Science, the Institute of Botany and Phyto-Intrusion of the Science Committee of the Ministry of Education and Science, the involvement of experts on pastures, Kazakhstan Association of Biodiversity Conservation, Biodiversity Conservation Fund of Kazakhstan – all collaborating under the guidance of the Committee of Forestry and Wildlife MA of RK.

It should be noted that after avoidance, mitigation, and restoration efforts, the development of the Kansu gas field will still lead to significant loss of pasture ecosystems. Following the mitigation hierarchy, it will be necessary to consider a form of compensation (biodiversity offsets) to achieve no net loss of biodiversity.

Table 5. Stages and measures for biodiversity offsets – the Mitigation Hierarchy

Stages	Measures
Avoid biodiversity losses	• establishment of a minimum 2 km buffer zone of the Ustyurt Reserve in accordance with the legislation of the Republic of Kazakhstan; • avoidance through changes in the Kansu project plan: adjusting the location and types of infrastructure being used; • avoidance through changes in the schedule of Kansu project implementation: adjusting the timing of construction and operation; • relocation of the development site(-s) as far as possible from the boundaries of the Ustyurt Reserve to minimize negative impacts. The 10-15 km distance from the reserve's boundaries is recommended; • disturbance risk management (light, noise, gas flaring, drainage systems, etc.); • using night lighting as little as possible, using sodium lamps; • using low-noise machinery/using acoustic screens; • limitation of traffic in night time; • minimizing the use of yellow and red colors for temporary facilities and construction machinery (including vehicles) as they can attract birds.
Mitigate of biodiversity losses	• adapting the physical location of infrastructure elements; • reducing the area disturbed to the greatest extent possible during construction/field development; • adjusting timing of drilling and other operations in the field; • implementing activities on waste management and treatment, monitoring of wastewater discharges and fires; • implementing activities to minimize habitat fragmentation: establishment of ecological corridors, due account of migration patterns/paths of wild animals during road and pipe construction, along transmission lines, etc.; • constructing passages for animals (trenches or bridges in the case of linear infrastructure), constructing "green transits" so that animals could cross right-of-ways of pipes and access roads; • equipping electric transmission lines with bird protective devices; • resettling reptiles and other animals to the areas that are not affected by economic activities; • creating a nursery for wild animals; • regular assessment and monitoring of impact on biodiversity where participation of Ustyurt Reserve and Kenderli-Kayassan Conservation Area is obligatory during all stages of works.

Restore of biodiversity losses	• sustaining the vegetation growth alongside access roads and near surface infrastructure, while striving to avoid alien species of plants; • restoring the initial type of habitat with local species of animals and plants in mind.
Offset biodiversity losses	• expanding Ustyurt Reserve's area on local southern site Kaplankyr (preparation of a scientific background report, a technical background report, a management plan, converting "undistributed lands" into lands of protected areas)

The following economic estimates do not include all expenses, including production costs of the project. The expenses for the expansion of the area and operation costs should also be borne in mind while implementing the mechanism. A special focus should be made on this part of the work during the implementation of the mechanism.

The following table includes minimal cost.

Table 6. The total amount for biodiversity offsets*

Expenses	Frequency	Amount, in KZT
1. Expansion of Ustyurt reserve	One-time investments	377 000 000
2. Conservation of wildlife and pastured ecosystem:		
2.1. Costs of creating a nursery (saiga, goitered gazelle, argali)	one-time investments	844 672 131
2.2. Costs of supporting the nursery functions	every year, from year 2	66 839 316
2.3. Costs of creating a territory surveillance system	per annum	20 250 813
2.4. Costs of soil replacement in the territory	one-time investments	8 559 623
2.5. Costs of soil maintenance in the territory	years 2 and 3	2 543 870
2.6. Costs of creating a system of watering places for the existing rare species of animals	one-time investments	20 136 030
2.7. Costs of maintaining the system of watering places	every year, from year 2	1 754 676

* should be updated

Development of offset measures as part of Kansu project has found many legislative and institutional gaps. These gaps have serious implications given the irreversible loss of endemic animals and plants. These implications were not taken into account when decisions on the project launch were taken. The Kansu project is now at its exploration phase.

After gas reserves of this field are confirmed, work towards producing gas will begin.

There are many similar projects throughout the country, meaning that this problem is not local and requires an integrated approach. Therefore, this finance solution is closely linked with adoption of the following measures:

- Development of guiding principles for the country as part of sustainable development policy based on practices of other countries. Limits to offsetting – pristine state of not all animal species and ecosystems can be restored, Additionality – offset mechanism is not a conservation action but an attempt to reverse losses, Equivalency – an increase as a result of offset should always exceed or be equivalent to the loss, Permanence – increase should be constant and oriented to long-term period. These principles need to be taken into account;
- Updating of legal regulations for developing and implementing, approving and monitoring investment projects;
- Creating all-stakeholder participation mechanism for decision-making;
- Enhancing industrial sector capacity in biodiversity conservation through the creation of special regimes and standards for the development and implementation of oil&gas, mining, road/transport sector projects dealing with unique ecosystems, habitats and migration routes of animals.

3.7. Promote carbon offset financing for biodiversity projects in the revised Kazakhstan Emission Trading System (ETS)

a. The current situation

In June 2010, after the ratification of the Kyoto Protocol in 2009 by the Ministry of Environmental Protection, in cooperation with experts in the field of climate change, work began on the development of national greenhouse gas emissions trading. The first step in this direction was the development of a separate chapter in the Environmental Code “State regulation of emissions and removals of greenhouse gas emissions” (adopted December 2011). The basic idea of the introduction of the above chapter was

to create a national market for emissions trading of greenhouse gas emissions. The purpose of the introduction of the emissions trading system (ETS) is to limit emissions of greenhouse gases in Kazakhstan as the Government of Kazakhstan is fully focused on the creation of a low carbon economy.

Environmental Code of the threshold set for natural resource of 20 000 tons of CO_2 -eq., Selected the most energy-intensive sectors of the economy. These companies are allocated a certain amount of GHG credits from the quantitative limits beyond which there is the threat of high fines.

According to legislation, companies with quotas deficit may buy the quotas from other companies. This process takes place in coordination with the Ministry of Energy.

In addition, companies can implement projects aimed at reducing emissions and increasing the absorption of greenhouse gases. Such projects include projects on the introduction of renewable energy sources, planting forests and increasing forest cover, changing land use practices, etc.

The executive body for the implementation of the National Greenhouse Gas Emission Distribution Plan in Kazakhstan is the Ministry of Energy of the Republic of Kazakhstan, and the operator is Zhasyl Damu Joint Stock Company.

Even though the carbon offset was legislated, there was no practical implementation. One of the reasons was the lack of an adapted methodology. Therefore, the ETS was suspended and a moratorium was declared until 2018.

b. Opportunities

In 2016, Kazakhstan ratified the Paris Climate Agreement and committed itself to reducing greenhouse gas emissions by 15% by 2030. Achieving this indicator requires the country to introduce both new green technologies in industrial production and to revise the approach to managing ecosystems that are reservoirs of deposited carbon.

The current legislative framework on greenhouse gases is built on the principles and mechanism of the Kyoto Protocol. However, since the Paris Agreement has been signed, there is a need to update country documents. In this regard, Government of Kazakhstan is creating an enabling environment for carbon market development in the country: the Ecological Code is being updated, current rules are being

reconsidered for the development and implementation of projects reducing greenhouse gas emissions, carbon credit trading rules are also being reviewed. According to COP24 decision, necessary measures will also be elaborated on.

On 1 January 2018, the revised Kazakhstan ETS start operating will commence operations under the updated Greenhouse Gas Emission Policies, which provide for domestic projects to reduce emissions and increase the absorption of greenhouse gases. Domestic projects can be implemented in the sectors of the economy, such as mining and metallurgy, agriculture and housing and communal services, greening forest and steppe areas, preventing land degradation, processing municipal and industrial waste, transport, renewable energy sources, energy efficient construction, energy saving and energy efficiency. According to these rules, domestic projects are carried out by individuals and legal entities in the territory of Kazakhstan. These rules allow the inclusion of biodiversity issues within the revised ETS.

c. Finance solution

This finance solution is aimed at activating domestic projects (where only Kazakhstani companies participate) reducing greenhouse gas emissions through the newly created indigenous forests and through the creation of new indigenous forests. The Government of Kazakhstan has keen interest in the implementation of this solution, the legislative framework has been established. At the same, the following will be required for finance solution implementation:

- Development and approval of the methodology for the drafting of projects that reduce greenhouse gas emissions through forest ecosystems;
- Capacity building for of government institutions who own forest trees planted;
- Capacity-building for local experts and companies for validation and verification of these projects
- Establishing a mechanism for earmarking of funds derived from the sale of carbon units, to channel back into forest conservation;
- Identification of projects with the potential and selection of one or more projects to pilot;
- Preparation of the concept, baseline, calculation of carbon units, preparation of documents and project monitoring plan.

3.8. Attracting foreign investments in forest protection and sustainable forest management to reduce greenhouse gas emissions

The forest coverage is approximately 4.6% of the total area of the country or 12,5 million ha. According to experts, total forest carbon stocks in Kazakhstan constituted 718,3 million t CO_2-eq for 2013. It represents a considerable carbon pool comparable to CO_2 emissions of many countries of the world. If the current area of forest land is sustained, the country's forest ecosystems can ensure additional carbon sequestration for each five-year period 2016-2020, 2021-2025, 2026-2030, at the level of 50,5 million tons of CO_2 equivalent. If the forest cover is expanded from 4,6% to 5,0% until 2020, carbon sequestration potential of forests would additionally increase up to 2,9 million t CO_2-eq annually after forests reach the age of 5-10 years.

There is strong interest from international investors in financing sustainable forest management and reforestation projects through carbon offsets. The interest of these investors is in compensation of green gas emissions through carbon offsets projects implementation in Kazakhstan. Such proposals are attractive for the Kazakhstani forest sector due to the limited budget for funding and the small carbon trading market within the country.

This finance solution can cover a number of areas of projects that will lead to win-win outcomes: for the country – the benefits will be the expansion of forested areas, biodiversity conservation and addressing a number of environmental problems, paid for by private sector investors; for the investor – fulfilment of the emission reduction obligations and support of environmental responsibilities related to their business.

The main areas of projects include:

1. Forest planting on the dry Aral Seabed. This project has social and political character for the country and environmental significance for global environment, which adds to its relevance. The country already has experience with tree planting in certain areas of the dry Aral Seabed, there is a nursery where planting-stock is grown.
2. Establishment of the system for accounting and protection of abandoned forests outside the state forest estate land of the country. There are over 300 000 ha of such forests in the country.

3. Establishment of green belts around large cities in Kazakhstan. The first green belt is the one around capital Astana and now covers over 80 000 ha. The initiative of replicating this practice of establishing green belts around other cities (over 10 cities) is supported by country's government.
4. Protection of strip pine forests and tree planting in the east of the country. Pine species are species that have high capacity for greenhouse gas capture.
5. Planting trees along the transboundary corridor Western Europe – Western China. The Kazakhstani sector of this corridor is over 2,700 km long.
6. Planting trees along railway lines. The rail sector is now being actively developed in Kazakhstan and this project is relevant.

Kazakhstan's carbon-emissions trading market is small compared to other countries, therefore, foreign investments can be a kick-off to forest sector development. This finance solution follows country's green growth policy. Nevertheless, the implementation of this finance solution requires an enabling legal environment and mechanisms for carbon offsets and exporting carbon units in line with the internationally recognized standards and methodology REDD+ and VERRA. This section now needs to describe what the actual proposed FS will entail.

In this regard, realization of financial decision include:

- Development of GHG sink by the forest ecosystems assessment methods based on an internationally-recognized methodologies;
- Revision of existing legislative base for export of carbon unit and entry of foreign investors to make projects on creation of forest areas, improve the forest management, infrastructure-building;
- Creating a pool of projects for exporting carbon units;
- Creating a dialogue platform with investors from various industries to invest in forest projects to offset carbon emissions;

4. CONCLUSION

According to studies conducted under the BIOFIN, the financial needs for the implementation of Concept for conservation and sustainable use of the biodiversity of Kazakhstan are 285.9 billion KZT. The finance gap estimated in the framework of study for biodiversity conservation in Kazakhstan is at least 157.7 billion KZT or more than 50% of the total finance of biodiversity in the country. The dynamics of the state biodiversity financing is unstable and decreasing from year to year. A rough estimate of the amount of private investments is less than 2% of the total financing of biodiversity in Kazakhstan.

The Biodiversity Finance Plan presents the following finance solutions that will improve the situation with the current deficit of funds for financing biodiversity and ecosystems:

1) Improved financing of Kazakhstan's hunting concessions;
2) Subsidizing game breeding to save animal species and develop hunting concessions;
3) Promotion of organic farming;
4) Tax incentives for ecotourism development;
5) Enhanced Government Financing of Protected Areas;
6) Introduction of biodiversity offsets in Kazakhstan based on the example of the Ustyurt pilot area;
7) Promote carbon offset financing for biodiversity projects in the revised Emission Trading System (ETS);
8) Attracting foreign investments in forest protection and sustainable forest management to reduce greenhouse gas emissions.

This plan presents eight mechanisms that were not previously used in Kazakhstan's practice of biodiversity and ecosystem conservation: (1) improved financing of Kazakhstan's hunting concessions will increase the interest of the private sector in the reasonable management of the animal world and the effective hunting system creation; (2) subsidizing game breeding to save animal species and develop hunting concessions may solve the problem of pressure on natural populations and restoration of numbers of local wild species; (3) state support for the development of organic farming by subsidizing the lost revenues during the 3 to 5-year transition period from conventional to organic farming production; (4) increase investment in ecotourism infrastructure and services through enhanced government incentives; (5) capacity building of PA staff by assisting in the development of management plans; (6) involvement of industrial companies in conservation and restoration activities by introducing the biodiversity

offsets; (7) implementation of forest and pasture ecosystems conservation projects (carbon offsets) in the revised emissions trading system of Kazakhstan; (8) Attracting external investments in forest protection and sustainable forest management to reduce greenhouse gas emissions will allow to conserve the existing forests and increase the forest cover of the country, while demonstrating effective management approaches based on international standards.

According to studies conducted under the BIOFIN, biodiversity finance gap in Kazakhstan is more than 50% of the existing funding. At the global level, the biodiversity finance deficit is up to 450 billion dollars per annum. These trends may result in critical consequences for the well-being of people, especially for the poorest, fully and completely depending on biodiversity and ecosystem services for meeting subsistence needs (UNEP, 2010) and that are vulnerable to impacts of the climate change (IPCC, 2007).

Taking measures to prevent the loss of the country's biodiversity by improving the governmental incentives, we reduce the future restoration costs. At the same time, the finance solutions are designed to avoid the reduction in the state budget, i.e. though the proposal to introduce new types of subsidies and alternative taxes. As a result, these finance solutions will lead to stabilization and improvement of the country's ecosystems and biodiversity. Moreover, the implementation of the Finance Plan will help to involve the private sector in biodiversity financing and to receive benefits from both for the state in the form of taxes and for business.