



**SGP NATIONAL STRATEGY
GLOBAL ENVIRONMENT FACILITY (GEF SGP)
IN THE REPUBLIC OF TAJIKISTAN
(2015-2018)**





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Country:	Tajikistan
Funds for the sixth Operational Phase (\$)	??? USD
a. Funds of the GEF Small Grants Programme	??? USD
b. Residual balance (for the fifth Operational Phase):	??? USD
c. STAR funds:	??? USD
d. Other funds which should be involved:	??? USD (project co –financing)

This strategy serves as a fundamental document for the Small Grants Programme of the Global Environment Facility in Tajikistan (hereinafter - the GEF SGP), determining the thematic and geographical scope of work of the GEF SGP in the country, as well as governing the rules and procedures of programme work. The National Strategy has been developed in accordance with the guidelines and strategic priorities of the GEF on the GEF-VI operational period (2015-2018), as well as the strategic priorities for the environmental preservation in the Republic of Tajikistan and the guidance documents of the GEF SGP for all participating countries. The National Programme Strategy to be reviewed for the next GEF-VII operational period.

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Acronyms

GEF	Global Environment Facility
CEP	Committee of Environmental Protection under the Government of the Republic of Tajikistan
ICCA	International Council of Chemical Associations
IEA	International Energy Agency
NC	GEF SGP National Coordinator, responsible for the execution of the GEF SGP
NCC	GEF SGP National Coordinating Committee, responsible for decision-making and implementation of the GEF SGP
NAPEP	National Action Plan for Environmental Protection
NBSAP	National Strategy and Action Plan on Conservation and Sustainable Use of Biodiversity
CSOs	Civil Society Organizations
UN	United Nations
OP	Operational Phase
OECD	Organization for Economic Co-operation and Development
SGP	Small Grants Programme
UNDP	United Nations Development Programme
UNCCC	United Nations Framework Convention on Climate Change
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
SMART	System of indicators, SMART, meaning: S pecific – specific for the object being studied M easurable – measured evaluation of the object quantitative change A ttainable – logical and achievable within the established time frame R elevant – related to the subject T ime-bound/ t rackable – linked by time frames
CO²	Carbon dioxide
SES	Social and Environmental Standards
CPAP	Country Programme Action Plan
STAR	System of Transparent Allocation of Resources
TAPRI	Tajikistan-Afghanistan Poverty Reduction Initiative
SLM	Sustainable Land Management
SFM	Sustainable Forest Management
UNDAF	United Nations Development Assistance Framework
UNITAR	United Nations Institute for Training and Research
UNOPS	United Nations Office for Project Services
RDD+CBR+	United Nations Programme on Reducing Emissions from Deforestation and Forest Degradation

1. General information on the GEF SGP results in the framework of OP5

The Small Grants Programme of the Global Environment Facility (GEF SGP) is a global initiative and is designed to support local communities who wish to contribute to solving global environmental problems. The programme provides small grants for projects carried out by representatives of local communities, initiatives that are local in scale, but able to make a positive global impact. It encourages community initiatives aimed at improving the situation in these areas. GEF SGP implements a number of demonstration projects with a view to further expansion and advancement of proven technologies. To act on a local level through the civil society and local communities is a very important component of the strategy of the GEF 20/20 (including an appeal to all stakeholders to work together to bring the benefits of the global environment and contribute to the UNDP strategic plan, as well as focus on sustainable development).

UNDP/GEF SGP in Tajikistan has been operating since 2009. The first memorandum with grantees were signed in September 2010. To date, the GEF / SGP Tajikistan allocated more than US\$ 1,184,171 through 48 grants to community-based organizations and NGOs all over the country with an average size of grant support about US\$ 25,000. Following the terms of co-financing, the SGP has provided the appropriate co-financing in the amount of US\$ 1,458,157 for the period from 2009 to 2015. During the work process the Programme has implemented various initiatives at the local level and contributed to the global environmental benefits for the environment. In the framework of OP 5 UNDP-GEF SGP in Tajikistan has been established the international cooperation, and financed a number of activities to address five key problems, seriously threatening the global environment, to achieve the objectives of the Rio Conventions:

- biodiversity loss,
- climate change,
- land degradation and desertification (sustainable land management)
- reduction of persistent organic pollutants (POPs) and chemicals
- degradation of international waters

The GEF SGP on biodiversity conservation provides support in strengthening the capacity building of 3 protected areas: Almasin, Zarafshan, Ramit located in Hissar ridge, where had a positive impact on 6,000 hectares, enhanced a conservation status of 300 hectares of significant ecosystems, as well as provided support to the local communities in issues of measures development in order to reduce deforestation, support the effective management of protected areas, the expansion of best practices for sustainable land management, promotion of renewable energy technologies and sustainable agricultural practices.

As part of measures to combat land degradation in the project areas of Southern Tajikistan, it was planted more than 200,000 trees in Khatlon region, which contributed to the reduction of land degradation and improve the environmental situation of project areas. By planting trees saved more than 43 million cubic meters of irrigation water, which helped to prevent secondary soil salinization in many areas.

In remote rural areas of Sughd, Khatlon and Rasht more than 100,000 people living in rural areas were involved in the initiatives of the SGP, 22, 000 from them are the direct beneficiaries of the project activities. Among other good results can be mentioned promotion the conservation of soil and water resources on an area of over 25,000 hectares, most of which are located on the territory of protected areas.

Within the framework of climate change activities through the integration of low-carbon technologies were prevented emissions of 50 tonnes of CO² into the atmosphere and took measures for the energy generation from renewable sources (small hydroelectric power station, biomass, solar energy, etc.). Applied the practice of using low-carbon technologies and measures to ensure the energy saving (applicable to the industrial and construction sectors, space heating, cooking, etc.).

Three projects were implemented with the participation of the communities, within which being demonstrated and implemented technologies with low GHG emissions. The total cost of provided energy, technological and transport services was 20 000 US dollars. On the area of 200 hectares were implemented and are being used the improved land manage-

ment practices and providing "climate stability", due to that it was prevented the emission of 50 tons of CO². These initiatives had contributed to the reduction of deforestation for heating and the communities in the aforementioned areas gained access to electricity and energy-saving technologies.

As part of measures to combat land degradation (LD) and sustainable forest management (SFM) restored 200 hectares of degraded land in southern Khatlon province, where the practice of sustainable forestry, agriculture, and the practice of sustainable management of water resources were provided. The result was achieved by planting fruit trees and pistachio plantations.

Activities on the conservation and management of international waters were directed to integrate the practices of sustainable use and management of land-based sources of water. As a result, on an area of 30 hectares of river basins / lakes are being used the practices of sustainable water management, as well as prevented the use and leakage of 10 tons of pollutants into water sources.

Under the projects on persistent organic pollutants, implemented in the pilot areas, there were used alternative methods of dispos-

al, thereby prevented the burning and recycling of 0.5 tons of municipal solid waste. Due to the disposal of 500 kg of obsolete pesticides that had been made properly, also prevented the leakage of 500 kg of harmful chemicals into the environment.

Another important aspect of the program is livelihood supporting, empowering local communities, in which were attended by over 50 members of communities in the target areas. Under these initiatives, the following results were achieved: a period of food shortage was reduced by 30 days; a duration of the school working days was increased by 30 days; 20 households gained access to clean drinking water; increased the community purchasing power by reducing costs, increased revenues (\$ 150 per 1 household, participating in the UNDP-GEF SGP projects).

Thus, all of the projects that were implemented within the framework of the GEF SGP in targeted areas, Khatlon, Sughd and RRS, are quite indicative and may be adapted and implemented in other regions of the country for a wider dissemination of good practices. This experience will help to reduce the ecological load on the landscapes / ecosystems and the environment, as well as to improve the socio-economic level of the population.

Programme's contribution to global environmental benefits:

Biodiversity conservation. Preserved and are being used sustainably globally significant ecosystems and their endemic and / or endangered biodiversity;

Mitigation of climate change (mitigation and adaptation). The local population is aware of the adverse effects of climate change and the opportunities to reduce greenhouse gas emissions through the use of energy efficient technologies and renewable energy sources.

Protection of the quality of international waters. Local agricultural sources of water pollution are reduced and / or eliminated.

Combating land degradation. Improving land management and sustainable use of natural resources for the management and distribution of these improvements.

Reduction of persistent organic pollutants (POPs). The local population in the project areas is aware of POPs, and their use in agriculture was minimized / or reduced in comparison with the existing situation.

1.1. Brief summary of the GEF SGP Strategy in Tajikistan

The National Programme Strategy is the main document on implementation of the Small Grants Programme of the Global Environment Facility in Tajikistan (GEF SGP). National Programme Strategy defines the main goals, objectives and results of the GEF SGP in Tajikistan. The Programme Strategy is applicable to the sixth GEF Operational Phase (2015-2018). After that, the Country Programme Strategy can be reviewed and adjusted in accordance with the new priorities of the GEF.

The GEF SGP Country Strategy consists of 8 chapters, 4 Annex and 2 Additions. The first chapter of the Strategy describes the goals and objectives, expected results and achievements of completed projects, thematic areas of the GEF SGP in Tajikistan, base conditions for the implementation of SGP projects, socio-economic and environmental conditions of the landscape, as well as the contribution of the programme to the national and global environmental benefits.

The second chapter is devoted to the current status of the national policies and programmes implementation and provides information on the national priorities of the country in a field of environment, as well as its implementation in accordance with the strategic objectives of the GEF-6.

The third chapter considers issues of grant provision for the GEF thematic areas, thematic and geographic area coverage, "Donor +" Strategy, principles of dialogue between civil society and government, promotion of social and gender integration, knowledge management and SGP communication strategy.

The table describing the targets and expected results of the GEF SGP thematic areas is included in the fourth chapter of the Strategy. The fifth chapter is devoted to the monitoring plan and the implementation of the GEF SGP, which describes a primary role and responsibility for the NCC and NC in monitoring of implementation the country-level projects.

The sixth chapter describes an action plan for resource mobilization and involvement of funds from other sources for the effective implementation of SGP projects. The seventh deals with the risk management plan and the measures taken to reduce and eliminate risks during the project implementation.

The eighth chapter contains a table of NCC members who make decisions in the process of programme implementation. Annexes 1, 2, 3 and 4 are provided with the support of the landscape with descriptions, maps of selected landscapes and tables of priority areas for the landscape within the GEF SGP in Tajikistan.

Based on the state of the environment in Tajikistan, current conditions, on feedbacks and suggestions of stakeholders, as well as on the GEF thematic priorities, the Strategy identifies the following priority directions of its activity in the country:

i) Under the GEF focal area "Conservation of biological diversity" - to reduce pressure on ecosystems and habitats of important species from the activities of the local population.

This area of the GEF SGP provides for implementation a variety of project proposals on protection, maintenance and rational use of biological diversity.



Petilium eduardii

ii) At the GEF focal area "Climate Change" - to reduce emissions of greenhouse gases into the atmosphere from energy use by the local population, and to prepare the most vulnerable groups of the population to the upcoming climate change consequences.

Projects of this thematic section form the second largest group, funded by the Global Environment Facility. Taking the decision to support the project idea, the GEF is guided by the priorities and allocation criterias of the United Nations Framework Convention on Climate Change (UNFCCC). Activities on use of renewable energy sources, reduction of CO²

emissions, the elimination of institutional, technological and economic barriers and spread of public, sustainable and environmentally friendly for the climate technologies, as well as activities at the aforementioned geographical areas have the highest priorities.

In addition, in this thematic section will be selected demonstration projects, which could also be useful to public associations that deploy alternative energy at the local level, such as those that use the energy of wind, water, biomass, biogas and solar for heating and electricity generation. Projects that demonstrate how renewable energy sources can improve the quality of life, be cost-effective and promote sustainable development in the region, may also request the GEF SGP support.



Deglaciation

iii) At the GEF focal area "Land degradation" - to restore previously degraded land in rural areas for the purpose of conservation and sustainable use.

The main objective of the GEF Small Grants Programme in this thematic area is sustainable land management and implementing of innovative methods of their use at the local level. The interest of the GEF SGP in the financing of measures to prevent and combat land degradation caused by close relationship with global climate change. The destruction of forests and water resources regression endanger biodiversity, cause climate change and disrupt the hydrological balance.



Degradation of pastures in Southern Tajikistan

iv) At the GEF priority "POPs and chemicals" - reduction of persistent organic pollutants and chemicals.

Tajikistan acceded to the Stockholm Convention on Persistent Organic Pollutants (POPs) in 2006, thereby recognizing the existence of earlier unsolvable problem. In the second half of the XX century, when it was "fashionable" to increase yields by using achievements of the chemical industry, more than a thousand tons of pesticides were imported into the country. Later it became known as persistent organic pollutants are dangerous to human health and the environment. Having a stable structure, the carbon-containing chemical compounds and mixtures can accumulate without decomposing over the years, even in the soil and in living organisms. This POPs do not lose biological activity and extend far beyond the use areas. They are the main polluter of surface and groundwater.

GEF Small Grants Programme aims to help Tajikistan to eliminate existing POPs stocks and stop their further spread, guided by the National Plan of Action. Project activities on persistent organic pollutants will focus on the following areas.



Tailings dam in Fergana valley

v) At the GEF priority "International Waters" - to prevent degradation of international waters.

This thematic cluster aims to support the projects designed to improve the ecological status of transboundary watercourses and rivers in accordance with international agreements. Preference will be given to project proposals that are closely associated with the already implemented by large and medium-sized GEF projects in which is given a strategic environmental assessment, developed and approved the National Action Plans. Project ideas that combine the efforts of public organizations and residents of Tajikistan, as well as two or more countries in a multilateral international cooperation to overcome the



Vakhsh river

negative effects of human activities on aquatic ecosystems are eligible for funding.

Projects may be aimed at preventing the emission of pollutants such as biogenic substances (nutrients), biological and persistent organic pollutants (POPs), heavy metals. These pollutants threaten ecosystems, accumulate in the body and are not amenable to neutralization in pure water.

1.2. Base terms for the GEF SGP in Tajikistan

Socio-economic context

Tajikistan, with a population of about 8.8 million people¹ is a sparsely populated country in Central Asia. The population density varies considerably depending on the mountain geography.

The population density is 57.2 people per 1 km². More than 73.4% of the population live in mountainous areas, 26.6% in cities and regions. The gender distribution of the population shows that the percentage of men and women in the country varies by the main age categories and by the regions. The number of men is 50.2%, the number of women is 49.5%. Life expectancy in the country is 61 years for men and 64 years for women. In 2014 Tajikistan ranked 125th place on the Human Development Index and it was 2,3%².

The country is faced with a young and rapidly growing population - the latest estimates indicate that 40 percent of the population in Tajikistan in age from 17 to 25 years. A significant number of people

Another important area for the GEF SGP to endeavor is to improve the general awareness, knowledge, understanding and skills of the local population, which will help in achieving the environmental benefits, defined by the key international environmental conventions.

In addition, the GEF SGP aims to achieve concrete results to improve the living conditions of local people and to promote the implementation of gender equality through SGP projects. These two areas are "integrated", i.e. should be taken into account during the development and implementation of the GEF SGP in all thematic areas of the Programme in Tajikistan.

The Country Programme Strategy also describes the operational framework of the GEF SGP work in Tajikistan.

(estimated at 10-13%) go to work in other countries (more than 90% in Russia) and send remittances back home to support families.

Tajikistan's economy is based on agricultural, aluminum and electricity production, also animal husbandry, which brings the country one-third of total export earnings. Labour migration from Tajikistan (and their subsequent remittances) is unprecedented in scope and have a greater economic impact. Migrant workers are one of the main aspects of Tajikistan's rapid economic growth over the past few years.

Agriculture has a significant impact on Tajikistan's economy, providing 23% of the country's gross national product (GDP). Given the volatility of prices on the commodities markets and the ongoing energy crisis, the agricultural sector is now the foundation for the improvement of living standards and welfare of the population, especially for the nearly 70% of the population living in rural areas, whose incomes are directly or indirectly linked to agriculture economy.

¹ The data based on the statistical compilation "Regions of Tajikistan", 2015

² The National Human Development Report, Tajikistan, UNDP, 2014

To improve the situation of the population and the empowerment of rural development, there is a process of farming, under that an ownership of the land passes into the hands of private farmers. This factor can have both positive and negative point in the issue of natural resources conservation. On the one hand, farmers have more land rights, which will contribute to a real investment in the quality of the natural resources for the agricultural production. On the other hand, in conditions of insufficient legal regulation concerning the rights of use of natural resources, there may be different kinds of abuse and inefficient use (overuse) of these resources.

Geographical context

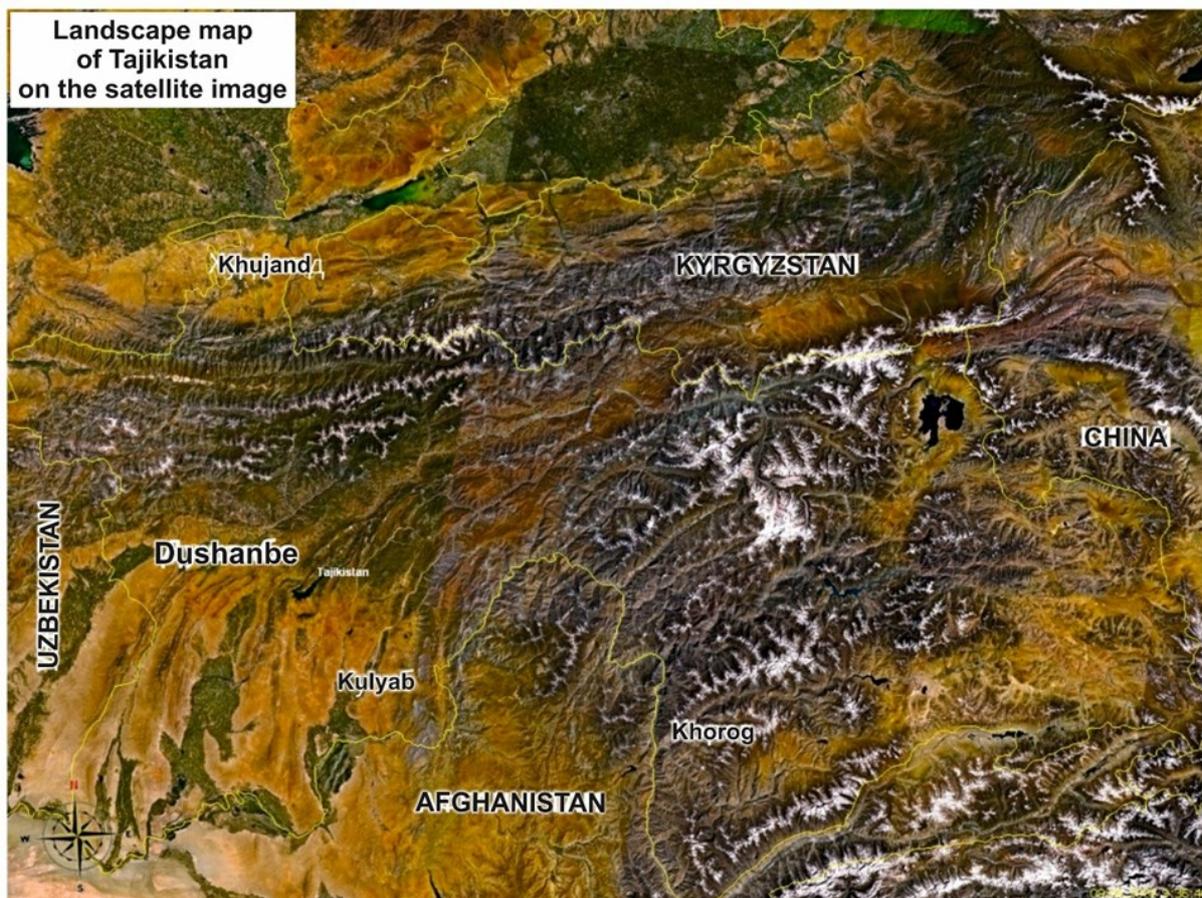
The Republic of Tajikistan, the smallest country in Central Asia, which has no outlet to the sea and shares its border with Uzbekistan in the west, Kyrgyzstan in the north, Afghanistan in the south and China in the east (pl.see below Map 1).

Tajikistan landscape is characterized by the alternation of mountains and river basins. The mountains include various ranges, such as the towering Pamir and Tian Shan, containing peaks ranging from 1,300 to 7,495 meters.

Pamir is the source of several torrential rivers that cut gorges and canyons. Hissar Alay range (Southern Tien Shan) occupies a central place in the geography of Tajikistan, with numerous peaks of 5000 m. The mountains are known for their glaciers, the largest in Asia. Fedchenko Glacier is the largest in the Pamirs (77 km in length and 3100 m. wide). The country has around 1200 rivers with a total length of about 30 000 km. The longest rivers in the country include the Amu Darya, Syr Darya, Zeravshan, Vakhsh and Panj. Tajikistan also contains numerous lakes, the largest of which is a salt lake Karakul (Eastern Pamir), with a surface area of 380 km². Sarez Lake with fresh water (in the Western Pamir) is the deepest (490 m), with a surface area of 86.5 km².

The climate of Tajikistan is between continental, subtropical, semi-arid and desert. As a rule, there is cold winters and hot summers, with temperatures that can reach 45 °C. The temperature differences in high and low altitudes can be overwhelming. The annual rainfall depends on the terrain, and is often the limiting factor for agriculture.

At lower altitudes, the average temperature range is from 23° to 30° C in July and from 1° to 3° C in January. In the eastern Pamir, the average temperature in July is 5° to



Picture 1. Physical Map of Tajikistan and its location in relation to neighboring countries

10° C, while the average temperature in January drops between -15° and -20° C. The average annual precipitation in most parts of the Pamir mountain ranges between 700 and 1600 mm. Most of the precipitation falls in the Fedchenko Glacier, which average is about 2200 mm per year; very little rainfall in the eastern Pamir, which average is less than 100 mm per year. Most of the rainfall occurs during the winter and spring.

Main ecosystems in Tajikistan include forests, grasslands (steppes and meadows), deserts and wetlands. Changes in vegetation from steppe communities in the west to the semi-desert and desert formations in the south. To the east, the land rises above the plains with several peaks above 5,000 meters, and is enveloped by broadleaf and coniferous forests, subalpine and alpine meadows, glaciers and snowfields.

The eastern and southern regions of the country are characterized by open rocky slopes with extensive forests with a predominance of juniper (*Juniperus*) and pistachio (*Pistacia*) species. Lowland forests are found in floodplains and lowriver terraces, usually grows on alluvial, swampy or wet soils.

A few lowland forests have been preserved, though some stands are still remained. High mountain meadows, dominated by herbaceous species. In the alpine part is dominated the dense low-lying perennial plants. Unique community of cliffs vegetation is distributed across the high mountains. Wetland ecosystems are everywhere, and include river deltas, swamps, marshes, lakes and streams in the highlands. A variety of lakes scattered throughout the territory of Tajikistan, from small alpine lakes to large bodies of water.

Biodiversity context

Most of Tajikistan is within the high mountains of Central Asia and is one of 34 global biodiversity hotspots (Conservation International) and one of the 200 priority ecoregions (110-111 WWFs Global Ecoregions) for global biodiversity conservation. Tajikistan has identified the five wetlands of International Importance of the Ramsar Convention (sites) and 18 Important Bird Areas (IBA). Flora and fauna is represented by more than 23,000 species of which about 1,900 are endemic. Flora consists of 9,771 plant species, 1,132 of which are endemic species, 267 plant species have been listed in the Red Book of Tajikistan. About 1,000 species of vascular plants have a high level of endemism.

Tajikistan is also a habitat for over 1,350 species of animals, 800 of which are considered endemic. The Red Book listed 222 species of animals³. From 46 species 2 species of reptiles and 2 amphibian species in Tajikistan are endemic to the region. More than 52 species of fish are found in rivers and lakes, more than a third of which are found nowhere else.

Rare and endangered mammal include jeyran (*Gazela subgutturosa*), Marco Polo sheep (Argali) (*Ovis ammon polii*), snow leopard (*Panthera uncia*), peregrine falcon (*Falco peregrinus*), paradise flycatcher (*Terpsiphone paradise*), bar-headed goose (*Anser indicus*), marmot Menzbira (*Marmota menzbieri*), Siberian ibex (*Capra Siberica*) and others. Bukhara deer (*Cervus elaphus*), jeyran (*Gazella subgutturosa*), and markhor (*Capra falconeri*) are also listed in the Red Book of Tajikistan as a vulnerable species.

The total area of pastures in Tajikistan - including grasslands, alpine meadows, forests and wetlands – being used for grazing are estimated at 3.9 million hectares. Most of these pastures are located in the hilly and mountainous areas above 2,000 m. These territories formed the basis of animal husbandry in Tajikistan and have been used for centuries on a regular transhumance grazing system (see Table 1).

In recent years, many pastures at lower altitudes (<1,500 m) were used for year-round grazing of local communities, access to more distant grazing lands has been limited due to changes in the mechanisms of ownership as a result of the increase in population in most places. There have also been changes in the animal husbandry farms and the majority of families, as a rule, now hold only 2-5 animals per household.

421,000 ha (or less than 3%) of the country are covered by forests, currently Tajikistan has the lowest coverage of forests in Central Asia. This is the result of a long process of deforestation, especially in the plains and foothill areas of Tajikistan, which fell by 25% of the country during the 20th century. The remaining forests are concentrated in the mountainous areas in the western part of the country.

Almost all forests in Tajikistan belong to Category 1 and classified as soil and water conservation forest. Officially, cutting is prohibited, permitted only so-called "sanitary cutting". Natural forests are divided into five types: deciduous mesophilic forests; deciduous forests, xerophilous forests (Shibliak); small-leaved mountain forests; walnut forests and riparian forests.

³ The Red Book of Tajikistan (second edition), Dushanbe, 2015

Protected areas

The Law on Protected Natural Areas (2011) provides eight categories of protected areas (PAs) for Tajikistan - nature reserves / biosphere reserves; national parks; historical and natural park, natural monuments; forest parks and botanical gardens; natural spa and natural recreational areas - only three of which are nature reserves (IUCN category I), a biosphere reserve, national park (IUCN Category II), historical and natural park (IUCN Category II), thirteen reserves (IUCN Category IV).

As of 2016, all protected areas totally occupy an area about 3.1 million ha (22% of the country), they include the territory of 4 reserves - 173, 418 hectares, 13 nature reserves – 313, 260 hectares, 1 National Park - 2.6 million hectares, one historical and the natural park - 3,000 ha and 1 nature park – 3,805 hectares. Tajik National park, covering 2.6 million hectares, almost all the Pamirs, is listed as a World Heritage Site by UNESCO in 2013.

Existing legal terms

In Tajikistan, there is a fairly well developed system of legal acts regulating the protection of the environment and use of natural resources. The legal system consists of the Constitution of the Republic of Tajikistan, various laws, decrees of the Majlisi Oli, decrees of the President, acts of ministries, state committees and departments, as well as the decisions of public authorities in the field. The country has adopted such laws are:

- a) **Law on the Environmental Protection (2011)**, laying down the general legal framework for the protection and use of the environmental and natural resources, defines ownership to them, the rights and obligations of the authorities responsible for the protection and use of natural resources, the principles for determining the order and standards relating to environmental quality, environmental assessment and examination, the responsibility for violation of environmental legislation and other issues;
- b) **Forest Code (1999)**, which stipulates that forests belong to the State, and defines the general conditions for the use of the forest and its protection;
- c) **Law on Water and Water Use (2008)**, which establishes the requirement to all legal entities and individuals of the country use water resources efficiently regardless of the purpose, to protect them from pollution and depletion, to improve the condition of water bodies;

- d) **Law on Air Protection (2012)**, which establishes the general framework of the protection and prevention of air pollution in the country;
- e) **Law on the Rational Use of Energy (2002)**, which aims to create a legal framework for the implementation of practical measures to improve energy efficiency and conservation in the country;
- f) **Law on Protection and Use of Wildlife (2008)**, which regulates the relations in the field of protection and use of wild animals that live in a state of natural freedom on land, water, atmosphere and soil, permanently or temporarily inhabiting the territory of the Republic of Tajikistan;
- g) **Law on Protection and Use of Flora (2004)**, which regulates the principles of the state policy of the Republic of Tajikistan in the field of protection and rational use of flora, defines the legal, economic and social framework in this area and is aimed at the preservation and reproduction of flora resources;
- h) **Law on the production and safe handling of pesticides and agrochemicals (2003)**, which regulates the legal basis of the production and safe handling of pesticides, including their exposure to the substance, as well as agro-chemicals in order to protect human health and the environment.
- i) and many others

In addition to the existing national legal acts, Tajikistan signed a number of international conventions and agreements in the field of the environment. Tajikistan has signed and ratified the three Rio Conventions, for the execution of which GEF is the financial mechanism:

- a) UN Framework Convention on Climate Change (1998),
- b) UN Convention on Biodiversity (1997)
- c) UN Convention to Combat Desertification and Land Degradation (1997)

In addition to that, Tajikistan is a part to a number of other international agreements on the environment, including:

- Ramsar Convention on Wetlands (2001);
- Stockholm Convention on Persistent Organic Pollutants (POPs) (2002);
- Convention on the Conservation of Migratory Species of Wild Animals (2000);
- Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters relating to the environment (2001)

- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES, 2015);

By becoming a member state of the international environmental agreements, Tajikistan has committed itself to take measures to implement the international standards outlined in these conventions. Although, in most cases, the conventions legally imply that the country will (i.e. intends) carry out activities for their implementation and do not impose explicit quantitative commitments, however, their role for the international authority and internal policy of the country should be fundamental.

Currently, the process of creating and modifying the national legal framework for the implementation of the objectives / obligations of adopted conventions is going on, but there are many gaps that need further elaboration. On the one hand, the GEF SGP in this case will act as a tool through which the GEF will fulfill the role of "assistant" in conventions' execution process. On the other hand, the GEF SGP through field projects may assist the Government of Tajikistan to adjust the existing rules of natural resources use, by providing lessons derived from small projects and recommendations.

Another important factor for the GEF SGP work in Tajikistan is generally accepted and approved by the Government frameworks of Tajikistan development. In this context, the adopted National Development Strategy until 2030 is a basic document. This Strategy defines the long-term direction of development as a top priority for the country, which have a potential relationship with the priorities of the GEF SGP in Tajikistan.

Institutional context

In the process of management and control over the use of natural resources a lot of governance structures are involved. First of all, the duty to determine the main directions of the state policy in the field of protection and use of the environment and its resources entrusted to the Committee on Environmental Protection under the Government of Tajikistan.

Maintaining the policy and state control over the compliance in the legislation field on protection of land, mineral resources, waters, forests, flora and fauna, is assigned to the State Committee for Environmental Protection under the Government of Tajikistan, which monitors the implementation of the state policy in the sphere of nature, adopted by the legislative branch and by the Government.

Economic and social development of specific territorial units of the country, as well as the responsibility for environmental protection on these units are entrusted to local authorities, headed by hukumat (region, district, city, etc.).

Currently, in the Republic of Tajikistan developed and implemented the National Programs and Action Plans on environmental protection, land degradation and desertification, Programme for the Development of Forestry, the State Environmental Program and other policy documents. In all areas, under the supervision of the Committee of Environmental Protection under the Government of Tajikistan, developed and accepted the action plans on environmental preservation. The documents noted that one of the key tasks of the country's development is to ensure the sustainable use of the environment and natural resources of Tajikistan, their effective conservation in order to achieve economic and social prosperity of the country.

2. Programme niche of the GEF SGP Country Strategy

Table №1: A list of the relevant conventions, regional / national plans and / or programmes

Convention Rio + national planning framework	Date of ratification /completion
UN Convention on Biological Diversity [CBD]	1997
The National Strategy for the Conservation of Biodiversity and Action Plan in the framework of (implementation) the CBD [NBSAPs]	2003
Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity	2013
United Nations Framework Convention on Climate Change [UNFCCC]	1998
National Communication to the UNFCCC (1, 2 and 3)	First - 2002 Second -2008 Third - 2014
Appropriate National Action Plan on mitigation under the UNFCCC [NAMA]	2015
UN Convention to Combat Desertification [CCD]	12.08.1998
National Action Programme in the framework of the CCD (NAP)	2001
Stockholm Convention on Persistent Organic Pollutants [POPs]	6.12.2006
Ramsar Convention on Wetlands	2001
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	2015
National Plan for UNFCCC implementation [NDP]	01.10.2007
Poverty Reduction Strategy [PRS]	2002
Strategy of Water Sector Development in Tajikistan [SRVS]	2006
Self-assessment of National Capacity under the GEF [SANC]	2005
Concept on Environmental Protection of Tajikistan	2008
Implementation Plan of the Concept of Environmental Protection in Tajikistan	2010-2012, 2013-2015
Participation in activities to develop a National Portfolio of the Sixth Replenishment of the GEF (GEF 6) [PADNP]	2015
Strategic Action Plan (SAP) for joint international authorities on water issues	NA
Minamata Convention on Mercury [Minamata Mercury Convention]	NA
Other Convention, if applicable	

This section provides information on the national priorities in the field of environment and implementation with respect to the strategic objectives of the GEF-6. Particular attention is paid to the National Plan for Environmental Action in Tajikistan (NEAP RT, 2006) and other national strategies for environmental protection, which is a strategic document, whose main objective - the creation of a foundation for optimal environmental management measures and conservation of vulnerable and valuable ecosystems, that will contribute to the harmonious and sustainable ecological and economic development.

Despite the current economic difficulties, the Government of Tajikistan pays more attention to environmental issues. The country has implemented a lot of activities in the field of protection of the environment, ensure environmentally sound management, as well as national and local plans and environmental programmes implemented in cooperation with international organizations, which serves as a good example of unity around the environmental priorities of the efforts of the Government, society as a whole and several international organizations.

Priority in awarding grants will be given to initiatives to address global environmental issues in different regions of Tajikistan, and national development priorities aimed at achieving the goals of sustainable development of Tajikistan and the environment.

The unique geography of Tajikistan provides both opportunities and challenges for development. 93% of the territory is covered by mountains, providing considerable water resources for Tajikistan. The tremendous importance for national development has a huge hydropower potential. However, arable land is scarce, and rapid population growth creates pressure on the environment. According to the results of research on environmental sustainability Tajikistan ranked 72 out of 180 countries⁴.

It is noted that the mountainous regions, mainly Tajikistan, serve as indicators of sustainability of the global environment in relation to the geographical location of the country and its natural features. One of the peculiarities of the country is the vulnerability of its ecosystems, along with the lack of arable land and arid climate poses some obstacles to socio-economic development.

Today, obviously - and as experience has shown in the past decade - that without the implementation in agricultural sector the modern methodologies in the field of environment, the natural resources management in Tajikistan as a whole becomes socially and environmentally unprofitable and damaging to the environment.

The country is particularly vulnerable to natural disasters, since Tajikistan is located in the heart of Eurasia - within the high mountain ranges of the Hindu Kush, the Pamir-Alai, Tien Shan and Tibet and in the vast Asian deserts, and more than half of its territory is situated at an altitude of 3000 meters above the level of seas; in this regard, taking place from year to year, landslides, mudflows, avalanches and earthquakes cause significant damage to agriculture, irrigation systems, transport and communication infrastructure.

The population is about 8.8 million people; while the bulk of the population resides and operates in the foothill valleys in the southwestern and northern parts of the country. The rural population accounts for about 70% of the total population. Rapid population growth and intensive development of agriculture require upgraded principles of water management, revision of the structure of arable land in agriculture, as well as the appropriate measures in the field of protection against pollution of the biosphere.

Some environmental issues were caused by recently excessive use of land, surface water and groundwater. Unless some effective measures will be taken, we can expect the expansion of environmental problems that will concern regions outside of Tajikistan. Thus, it is recommended that government economic policy carried out in the framework of the ecological potential of available water and land resources. At the present time, despite the poor socio-economic situation, the country, along with other Central Asian countries, is in the process of transition to a market economy.

Environmental status in the country is most often determined by the general economic processes taking place in the country in recent years. These processes have been exposed mostly negative economic trends in the past, as well as some finance deficit arising in the period of transition to a market economy.

⁴ The Environmental Performance Index, 2016

The socio-political and economic scrapes that have occurred over the past decade directly affected on the current environment status and led to its degradation in several key areas:

- natural disasters,
- land degradation,
- limited access to safe drinking water
- wildlife and protected areas, endangered,
- air pollution in urban areas and
- pollution of water resources and waste management.

Setting priorities

During conducting a baseline assessment of landscapes and identifying priority issues used clear criteria such as (i) the impact on the environment, the number of affected people, (ii) the impact on human health, especially the poorest, and (iii) economic performance. In addition, take into account the national and political objectives, such as for example: (i) support for environmental awareness; (ii) the improvement of air quality; (iii) reduction of waste generation and waste management issues; (iv) rational use and protection of groundwater and surface water bodies; (v) the conservation of landscapes and biodiversity; (vi) improving the quality of the environment in urban areas; (vii) the rational use of local energy sources and (viii) increasing access in remote areas and families with low income to energy services.

In addition, were taken into account the national and political objectives, such as for example: (i) support for environmental awareness; (ii) the improvement of air quality; (iii) reduction of waste generation and waste management issues; (iv) rational use and protection of groundwater and surface reservoirs; (v) the conservation of landscapes and biodiversity; (vi) improving the quality of the environment in urban areas; (vii) the rational use of local energy sources and (viii) increasing access in remote areas and families with low income to energy services.

This section provides an assessment of the major environmental problems facing Tajikistan, and identifies some of the measures in areas such as solid waste disposal, air pollution, land degradation and desertification, biodiversity, energy, climate change, international waters, and the environmental

awareness - which correspond to the strategic objectives of the GEF-6.

The territory of Tajikistan is situated at an altitude of 300 m to 7, 495 m above sea level (Somoni Peak). In the mountains, there is a high-altitude zonation, similar to zonation in the plains. But in the plains zones are replaced for thousands of kilometers, and in the mountains they are narrowed to hundreds of meters.

Biodiversity. According to the parameters of the biological diversity, Tajikistan occupies an important place in the world, distinguished by a high concentration of plant and animal species, as well as the relatively undamaged state of natural landscapes and ecosystems. This is due to the relatively high concentration of flora and fauna species. On the territory of Tajikistan found a rich variety of landscapes, ecosystems, many species of flora and fauna (1.9% of global species diversity⁵). The level of biodiversity biomes of Tajikistan is determined by their high landscape diversity, and represented ecosystems.

Tajikistan's biodiversity has a great importance at the global, regional and national levels. To globally significant species include 11 species of global importance for the world selection: *Aspicilia oxneriana*, *Hordeum bulbosum*, *Fritillaria regelii*, *Tulipa subquinquefolia*, *Punica granatum*, *Ficus carica*, *Juglans regia*, *Pistasio verae* etc. In the IUCN Red List 2006 is recorded 2 type: *Svidina Darvoz* (*Swida darvasica*) and *Sivers apple* (*Malus sieversii*). The animals: markhor goat (*Capra falconeri*), snow leopard (*Uncia uncia*) and urial (*Ovis vignei*) are of global importance.

The main protected species in composition of plant communities in different landscapes are endemic of global importance. They are about 30 species of plants (Vavilov almond, walnut, pistachio, plum Darvoz, pear Cajon, onions Suvorov ferrule sumbul, bulbous barley, onions Rosenbach, etc.), overall endemic species are 105. Valuable plant communities are: forest, meadow, tugai, juniper, semi-savannoid vegetation, which included a considerable number of rare, endemic and relict species.

Despite the relative prosperity of ecosystems, certain community experience significant anthropogenic pressures. Over the past three years, growth of the population of Tajikistan in mountainous areas with rich natural biodiversity has increased by 2.5%, which is about 200 000 people of the total

⁵ Fifth national report on biodiversity Republic of Tajikistan, 2014

population (about 8 million.). Along with this increased need of the population in biodiversity products (collection of medicinal and food plants) several times at the expense of natural forests, pastures, hunting, fishing and other activities. Thus, the load on natural pastures only by increasing animal husbandry, was increased by 15-18%.

Anthropogenic factors (caused by human activity) are shown in the direct withdrawal of biomass through felling of trees and shrubs, collecting medical and aesthetically pleasing plants, hunting, fishing, grazing, haying. These actions are accompanied by pollution, habitat destruction of arable land, the construction of roads, settlements, mining, artificial reservoirs, etc. Thus, we can observe the separation and reduction of habitats, reducing the number of species and their reproduction. The process of deforestation is particularly dangerous. Forest areas were halved in the last 50 years.

The unique natural and mountain-nut forests are of particular value. These forests are considered as one of the world centers of origin of cultivated fruit trees. From this perspective, forest is a great value as a pantry huge genetic fund.

Trends in transformation of natural resources. Many ecosystems are destroyed as a result of human activity in recent years. A sharp change in habitat, and direct removal of plants and animals from nature, as a result of economic activity, led to the disappearance of some species and threatened the disappearance of others.

Analysis of the causes of biodiversity loss has shown that the impact of the GEF / SGP can be effective in the following areas:

Forest ecosystems: the regulation of livestock grazing; changes in the structure of livestock numbers; the use of renewable energy sources; growing local fast-growing trees as an alternative to the use of firewood from the forest; implementation of community forestry on land, owned by local governments.

Herbaceous phytocoenoses: the regulation and control of livestock grazing; changes in the structure of livestock numbers; introduction of pasture rotation schemes and special measures for the rehabilitation of pasture productivity (microreserves, grass planting, partial haymaking); stimulate cultivation of bulbous and medicinal plants as an alternative to their uncontrolled collection.

Wetlands: grazing management; changes in the structure of livestock numbers; planting local species of fast-growing trees as a natural

alternative to the use of wood for heating and cooking; promotion of national handicrafts, based on the sustainable use of local ecosystems components (wood and weaving reeds); promoting community eco-tourism infrastructure, preventing the use of wetlands as dumping.

Local agro-biodiversity: assistance in the development of small processing infrastructure (processing of dried fruits, solar dryers); support in the creation of herds, flocks, nurseries for the cultivation of adapted varieties of fruit crops.

Using the aesthetic, recreational and informative, educational resources on biodiversity: creation of school patrols, the release of attractive teaching materials for children.

Changing of the climate. According to the latest inventory of greenhouse gas emissions (2004-2010), the level of emissions in Tajikistan remains the lowest in the Central Asia, both in absolute terms and per capita, which is confirmed by international sources. Despite the fact that the country has no numerical commitments for the UNFCCC to reduce emissions, level of emissions decreased by one-third relative to the 1990.

One of the recommendations ("Third National Communication of the Republic of Tajikistan on climate change", Dushanbe, 2014) to reduce greenhouse gas emissions in the energy sector envisages the development of legal mechanisms to encourage consumers to save energy and increase the share of renewable energy sources. In addition to the lack of legislation, there is a number of obstacles to the introduction of renewable energy sources: their high cost, long payback period, the complexity of the operation and construction; as well as the low level of public awareness about the environmental and socio-economic benefits of using renewable energy sources.

The share of buildings and homes heating is 10-15% of the total greenhouse gas emissions in the country. Heating of homes and buildings under construction at the moment, does not fully meet the requirements, and standards of energy conservation and efficiency in construction. Implementation barriers are the same as in the field of energy production. Almost 75% of the population living in rural areas, consumes less than 10% of total electricity. Every year, due to the limited electricity supply in rural areas the agricultural losses amount to 30% and there is a stop for many small businesses.

The share of the transport sector, mainly road transport, is about a third of the total greenhouse gas emissions. The main recommendations to reduce greenhouse gases relate to tightening standards and control their replication, development of public transport, the use of hybrid vehicles.

The share of production is about 4% of greenhouse gas emissions in Tajikistan and recommendations on this area is not very significant. The share of agriculture in the emission of carbon dioxide is 20%. The main sources are the burning of agricultural waste and agricultural waste (manure). The main recommendation to reduce emissions is the introduction of biogas and composting technologies. For the absorption of carbon dioxide is very important to plant trees and restore forest areas.

Analysis of the situation around greenhouse gas emissions and the introduction of renewable energy sources shows that the support of the GEF / SGP can have a positive impact on the following areas:

- increase the completeness of the growing stock and the restoration of forest areas through regulation of livestock grazing, changes in structures of livestock numbers, encouraging the collection and processing of non-timber forest products
- public awareness and promotion of energy-efficient construction standards and standards of heating and heating devices;
- experiments on the transition from the furnace heating of public facilities, being on the balance of local authorities on heating combined with the use of biogas, helio, wind installations; replacement of the existing practices on financing costs for the introduction of energy-efficient building and heating standards;
- support the innovation on use of renewable energy sources such as small hydro, solar panels, energy efficient furnaces, water heaters, insulation of social facilities and households;

Land degradation. The main signs of desertification in Tajikistan are reduction the productivity of arable land, pastures and forests. Desertification caused by unsustainable human activities such as over-exploitation of land, overgrazing, deforestation and inadequate irrigation methods. Due to frequent droughts and torrential rains organic substances decompose more quickly. Soil productivity is being decreased. Landslides and avalanches are taking more and more frequent and large scale.

This is often exacerbated by grazing (irrational use of pastures), the collection of fuel wood by local population, as well as by farmers, who almost constantly use the land and do not allow the land to recover even upon field crop rotation. As a result, more than 90% of agricultural land area is affected by desertification. Implementation of good agricultural technology prevents dominant small-scale agriculture.

The main causes of land degradation and desertification in Tajikistan include:

- Misuse of hilly land, such as using of steep slopes for cultivation of annual crops, contour plowing, the failure to apply the methods and technologies to combat soil erosion, and the failure to follow the crop rotation and the use of cover crops for the accumulation of organic matter;
- Inefficient management of livestock grazing and the failure to invest in improved pasture and forage production systems;
- Poor land management associated with the lack of the best practices, funds, encouraging measures for the conservation of land productivity;
- Dilapidated spillway channel;
- Felling of trees and shrubs, especially firewood, there is a much faster pace than their recovery;
- Failure to invest in land preservation and development;
- Excessive irrigation and poor water management;
- Inefficiency and lack of drainage systems;
- Do not functioning of deep well pumps required to minimize flooding and flushing of salts from cropland;
- Inefficient regulation of deforestation and lack of investment in reforestation activities;
- Inefficient mowing regulation;
- Lack of funding for reforestation, cultivation of perennial crops and other methods of saving resources.

Analysis of priority towards a situation of "land degradation" indicates that the form of support of GEF / SGP may be the same as for the protection of forest and shrub ecosystems and grassy formations: regulate livestock grazing, changes in the structure of livestock number, introduction of grazing and crop rotation, planting fast-growing trees as an alternative to natural forest resources and as a means of reducing the groundwater level;

implementation of community forestry on land owned by the local government authorities

Soil erosion. A serious problem is a soil erosion and landslides. Because of the country's topography and climate erosion it is a common natural phenomenon, but it is also aggravated by inefficient land management practices such as tilling the soil on steep slopes, excessive cutting of forests, shrubs and trees, including windbreaks, pasture degradation and unqualified irrigation. According to estimates 82.3% of all land and farmland in greater or lesser extent are susceptible to erosion. A new and potentially very complex problem of erosion is caused by the uncontrolled plowing up to 100 thousand hectares of steeply sloping pastures that farmers practice as a way to increase the limited arable land.

International waters. Some rivers of Tajikistan can be regarded as international waters (as international waters defined by the GEF) as their pools are located on the territory of several countries. The quality of international and internal waters is far from perfect condition. Water is a vital resource in Tajikistan, both in the national and in the regional context. This is the main economic asset and source of livelihood of the people.

It is essential for irrigated agriculture (mainly cotton growing) and to produce electricity, which are the two main sources of income for the economy of Tajikistan. Tajikistan is very rich in fresh water. Its territory is formed by an average of 50.9 billion cubic meters of water per year. These resources are formed by precipitation and the melting of glaciers, which, along with snowy expanses make a huge supply of water, constituting, according to estimates, 845 billion cubic meters of water, which occupies 8% of the country.

These waters flock to the Aral Sea basin, which make up 55% of the total flow of the pool, making it the center of political debates in Central Asia around the distribution of water resources. They flow into the Amu Darya (50.2 billion cubic meters) and Syrdarya (0.7 billion cubic meters) and pass through Afghanistan, Kazakhstan, Kyrgyzstan, Turkmenistan and Uzbekistan. Thus, Tajikistan's water resources have a clear cross-border perspective. In fact, Tajikistan uses about 20% of the volume of water in the country, which corresponds to a quota of 35% (18 billion cubic meters / year), agreed with neighboring countries within the framework of regional agreements on water resources section.

Due to the use of water for irrigation and industrial purposes almost all the rivers and water systems are degraded due to heavy pollution. Municipal and industrial waste water pollution is a troubling factor, requiring urgent intervention. More than 95% of wastewater is discharged directly into open channels and ditches. Experts say that in Tajikistan's rivers in 40-45 times more bacteria entering there with household waste than in the rivers of industrialized countries. This is the most serious environmental problem in the country. Industrial wastes are discharged in excess of standards for ammonia nitrogen and suspended solids.

The main causes of poor water quality are:

- lack of capacity and an extremely poor condition of sewage treatment infrastructure;
- lack of treatment systems in communities, especially in rural areas;
- unsystematic expansion (with violations of existing sanitary norms) of municipal waste dumpsites as a result of the promotion of unauthorized residential building near the big cities;
- violation of the maintenance and operation norm for road transport, leading to the spread of the pollution of rivers and water bodies through irrigation systems;
- violation of sanitary norms by the local population, enterprises of local industry, trade, public catering and consumer services;
- limited technical capacity of municipal services for the processing, handling and storage of industrial and household waste;
- insufficient state regulation on water protection.

Analysis of the situation in the priority area of "international waters" shows that the possibility of the GEF / SGP has a significant impact on the causes of deterioration in the quality of international waters are rather limited due to physical deterioration of water treatment infrastructure. Infrastructure objects do not fall into the GEF category of "additional costs" and can not be supported by the GEF / SGP. However, there are some activities in this area, which can be supported by the GEF / SGP Tajikistan:

- preservation and protection of wetlands as natural filters, by prohibiting livestock grazing and the use of land as a dumpsites, the encouraging handicrafts based on the sustainable use of resources of these ecosystems;
- infrastructure development of eco-tourism based on the resources of local communities.

POPs / chemicals

One of the priority environmental problems in Tajikistan remains the disposal of waste, including of mining waste, industrial, medical, household and other municipal waste. Tajikistan is rich in mineral resources, especially rare metals, semi-precious and precious stones; nonferrous metals such as tin, lead, antimony, mercury, and rocks used as building material. The bulk of the waste in the country, mainly hazardous and radioactive waste are generating in the mining industry.

The economic recession which began immediately after independence and have been worsened by the civil war has led to structural changes in the economy. Over the last 13 years there was a decline of industrial activity, but according to data provided by the Committee of Environmental Protection under the Government of Tajikistan to the Asian Development Bank in 2000, the actual amount of accumulated industrial solid waste had been increased mainly due to the growing inefficiency of industrial processes.

Household waste also constitutes a serious problem, mainly due to the lack of infrastructure for the collection and disposal of waste. Intensive use of plant protection products (pesticides) in the country in the second half of the 20th century, determined the level of environmental pollution by residual amounts of pesticides used. As a result of agricultural restructuring and rebuilding the country's economy significantly reduced the use of pesticides. However, a significant legacy of environmental load is saved on the local level up to the present time, especially in places of storage and disposal (landfill) of obsolete and banned pesticides.

Main cause for concern is not satisfactory storage of pesticides, including those related to POPs, which leads to large-scale contamination of the environment. Tajikistan has not yet carried out a risk assessment related to pesticide stockpiles and wastes, especially those related to POPs, and sites contaminated by POPs. It requires improvement of monitoring programmes and the destruction of banned and obsolete pesticides in order to prevent serious environmental problems in the future.

The total number of banned and obsolete pesticides, including having POP characteristics, including mixtures thereof with soil and buried on the Vakhsh and Kanibadam landfills, as well as being in a mini-cemeteries, located on the territories of settlements, is about 20,000 tons.

Significant volume of soil contaminated with pesticides several hundred thousand cubic meters.

The main objectives of the UNDP-GEF Small Grants Programme aimed at solving environmental problems. This programme strategy helps to improve national economic performance, which, in turn, contribute to the realization of the state program on poverty reduction. Despite the fact that Tajikistan has rich and unique natural resources, their stocks are extremely vulnerable and inadequate; so even a small impact on the environment, leads to a reduction of forests, degradation of pastures and other natural resources. Some environmental problems such as land degradation (soil erosion, degradation of pasture land and salinization) could be solved if agricultural production and productivity is increased by: (i) improvement of the drainage system, (ii) the proper irrigation, (iii) sustainable rainfed agriculture, (iv) the development of environmentally sound land use and land use practices change. Support for agriculture in achieving productivity growth means that the conservation of land and water resources, control over the use of nutrients, and integrated pest management will need to be addressed in conjunction with each other.

However, it will help to address environmentally adverse effects of poverty only if the recipients of the benefits (increased productivity) will serve the poor, and land-use practices will actually maintain the productivity of land, and not include the commissioning of unused but potentially arable land.

All these problems are exacerbated by the geography of Tajikistan. It is a mountainous country, vulnerable to natural disasters, including landslides, mudslides, floods, avalanches and earthquakes. Such natural disasters threaten the places of mining waste dumps, landfills for the disposal of radioactive waste and toxic chemicals. The lack of monitoring data on waste is one of the main obstacles to solving the problems of hazardous waste management and mitigation of their negative impact on the environment and human health.

The impact on the environment. Due to the lack of national system of monitoring of hazardous wastes and their storage and disposal in Tajikistan, there is no specific data on the direct and indirect impacts of household waste, waste of mining and other industrial waste, and toxic chemicals on the environment

⁷ The concept of rational use and protection of water resources in the Republic of Tajikistan, 2001.

and human health. However, given the composition of the waste and the fact that landfills operate without any control, we can assume that these wastes have a complex effect on the environment and human health. This fact leads to soil degradation and contamination with heavy metals, pesticides, including those having POPs properties and hazardous organic substances formed during their decomposition. The air is polluted as a result of decomposition and smoke from waste incineration, which is deliberately practiced in order to reduce the amount of waste to be disposed of in landfills.

In addition, landfills operated improperly, can lead to contamination of groundwater and surface water, due to the fact that rainwater carries hazardous organic substances in open waters, and penetrates into underground aquifers. The absence of fences around the waste dumps and protection helps to ensure that the local population penetrates freely in the territory of landfills and grazing livestock, which leads to contamination of animal products and its surrounding areas polygons, thereby having a negative impact on public health.

Special danger is posed by the tailings. For example, while rock falls, tailings are liquefying. This can lead to the destruction of tailings and environmental contamination by heavy metals. Tailings also contain soluble and active salts formed from ore arrays for decomposing acid. Thus, they are easily washed away by rain and penetrate into the ground water.

When using contaminated groundwater or rivers for drinking or irrigation chemicals immediately get into the food chain. In the riverbeds heavy metals and uranium are deposited in the sludge. During heavy rains and floods, they spread and lead to the pollution of rivers. In case of natural disasters such as floods, avalanches and landslides, waste containing radioactive elements and heavy metals, can be distributed in the vicinity of the tailings and contaminate the surrounding area.

Contamination of water and soil.

Population growth, urbanization and industrial production have led to the accumulation of waste and contaminating soil. Due to the absence of a special storage and equipment for processing industrial wastes the enterprises accumulate and store the waste at their sites. Landfills do not meet sanitary requirements; and across the country there is no mechanism for sorting and separating waste. Medical waste

is not separated from other types of waste, and there are no incinerators for burning medical and toxic waste.

25% of which are highly toxic and 38% of the average toxicity. Highly toxic pesticides include butifos, nitrofen, tiodan and phosalone. The use of fertilizers and pesticides in recent years has been significantly decreased to about 6-10% of the level of use in the period before independence - primarily due to the reduction of chemical production. However, uncontrolled use of pesticides in agriculture that took place before led to significant pollution of soil, water and other environmental components. In 1970-1980 years the concentration of pesticides in food was 7-10 times higher than the MPL. On the farms there are still piles mainly acutely toxic pesticides.

They represent a direct threat to the environment. Currently some studies on the effects of pesticides showed an increase in the number of respiratory and rheumatic diseases, malignant tumors of the digestive system, nephritis, ulcers of the stomach and nervous diseases in areas with high concentrations of pesticides.

In the 1990s, the use of pesticides has declined sharply, and limited access to pesticides during the civil war led to significant problems with pests and weeds. After the Civil War, the use of pesticides was increased, but due to the poverty of farmers was stopped at a low level - less than 2000 tons per year. The lack of training and lack of awareness of farmers impedes the proper selection and proper use of pesticides.

Often used cheap but ineffective pesticides. Moreover, pesticide sprayers are outdated and - if they are at all - do not ensure uniform distribution of the active substance. The same applies to fertilizers. Spraying pesticides, farmers do not use any personal protective equipment. It should be noted that in Tajikistan, even during the Soviet Union were used the latest biological and integrated methods of pest control. The country soon abandoned the spray in the air. This helped to reduce the use of pesticides in comparison with other states of the Soviet Union. Today, the official policy is aimed at the development of integrated and biological methods of pest control, however, the necessary information service and production of biological means of pest control are absent.

In many rural areas and small towns are the prevalent traditional practice "tank to burn." In some areas, they help to reduce the amount of garbage and collect a fee. Burning

plastic, rubber or other synthetic materials leads to entering dioxin and other dangerous toxins into the air, soil and groundwater. This poses a threat to people and biodiversity, leading to tumors, cancer, mental disabilities, infertility, immune system problems, asthma and other diseases. Those most at risk are children, adolescents and pregnant women. The resulting ash is also toxic and can penetrate into the ground and spring water easily.

Dioxins and other chemicals are generally invisible, and their impact on health is not immediately.

Despite the fact that scientists and environmental experts have the necessary information regarding the waste disposal methods, they have no opportunity to learn about relevant new developed methods of calculation. Thus, in this respect there is a great need for international support.

Large industrial waste generation sources include: Tajik aluminum plant, a cement plant "Tajik Cement", Javanese chemical plant. Classification of industrial waste includes more than 400 items. Depending on the category of waste, 5% -50% of waste c process. A very small amount of waste is recycled and used as a raw material in the secondary manufacturing process.

There is no any waste recycling technology and infrastructure, while recycling, probably would have been profitable. Within the framework of the UNDP-GEF SGP will also be supported a gradual decline of POPs and chemical substances of global importance at the community level, such as through the introduction of substitutes for POPs and revitalization of environmentally friendly practices of pest control.

Environmental awareness. In 1996, the Government of Tajikistan approved the State Programme on Environmental Education. The programme includes activities on environmental education, namely pre-school and school ecological education programmes, as well as in secondary and higher educational institutions, for the media and the general public, also training of civil servants.

At the regional level local authorities actively support to environmental education and awareness. For example, educational programmes on ecology, chemistry, geography and environmental protection were implemented in several universities in Dushanbe, Khujand, Kulob and Khorog. In addition, about 90 environmental NGOs were registered in Tajikistan, which actively supports

environmental awareness through public campaigns, distribution of information materials and the Internet.

Despite the fact that this sector is still quite young, it is dynamic and full of resources. Unfortunately, not yet found effective ways of carrying out measures for environmental education in the business sector. Between businessmen and the government there is no dialogue on issues such as compliance with environmental legislation, economic incentives, law enforcement and governance. In recent years, being encouraged some discussion between local environmental authorities and the main industrial enterprises, polluting the environment with respect to the scope of the obligations of these enterprises in the field of environmental conservation.

The public is still not adequately informed about environmental issues. Aimed at disseminating environmental information news media programmes are insufficient; there is very little analytical materials on environmental issues that could be further used for the formation of public opinion and public debate on environmental aspects of personal, local and national issues.

In recent years significantly increased the role of civil society in the discussion and decision-making process on environmental issues such as water quality and nature conservation. In 1998 Tajikistan signed the Aarhus Convention "On Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Issues of the environment", and under the State Committee of Environmental Protection under the Government of Tajikistan, was established "Aarhus Centre".

The center is a potential source of reliable information to citizens concerned about environmental issues, but on its activities so far, little is known.

Lack of public awareness and participation is probably a contributing cause of the high rate of violations of environmental legislation. In particular, such violations became a problem among the inhabitants of villages located in the buffer zones of protected areas, forests, as well as among indigenous and local communities, owners and managers of many companies that have been developed during the period of transition to a market economy.

The annual growth rate of environmental legislation violations is an indication of ignoring environmental problems. Another limiting factor of environmental education in Tajikistan

is underrepresented system of capacity building in the field of ecology teaching. Elements of such capacity building should include:

- Comprehensive interagency planning to achieve the goals of environmental education and awareness, including interdepartmental plans for the protection and sustainable use of natural resources.
- Training of experts
- Public access to the widespread and understandable source of factual information on environmental issues and policies.
- Special research in the field of key environmental issues such as biodiversity, land degradation, climate change and chemicals in order to identify how teachers can link these issues with the existing public interest.
- Monitoring system of knowledge, values and expected behavior of the public regarding various aspects of the environment.
- The main part of the Tajik population lives in rural villages and towns, those areas where the need for environmental education is particularly acute. Many rural people do not have access to printed ecological materials. Thus, there is a need for the publication and wide dissemination of conventional print media publications, necessary for the provision of environmental information and the promotion of behavior based on the principles of environmental responsibility. Such information should include the ecological literature in the form of brochures, posters, newspaper and magazine articles, relevant school materials and other common information publications.

Taking into account the above, the UNDP-GEF Small Grants Program in Tajikistan will work in accordance with national strategic priorities and action plans on the environment, and in accordance with the strategic directions and guidelines of UNDP-GEF SGP, by supporting local initiatives and national priorities. The programme is aimed at achieving global environmental benefits in the key thematic areas of the GEF while contributing to poverty reduction, rebuilding the local economy and the empowerment of the local population.

In connection with this programme niche the UNDP-GEF SGP – intended to support community-based environmental / social initiatives and activities that contribute to improving the welfare and the economic situation of the people, proposed by local communities / MS and NGOs in the context of

the strategic objectives and focal areas of the GEF-5. UNDP-GEF Small Grants Programme in Tajikistan will focus on providing sustainable alternatives to existing cultural and economic practices of communities, leading to over-exploitation of natural resources and contributes to climate change.

UNDP-GEF SGP main activities in Tajikistan will focus on the following:

- i) Improve conditions for biodiversity conservation, land degradation, mitigate the effects of climate change and air pollution, POPs / chemicals, and international water resources management;
- ii) Improving the living conditions / livelihoods and socio-economic conditions of the rural community;
- iii) Improving environmental education and awareness, and increase local capacity to deal with environmental issues.

Despite the fact that, as expected, these events will impact on the economic situation and facilitate the resolution of issues of poverty and unemployment, the priority of the UNDP-GEF Small Grants Programme in Tajikistan are vulnerable groups that will be involved in projects funded by the Programme. Thus, through the support of the projects the UNDP-GEF SGP in Tajikistan will also contribute to environmental issues and the achievement of the MDG country.

Environmental management and economic benefits

The purpose of this Programme Strategy - practical support and additional measures for the protection of the environment in Tajikistan, while supporting long-term sustainable economic development of the population.

UNDP-GEF SGP Country Strategy is the main strategy in the field of the environment, supporting phased planning and implementation of the GEF Small Grants Programme in the context of the priority problems and rapid response to the qualitative and quantitative improvement or degradation of natural resources, as well as providing a response to the impact indicators. Relevant existing guidelines and international standards, the Country Strategy, the UNDP-GEF SGP were developed for 4 years in order to respond to the critical issues.

Environmental problems requiring solutions include:

- Mitigation and prevention of air, land and water resources pollution;

- Protection of forests, pastures and especially protected areas;
- Preventing the degradation of biodiversity;
- Improving the practice of recycling and waste treatment;
- Improving the environmental education;
- Improving the irrigation systems / promotion of alternative irrigation schemes;
- Provision of the population with energy-saving technologies and technologies for renewable energy, and hydropower resources;
- Climate change mitigation and community practices to adapt to climate change.

The main objectives of the UNDP-GEF Small Grants Programme aimed at solving environmental problems. This programme strategy helps to improve national economic performance, which, in turn, contribute to the realization of the state program on poverty reduction. Despite the fact that Tajikistan has rich and unique natural resources, their stocks are extremely vulnerable and inadequate; so even a small impact on the environment, leads to a reduction of forests, degradation of pastures and other natural resources. Some environmental problems such as land degradation (soil erosion, degradation of pasture land and salinization) could be solved if agricultural production and productivity is increased by: (i) improvement of the drainage system, (ii) the proper irrigation, (iii) sustainable rainfed agriculture, (iv) the development of environmentally sound land use and land use practices change. Support for agriculture in achieving productivity growth means that the conservation of land and water resources, control over the use of nutrients, and integrated pest management will need to be addressed in conjunction with each other.

However, it will help to address environmentally adverse effects of poverty only if the recipients of the benefits (increased productivity) will serve the poor, and land-use practices will actually maintain the productivity of land, and not include the commissioning of unused but potentially arable land.

However, the repair and reconstruction of the drainage and pumping systems (the alternative irrigation schemes) will be advisable to help address the issue of sustainable use of natural resources, provided that the repaired / embedded systems are economically and ecologically used to support agricultural systems. Similarly, investing in improving

pasture productivity can stop the cycle of desertification and even lead to the sustainable growth of the productivity of farm animals.

The environment used in a sustainable way has a number of economic benefits. Forest conservation and sustainable forest management (SFM), for example, can help in monitoring air quality, water flow and climate change: increase carbon stocks and reduce GHG emissions. Natural systems, in turn, can help to prevent soil erosion and at the same time ensure the "natural shield" against natural disasters such as landslides and erosion.

Agricultural lands, where the practices of conservation tillage and sustainable agriculture take place to be can support the wellbeing of people, who otherwise try to farm in areas that result will be degraded. Intensive use of pastures with the additional use of cultivated fodder can support farm animals, which otherwise would be moved to other areas and destroying land productivity.

Possible sources of financing and the availability of resources. Under the UNDP-GEF SGP Strategy during the implementation of environmental measures are taken into account existing and potential sources of funding at the national and international levels. Potential sources of funding at the national level include: state budget (SB), local budgets (LB) and environmental funds.

Potential sources of financing at the international level include: international investment funds, donor organizations, banks and environmental funds. Each year, as part of the state and local budgets, environmental funds allocate resources for the implementation of priority actions for the environment under the category of "measures for oversight."

International assistance is needed to implement measures for capacity building, modernization and improvement of the environmental policy as well as systems and infrastructure. The country has rich origin (natural, technical and industrial use) resources and manpower. The country has considerable experience in the implementation of project activities. Currently, a variety of environmental projects are being implemented in the following sectors: water management, land irrigation, water supply, disaster prevention and the development of the energy sector.

National GEF SGP programme also contributes and complements other initiatives and programmes, which are planned to be implemented in Tajikistan, in particular:

- Medium-term Development Program of the Republic of Tajikistan for the period 2016-2020;
- National Strategy for Development of the Republic of Tajikistan until 2030;
- State Environment Programme until 2019;
- National Strategy and Action Plan on biodiversity up to 2020;

As part of the GEF-6 in Tajikistan is also planned to implement the following projects:

- Development of small and medium-sized enterprises for the promotion of Green Energy in Tajikistan;
- Protection of human health and the environment from unintentional POPs and mercury emissions due to unsustainable management of waste in Tajikistan;
- Conservation and sustainable use of ecosystems of the Pamir-Alai and Tien Shan to protect the snow leopard and sustainable livelihoods of communities
- Implementation of the Nagoya Protocol on access to genetic resources and equitable sharing of benefits.

Geographical and thematic coverage

In order to obtain the expressed impact and accumulative material benefit in the priority areas of the GEF, activities of UNDP-GEF Small Grants Programme in Tajikistan for the period OP6 will be limited by geographic and thematic scope. Given that Tajikistan is a small country, which has no outlet to the seas and oceans, where about 75% of the population is concentrated in the rural highlands, under the UNDP-GEF Small Grants Programme in Tajikistan will be finance projects in rural communities. UNDP-GEF SGP will be closely involved in the implementation of grant programmes that are particularly associated with the work at the community level. UNDP-GEF SGP cooperation with government agencies, UNDP, donors, international NGOs and the larger programmes / projects on the environment and energy will increase the possibility of co-financing and joint initiatives, will enhance the impact of its limited investment and allow to cover the most vulnerable groups.

The main beneficiaries of the project are rural communities (Jamoat), NGO / PO, dehqan associations and local authorities. UNDP-GEF SGP will work at the community level through community-based organizations (NGOs / POs). NGOs / POs at the regional and national levels

will also be eligible to participate in grant programmes / projects; however, it will be subject to certain tasks and requirements as the UNDP-GEF SGP grants are not infinite. The implementation of the pilot activities will be carried out through local NGOs / POs selected, among other things, in accordance with the specific priorities of the GEF thematic areas.

Within the selected territory the UNDP-GEF SGP projects will cover the mountain forest landscapes and savannoid ecosystems, which are located on the territory of Central Tajikistan, and part of the Khatlon region. The southern part of Khatlon and Sughd region fall under the 30% allocation of the GEF SGP. Due to the uneven distribution of environmental problems the Gorno-Badakhshan autonomous area misses the thematic areas of the GEF SGP-6.

Based on an analysis of past program activities below is presented the following conclusions concerning the situation analysis, and the results of consultations with programme partners and national stakeholders on the key thematic areas of the GEF Small Grants Programme in Tajikistan within OP6:

- Conservation of biodiversity;
- Climate change mitigation and adaptation;
- Combating land degradation and desertification;
- Reducing POPs / chemicals and the safe management of waste;
- Protection of international waters, and its sustainable management;

Indicators of implementation and institutional arrangements of CS UNDP-GEF SGP aimed at achieving the following results: improved management of natural resources; providing the population with alternative energy-saving technologies and technologies using renewable energy sources; the practice of sustainable agriculture; conservation of biodiversity, which is the source of livelihood for rural population; reduction of sanitary environmental risks and GHG emissions; prevention of natural disasters and desertification, as well as ensuring environmental safety of the population in the whole.

It is planned that activities in **field of biodiversity**, including the destruction of forest cover and desertification, will improve the management of natural resources and lead to a reduction of desertification effects. The ultimate goal is: to support sustainable level of preservation of natural resources in the country, in particular in the range of protected

areas and nature reserves; improving the sustainable use of protected areas, and support for its joint management; reforming land administration systems; strengthening monitoring; restoration of degraded forests; new planting of gardens and support for afforestation; inventory of country flora and fauna; increasing the productivity of forests and pastures, and an overall improvement in the economic situation of the country.

It is planned that **land use activities** will improve the management of natural resources and help in the fight against desertification and land degradation (erosion, overgrazing). These activities are aimed at the prevention of soil degradation (salinization, flooding, etc.); reduction of groundwater; strengthening alternative and best practices of irrigation of arid lands; support best practices for sustainable land management in rural areas; restoration of pastures and support to enhance the productivity of land; improving drainage (biological and technical) system and waste management.

As for the water system, it is planned to improve **water quality** (drinking water supply and general water use) and water bodies, including reservoirs and lakes. Provided further improvement of the national irrigation and drainage systems, management efficiency of the wastewater, as well as upgrading of water treatment facilities. These measures will help to: reduce the spread of infectious diseases, to reduce industrial and chemical contamination and pollution of international watercourses / rivers of regional or global significance; reduce flooding of lands; soil productivity increase; to provide the population with clean drinking water; improve the operation of water intakes and other water treatment plants, as well as mitigate the negative effects of poverty.

Activities on climate change include the introduction of practices to reduce the use of energy from fossil fuels, as well as the development of low carbon technologies, creation of mini hydroelectric power stations, use of hybrid energy systems and energy-efficient technologies (energy-efficient furnace, solar panels, wind turbines, and so on.), Contributing mitigate the negative impact of climate change on various sectors of the economy, including agriculture. Reducing the climate change impact of Tajikistan on global environmental system is directly related to the sustainable production and use of energy, as well as the use of improved land management practices, including conservation agriculture and forestry practices.

Activities on waste management include, inter alia, support and rehabilitation of tailings and disposal sites, used for recycling of insecticides and pesticides; reduce the use of POPs / chemicals in agriculture and farming; support local systems and waste treatment installations into the energy in the social and industrial infrastructure or incinerators in large / small towns; reduction in outbreaks of infectious and respiratory diseases resulting from inappropriate waste incineration and waste management; improving monitoring and accountability systems.

Implementation of these measures will be coordinated and agreed with the following state agencies: the Ministry of Water Resources, the Unitary Enterprise "Khojagii manzili komunal", the State Committee of Environmental Protection under the Government of Tajikistan,, the Academy of Sciences, the Ministry of Health, Ministry of Agriculture, Ministry of Energy and Industry, the National Center on five International UN Conventions, the State Committee on Land Management and Geodesy, local authorities, international organizations and NGOs.

In addition, under the program will probably be funded projects for strengthening of capacity building, preservation of ecosystems, as well as wider range of activities in the field of biodiversity conservation, land degradation, climate change, POPs / chemicals and water than specified above. Such projects, however, will only be maintained if within them will be offered innovative approaches, provided an adequate start-up capital, and co-financing will be available, as well as the effectiveness and acceptability of lesson learned. In this regard, during review of such projects, preference will be given to those projects which cover specific national priorities in the field of environment and thematic areas of the GEF, as well as interdisciplinary projects, in which linked several thematic areas (such as sustainable forest management, biodiversity, degradation land, etc.).

The main objective of the UNDP-GEF Small Grants Programme in Tajikistan is to work out a practical package of measures, which may be the basis of a comprehensive strategy for integrated environmental management in the country with a view to eliminating the causes of violations of environmental legislation at the local level.

In order to obtain the expressed impact and accumulative material benefit in the priority areas of the GEF activities of the UNDP-

GEF Small Grants Programme in Tajikistan within 6th operating period will be limited to the geographic and thematic scope. The main work of the GEF SGP will focus on selected landscapes, covering the mountain forest landscapes and savannoid ecosystems. This landscape covers the administrative districts of republican subordination and part of southern Tajikistan. The map shows the priority landscapes and targeted geographical areas.

In case of additional allocation from other sources, 30% of the funds will be used outside of a selected landscape. Under these categories fall landscape of Prisyrdarin zone (Khujand), Zeravshan zone (Penjikent, Ayni), and the southern part of the Kurgan-Tube, are of Khatlon region.



Picture 2: Map of landscape distribution in Tajikistan according to the SGP areas

2.1. Strategic priorities of the GEF SGP thematic areas in Tajikistan under the OP-6*

Biodiversity

- Mountain horticulture and forestry as an effective tool for biodiversity conservation. Creating a community nursery of rare and endangered plant species, followed by transplanting seedlings into natural habitats to restore the cut sections of the forest ecosystem;
- Restoration of mountain forests to reduce the erosion of hillsides and introduction of community-based system for forest management;
- Conduct awareness campaigns for the conservation of biodiversity and agro-technologies, creating nurseries of forest and fruit trees and care for them;
- Promote the conservation of forest resources through the introduction of innovative and effectiveness of traditional technologies for energy conservation in the villages;
- Biodiversity Conservation through development of beekeeping;
- Conservation of rare, valuable and local varieties of global significance, especially in protected areas; strengthen and improve the co-management of protected areas resources (forests, non-wood variety) by the local community in the surrounding areas of protected areas;
- Training of local communities using pasture forage, its production and livestock management;
- Promote conservation and sustainable use of natural resources through the creation of small industrial community agro shops processing of local (traditional) crops with the use of innovative market-based approaches;
- Promote development of local markets - exhibitions \ local fairs of environmentally friendly products;
- Support initiatives / activities income-generating, through the establishment of greenhouses (nurseries) for cultivation and production of early-spring food (vegetables), fast-growing commercial timber (poplar, etc.), seedlings of wild fruit and nut crops (apple, walnut, almonds, pistachio and others.);
- Promote awareness and capacity building of local people to conserve the natural mountain and forest ecosystems;
- Implementation and development of ecological tourism in the buffer zones of protected areas, belonging to the category of tourist and historical areas, with involvement of local community under the system "Payment for ecosystem services" for biodiversity conservation, having national and global significance;
- Contribute to preserve and increase the number of Red Book flora (collective nursery), with the active involvement of local communities and stakeholders, both at local and national levels.

Climate change

- Development and implementation of technologies that contribute to climate changes adaptation in the field of agriculture and forestry;
- Contribute to implementation of energy saving and construction of energy-efficient buildings and installations;
- Introduction of traditional ecological methods of heat conservation in rural homes and schools, promote the reduction of heat loss;
- Reducing the influence of local population in remote mountain areas on natural ecosystems, through the use of solar energy for needs of his farm, including dried fruits and herbs;
- Introduction of new technologies that contribute to saving natural resources, save energy and reduce greenhouse gas emissions
- Introduction of renewable energy sources in the autonomous communities, social institutions and settlements (biogas installing);
- Promotion of solar energy using (solar panels, solar power plants, etc.) in return for the use of wood for heating, hot water, cooking, lighting;
- Adaptation to climate change at the community level through the new knowledge / best practices, innovative methods and technologies that contribute to

the conservation of water and land resources;

- Introduction of alternative energy sources: HPP, solar collectors, solar power plants, biomass, methane production from waste (light and heat), processing of biomass into solid and liquid bio-fuels instead of fossil fuel raw materials (fuel, gas, etc.);
- Increasing the sequestration of carbon dioxide gas (carbon) by increasing the forest area, forest cover and plantation (development of agro / forestry, forest-restoration, community nurseries);
- Support development of sustainable and ecological urban transport, and construction (transport / equipment is not equipped with a motor / engine);
- To promote awareness and strengthen the capacity of local population, through dissemination and training best practices based on lessons learned (show-cases and demonstration areas) for alternative and renewable energy sources, energy-saving and energy-efficient technologies, adaptation measures in the field of agriculture and forestry as well.

Land degradation / Sustainable Land Management

- Introduction of alternative irrigation systems and water supply in rural areas.
*(Examples: * gidrotaran, collected rainwater from the roofs of houses, rational use of springs, drip irrigation system, etc.) * gidrotaran - water pump working by the water flow energy;*
- Implementation of alternative and advanced systems for production and use of environmentally friendly biological fertilizer. Promoting biological crop protection methods;
- Introduction of technologies for the production of organic fertilizers to reduce the use of synthetic fertilizers, pesticides and herbicides;
- Restoration and creation of windbreaks and plantations in order to reduce and prevent water and wind erosion;
- Promote integrating of biological drainage systems to prevent salinization of the soil and restore the productivity of irrigated land;
- Restoration of irrigated agricultural lands, creating new jobs, improving food security;
- Grafting seedlings and seeds in degraded slopes to prevent landslides, formation of gullies and slope stabilization;

- Contribute to creation of the Advisory services center for local farmers, and demonstration of best practices (demonstration sites) on preparation and use of land, on alternative irrigation system (hydronic) to improve water use efficiency per unit area, on the correct use of fertilizers, and sowing calendar (time frame of farming);
- Promote awareness and capacity building of local population, through distribution and retrieval of the best lessons (show-cases) for alternative and sustainable land management to prevent land degradation and desertification;
- Improve the use and sustainable land management (SLM) (change of land use practices, combating desertification, erosion: water, wind, etc); under the land use, land and forest use change;
- Promote an increase of forest area, forest cover and plantation (development of agro / forestry, forest-restoration, community nurseries) to prevent erosion and land degradation, disaster risk reduction;
- Rehabilitation and rangeland management (improved pasture rotations, reducing the load on the pastures, etc), as well as the introduction of productive livestock breeds, its diversity, improving the quality of forage on degraded sites;
- Promote sustainable land management through the introduction of alternative methods and technologies for agriculture in dryland or rainfed landscapes (organic farming, drip irrigation (the rational use of springs)), conservation of soil moisture, introduction of drought-resistant crops, biological fertilizer (komposting) and biological methods of protecting plants.

Persistent organic pollutants and pesticides

- Conducting information campaigns (on the level of local jamoat and district communities) about the dangers of persistent organic pollutants, and methods to reduce their impact on the environment, ecosystems and human health;
- Support the recovery of storage and burial sites of industrial and chemical waste; make an inventory of storage and burial sites (statistics, etc);
- Promote reducing of production and use of chemical and toxic substances / drugs (PVC, DDT) and persistent organic pollutants (POPs) in agriculture and introduce organic farming;

- Contribute to implementation and development of efficient available technologies and agricultural practices that contribute to environmental protection;
- Introduction of environmentally friendly technologies and equipment for the destruction / elimination of medical waste (chemical waste, thermometer, etc);
- Promote broad public awareness and dissemination of information and experiences among the local community about the dangers and consequences of chemical and toxic agents use (PVC, DDT, etc), as well as persistent organic pollutants (POPs); (Strategic Approach in International Chemicals Management «SAICM»);
- Contribute to improving the quality of water resources (drinking water supply, irrigation, etc.), including rivers and lakes, reservoirs and reservoir;
- Promote the efficient management of waste that fall into the rivers and lakes of international value, through restoration of the old and construction of new small-scale sewage treatment plants and introduction of modern water treatment technologies;
- Develop and conduct information campaigns and dissemination of information to civil society on modern approaches and international conservation water resources.

* GEF SGP priorities can be changed for the next 2-3 years with the identification of new priority areas.

The GEF SGP National Programme niche can be summarized in Table 2 below.

International waters

- Exchange best practices and experience of water resources management, use of new water-saving technologies in the field of cross-border rivers, and promotion of dialogue with neighboring countries;

Table 2. SGP Contribution to national priorities / corporate results of the GEF-6

1 Strategic initiatives of global SGP for OP 6	2 Corporate results of the GEF-6 on the main directions	3 Describe briefly SGP National Programme niche ⁷ relating to national priorities / priorities of other agencies ⁸	4 Briefly describe the complementarity between the National Programme of the GEF SGP and UNDP CO
Saving of terrestrial and marine landscapes / ecosystems by communities	<i>Conservation of biodiversity of international importance, as well as products and services provided by ecosystems to society.</i>	Inject at the community level and to disseminate widely the practice of conservation and sustainable use of natural resources derived from mountain forest landscape, which can ensure the long-term interests of biodiversity conservation and provide economic benefits to communities in Tajikistan. Education of specialists, skills training on protected areas management. Improving forest and specially protected areas management systems. The implementation of biotechnical measures, to improve the habitat of animals and environmental management. Public education and encouraging in the following areas: (i) the value of natural flora, fauna and ecosystems, (ii) threats to ecosystems and (iii) the measures to be taken by citizens in order to preserve the flora, fauna and ecosystem productivity	SGP complements the UNDAF output 6 "By 2020, people in Tajikistan are more resistant to natural and man-made disasters as a result of improving policy and operational framework for environmental protection and rational use of natural resources" <ul style="list-style-type: none"> • Improving the sustainability of protected areas; • Support the relevant individual and institutional capacity for the effective management of protected areas and local communities;; • Support of joint and community management of protected areas, carried out by the government, indigenous and local communities

⁷ "Niche" refers to the role and contribution that the most appropriate way to implement the national program, and about which all parties concerned have given their consent

⁸ Describe only those strategic initiatives for OP6, which includes the national program SGP

1	2	3	4
Innovative agroecology, taking into account climate change issues;	<i>Sustainable land management in producing ecosystems (agriculture, pasture and forest landscapes)</i>	Implement community-based and widely disseminate agroecology practices, including the restoration of forest genetic fruit resources, creation of nurseries, carrying out of biotechnical actions in degraded winter pasture lands that contribute to reducing CO ² emission, and increasing resilience to climate change in protected areas, buffer zones and corridors of forest ecosystems migration. Development of rainfed horticulture and nursery cultivation of forest resources. Enhanced anti-erosion zones plantations. Develop the programme on restoration of the forest belt, rehabilitation of degraded forest plantations and expansion of plantation area.	Promoting improved water management technologies and the use of other agricultural technologies that can increase the organic content of the soil in order to mitigate the effects of climate change in the agricultural sector. <ul style="list-style-type: none"> • Forests and rangelands conservation; • Use of adaptive management tools in SLM; • Support community-based practices for sustainable land management in rainfed slopes and irrigated landscapes; • Reducing the burning of fossil fuels and deforestation, which lead to increased carbon dioxide
Saving of terrestrial and marine landscapes / ecosystems by communities	<i>Promotion of collective management of transboundary water systems, promote the implementation of the full range of policy, legal and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services</i>	Creating of required terms so that farmers and ranchers - both large households and small independent families – adopt resource-saving methods of soil cultivation, use of water resources. The development of new agricultural technologies, which contribute to climate change mitigation.	<ul style="list-style-type: none"> • Increase forest cover and tree vegetation on industrial landscapes (agroforestry); • Reduction of the vulnerability of agro-ecosystems and forest ecosystems to climate change and other anthropogenic influences; • Improve provision of agro and forest ecosystem goods and services; • Sustainable forest management: sustainable use of forests and trees outside as timber and non-timber forest products; • Development and implementation of policies and regulatory acts aimed at preventing deforestation
Mutual benefit from access to low-carb energy resources	<i>Community support in the transition to low-carbon development and resilience to changing climatic factors</i>	<ul style="list-style-type: none"> • Support for recycling in order to reduce waste generation and to reduce net emissions of the gases causing the climate change; • Creation of small hydro power plants, and energy efficient technologies in order to prevent increase in the use of fossil fuels or fuels derived from biomass. • Support the development and use of agricultural technologies, is expected to maintain the biomass, water and organic content of the soil in order to reduce vulnerability to climate change. 	GEF SGP activities will complement the final UNDAF output 6 "By 2020, the population in rural areas benefit from the sustainable management of natural resources and resilience to disasters and climate change" under the area "Environmental protection for sustainable development": Area 3. Introduction of climate sustainability principles and green economy into the national development frameworks. <ul style="list-style-type: none"> • The transition to a low-carbon path of development through support of environmentally sound technologies;

1	2	3	4
			<ul style="list-style-type: none"> • Support access to energy produced from renewable energy sources (hybrid technologies for energy production (solar panels, wind generators)).
From the local to the global coalition on chemicals	<i>Increasing the phased refusal, recycling and reducing emissions of POPs, mercury and other chemicals of international concern</i>	Implement affordable practices to reduce the use of POPs and their isolation, demonstrated at the local level on the project sites. The local population in the project areas is aware of existing POPs sources, as well as practices to reduce the use of POPs in agriculture and enhance the security of the local landfill at local level.	UNDAF outcome 6: "By 2020, people in Tajikistan are more resistant to natural and man-made disasters caused by improving policy and operational framework for environmental protection and rational use of natural resources" <ul style="list-style-type: none"> • Introduction of practices that use "zero" and a minimum level of pesticides in agricultural activities and in everyday work • Projects on organic farming technology; • Enclosure of burial places of POPs residues; • Locally appropriate medical waste processing technology (chemical waste); • Creation of facilities for the temporary storage of waste; • Building the capacity of public institutions for the proper monitoring and control of waste storage facilities and waste management; • Awareness campaign.
Platform for dialogue between civil society organizations and government	<i>Strengthening the capacity of civil society to contribute to the implementation of MEAs (multilateral environmental agreements), national and sub-national policy documents, plans and legal frameworks</i>	Improving and capacity building of civil society organizations (in particular local communities and non-governmental organizations) to participate in consultative process, use of knowledge management practices in order to ensure proper informative flows, implementation of conventions' guidelines, providing monitoring and evaluation of the impact on the environment.	Promoting dialogue between the community organizations, NGOs and state authorities to participate in environmental activities and decision-making process.
Social integration (gender, youth, indigenous peoples)	<i>GEF policies and action plans on gender equality at all stages, and GEF principles on involvement of indigenous peoples</i>	Promote greater participation of youth and provide gender equality in the dialogues, practices and sharing of benefits derived from the SGP activities.	Coherence with measures of sustainable forest management, biodiversity, land degradation and reduce the vulnerability of forest and non-forest lands to climate change in order to obtain global environmental benefits, including poverty reduction and improving the economic situation;

1	2	3	4
			<ul style="list-style-type: none"> • Support for projects aimed at the maintenance of several subjects of the GEF and linking issues such as forest management, biodiversity, land degradation, climate change, international waters, POPs; in synergy with the environmental conventions;
Contribution to the global knowledge management platform	<i>Provide assistance to the GEF efforts in knowledge management process</i>	<p>Development and support of the interdepartmental strategy on environmental education.</p> <ul style="list-style-type: none"> • Targeting effective initiatives on environmental education in the business sector. • Strengthen the capacity of school teachers, employees of government agencies and NGOs on environmental issues. • Promoting media support, especially the print media, which can cover people in rural areas. 	<ul style="list-style-type: none"> • Under the UNDP-GEF SGP projects develop educational materials such as books, manuals, posters, leaflets; • Strengthening systems of environmental centres in rural and urban areas (information and advisory business centers, centers for knowledge dissemination, etc.), including: governmental and non-governmental organizations (NGOs); • Improved understanding of conditions for the project success and lessons learned from the experience in order to increase the GEF impact.

3. GEF SGP Action Strategy for the OP 6

3.1. Comprehensive strategy of grants provision under the OP6

In response to a reduction of resources for the GEF SGP in the framework of the GEF-6, as well as to promote the advancement and expansion of the results achieved by the GEF SGP, it was agreed that the GEF SGP in each country will focus only on one landscape, with a variety of ecosystems, which will obtain a large proportion of the programme resources (70-80%). The programme can still use up to 30% of GEF SGP grant allocations in 6 operational period (fixed assets and STAR funds) for projects on other thematic areas, outside of the selected landscape / ecosystem.

In the case of Tajikistan, where only limited basic resources from headquarters have been allocated to the GEF SGP. STAR resources allocated to Tajikistan by the GEF are not available for the programme in the current period, the GEF-6. Other thematic areas that were identified in the Strategy, implies possible future involvement of third-party funding, as they are considered as important for the sustainable development of Tajikistan, as well as selected mountain forest landscape.

In addition to target focus on preservation of the mountain-ecosystems / landscape during consultations at the national level, assessment and determination of possible topics for the GEF SGP activities, was defined that sustainable energy production and consumption, energy efficiency are also presented as the most important factors for sustainable development of the country.

On the issue of biodiversity conservation, the situation analysis shows that over the last century due to intensive nature, many species of plants and animals in Tajikistan continue to be subjected to human impacts, and therefore reduced their range and numbers. Some species are endangered or have disappeared completely. The number of other continues to steadily decline. Among the direct threats are such as (a) direct use of biological resources in excess of limits of the natural potential for recovery; (B) seizure and destruction of natural habitats of wild plants and animals by humans and human activities; (C) fragmentation; and (g) environmental pollution

Following thematic areas that will be subjected to major changes and improvements, are activities in the area of climate change - reducing the use of energy from fossil fuels, as well as mitigating the negative impact of climate change on various sectors of the economy, including agriculture. The main prerequisites for determining the GEF SGP activities for OP6 are: (1) experience of what has already been done by the Programme to date; (2) existing partnership relations; and (3) demand / interest from potential beneficiaries. All three components are strongly coupled to each other and their aspects have already been mentioned above.

Summarizing above stated information, so that to obtain more effect from the limited GEF funds allocated for the implementation of the GEF SGP in 6th operating cycle, the programme plans to concentrate its activities on the preservation, improvement and restoration of mountain-landscape and savannoide ecosystems. The programme selects the landscape and ecosystem based on the following assumptions:

- Programme SGP accumulated a lot of experience of different technologies and practices on conservation farming / agriculture, forestry and agro-forestry practices, sustainable use and management of biodiversity resources and efficient energy production and use in agriculture. Most of the projects were made specifically for mountain-improvement and agricultural landscapes / ecosystems. The programme was able to bring the spread of certain technologies and practices (cultivation of pistachios, bio-drainage) to a new level - national level. As mentioned earlier, so widespread it would be impossible without adequate prior successful demonstrations that serve as a visible example for the Government and the direct users. The programme has a sufficient reserve of other technologies that are at a focal attention can obtain wider dissemination and implementation across the country. This is a different practice and technology of conservation agriculture and agroforestry, as

well as the practice of obtaining energy from water resources in rural areas;

- The programme has a direct and successful cooperation with many organizations working in various fields of management of mountain forest landscape / ecosystem, including UNDP projects, the World Bank projects, FAO, the Council of farmers' initiatives, international donors and local authorities;
- One of the GEF SGP strengths is that the programme provides a point-targeted assistance in response to demand and is valid only if there is a direct interest / demand from beneficiaries. The programme promotes and tries to advertise the best technologies and practices, disseminates knowledge and experience, sharing them with all possible partners. The principle of operation is that the SGP only determines the direction of the work, the general framework, and then only responds to reasoned requests from communities for specific types of practices, rather than by the imposition of certain preferences of the Programme.

The reduction of land areas affected by degradation, as well as improving soil fertility to increase production from 1 ha, using the smallest amount of water is also a priority, which sets the various state agencies. There are many partners in the field of combating land degradation, who have extensive experience and numerous initiatives, which the GEF SGP could contribute, but not duplicate. For example, FAO, ICARDA, IFAD, the World Bank are actively working on agriculture conservation in Tajikistan. GEF SGP has the potential to contribute to a repetition of the experience and expand its scope, including work in other areas of the country.

In the area of climate change, the UNDP launches a new project to promote green energy in rural areas. GEF SGP could contribute to the achievement of energy efficiency in rural areas engaged in energy efficiency in the forestry and agricultural sectors.

GEF SGP in Tajikistan continues to follow a model that has proven in practice to be effective: to demonstrate practices sustainable from point of view of nature conservation and cost-effective → economic analysis of cost-benefit → dissemination of learned lessons and knowledge → playback experience, if possible → event, allowing to expand the scale of use technology. Past and current projects of the Programme act as an integral part of the scheme and assumed to be preparation for further scaling the individual tested best practices, which will be held in the framework of the sixth operational period and its outside.

During the national workshop were discussed the results of landscape baseline assessment, according to achieved results and identified indicators, it was decided to consider as priority landscapes the mountain forest landscapes and savannoide ecosystems, attributable to the territory of the Central Tajikistan (RRS). Choosing the landscape was based on several criteria and indicators (see the table of Annex 2).

Gorno-Badakhshan autonomous area (GBAO) does not fall under the category of priority landscapes in the framework of the GEF SGP-6 as in this area the lowest population density in the country, 8 people per 1km², and there is no necessary capacity to implement the directions of the GEF SGP. Moreover, on this territory there is no industrial and building environmental load. With regard to other types of environmental problems, they are being solved optimally due to various national and international funds. International organizations and donors as the Aga Khan Foundation (MSDSP), German Society for Technical Cooperation (GIZ) are investing heavily on this area for the conservation and restoration of forests, pastures and adaptation to climate change.

3.2. Strategy of grants provision under the OP6 based on a landscape approach

Defining the landscape on which the GEF SGP work will be done – mountain forest landscape and savannoid ecosystem - has been estimated at several stages. Firstly, NGO "Noosphere", leading the process of preparing the strategy, has produced an independent analysis of the previous experience of the GEF SGP grants in Tajikistan. The analysis showed that the majority of requests from local communities and farmers under the GEF SGP fall on mountain forest landscapes, savannoid ecosystems and agro-ecosystems. Interest in the various energy efficiency measures to reduce CO² emissions, also comes from the rural areas and is closely linked to forestry and agro-ecological landscapes. In addition, government investments focus primarily on large infrastructural projects. At the same time there is a need for the introduction of transformational change in routine agricultural practices. Most agricultural practices continue to copy and use those techniques that were prevalent 50 years ago.

Thus, conventional farmers are not giving the priority to the long-term development of agriculture - on the basis of soil conservation to improve food security. Change of old practices can be achieved by increasing the demonstration projects, followed by the expansion of its scale. This is the strong point of the GEF SGP – to demonstrate to local population the practices, the most attractive in terms of sustainable environmental and economic benefits, and further expansion of such practices by initiating dialogue on a "bottom-up" - from the community to the government.

Proposal on defined landscape was open and accessible to the public, repeatedly was discussed at seminars and meetings with representatives of government, civil society and local communities. Partners are being invited to an open discussion of the proposed strategy during national roundtables and meetings. The whole process of purposeful selection of the landscape ensures that the voices of all partners will be heard to ensure the widest possible participation and transparency.

During identification process, the basic assessment process included an analysis of the environment situation in the country, which had

already been described in various national programmes such as the NBSAP, NAPEP, the National Environmental Programme and project documents of international donor initiatives (including UNDP, UNEP, ICARDA, German Society for Technical Cooperation (GIZ), the World Bank, and others.). Advanced experience of other countries in landscape planning were studied. The findings also confirm that the mountain forest landscape are being used in the greatest extent, and require urgent conservation measures, to further ensure the environmental and food security and sustainable development of the country. Most of Tajikistan population lives in mountain areas, where it is possible to engage in agriculture. The high density of population in some areas of the country leads to a high load on the existing forest resources, water and biodiversity.

The various processes of land degradation worsen the situation in relation to the stability of mountain forest and savannoid ecosystems for the future biodiversity conservation. The deterioration of the available arable land, in turn, forces the population to use the land more valuable, more taking territory from the wildlife habitats.

The GEF SGP-6 National Programme will concentrate on conservation of mountain forest landscapes and savannoid ecosystems by 70% (see landscape map Annex 2). Defined landscape area is 1,687,800 ha, including 120,000 ha of forests, 200,000 ha of irrigated land, 167,800 ha of rainfed land, 1.2 million ha of pastures, for a total of 12% of the country.

Over 4,872 thousand people are living on this territory. This landscape is found in the central and southern parts of the country. Emphasis will be placed on building a harmonious relationship between humans and nature, in which social and economic human activity in rural communities and beyond, including agriculture and forestry, will be correlated with the natural processes in the most sustainable manner. The resources and services provided by mountain forest landscapes, and savannoid ecosystems include:

- a. Unique biodiversity in protected areas and adjacent areas;

- b. Plant genetic resources and agro-biodiversity in the conditions of in situ ex situ;
- c. Pastures provide the basis for cattle feed and other crops;
- d. Maintenance of the water cycle for all socio-economic and ecological functions;
- e. Formation of the soil and ensuring its agricultural production, including the production of various food products, animal feed and other crops - the most important function;
- f. Providing habitat for biodiversity, which performs a number of functions: pollination of crops, gene bank of various kinds that are important to the welfare of society, weakening of extreme risk of various biological phenomena, production of food for the population, etc.;

Sustainable co-existence of human communities with nature, where different types of land use, such as the use of land for agricultural plantations, forests, pastures and meadows, lakes, rivers and irrigation canals, connected with nature in a way that does not go beyond the capabilities of nature to heal itself, are paramount objectives of the Programme. The program aims to support innovative community initiatives [in cases when]

- Use of mountain forest ecosystems is aimed at soil conservation and sustainable use of ecosystem goods and services in the long term;
- Water resources are used given needs, including environmental;
- Wood is grown in addition to naturally growing, and only own planted forest could be harvested. Planting should be done in order to maintain healthy vegetation cover, water purification and turnover, capture carbon dioxide from the atmosphere, etc., and to meet human needs for wood fuel;
- Vegetation is used to maintain soil fertility and as animal feed;
- Area of natural biodiversity habitats is supported to save and reduce fragmentation;
- And other initiatives that help to maintain a healthy environment and meet the needs of the population in rural areas.

The nature of the chosen landscape requires that the main stakeholders for the programme will be the rural population,

including the community of farmers and individual households. The national programme may take community involvement from all areas of the country, and therefore geographically, the programme has the scale of the whole country.

In order to derive maximum benefit from the limited resources the programme in Tajikistan will pursue targeted, identical events in different regions of the country, trying to use the zoom effect. Thus knowledge from one project can be used and disseminated through a variety of channels in other parts of the country. In addition, some of the elements or components of projects in different areas of the country may complement each other, saving programme resources. For example, the draft conclusions on soil protection to agriculture in one region, which has a component for green manuring can complement the findings of another project in which there is no such a component. Different project efforts in process of knowledge dissemination can be combined to conserve resources in those cases in which this is possible.

If the project essence will allow, it could be launched the strategic project, in order to achieve greater results across the country. It should be noted that the focus on defined landscape is strongly associated with other strategic GEF SGP initiative - "Innovative agroecology, taking into account the climate issues", which will involve resources from other sources, and so they will complement and overlap with each other.

The programme also identified the following strategic initiatives for the GEF-6 as a possible area for 30% of the available financial resources and additional attracted resources:

- Production of alternative ecological forms of energy for the needs of local communities;
- Efficient use of energy (energy efficiency) at the community level;
- Saving other ecosystems for biodiversity conservation, which has national and global significance;
- Preservation of local plant genetic resources;
- Restoration of mountain pastures;
- Preservation and development of agro-biodiversity;
- The development of low carbon technologies and waste management;
- Development of eco-tourism;

¹⁰ The data on the basis of the statistical collection "Regions of Tajikistan", Dushanbe, 2015

These strategic initiatives will also be offered to potential donors for additional resources and the subsequent receipt of benefits to local communities. In case of finding additional financial resources, these areas will also be added as the objectives of the program strategy.

3.3. "Donor +"¹⁰ Strategy

3.3.1. Platform for dialogue between civil society organizations (CSOs) and government

The country programme will also act as a mediator and participant of a platform for dialogue between civil society organizations (CSOs) and the government for the promotion of best practices and knowledge gained in the GEF SGP projects of OP 6 and other environmental projects and initiatives.

Tajikistan has a system of CSOs interaction with the government, and they are actively involved in decision-making process. The programme will help to bind communities-partners voices with representatives of national executive and legislative authorities of a higher level. This will take the form of various round tables, conferences, seminars, meetings, etc. Knowledge management component of the programme will also complement the efforts of the GEF SGP in creating a "bridge" between communities and government agencies.

3.3.2. Impact on decision-making

Besides the initiative to create a platform for dialogue between civil society organizations (CSOs) and the government, the GEF SGP Country Programme will use the experience and lessons learned from previous activities of the GEF SGP, to inform the country's politicians and influence on policy as part of its role under the "Donor +" at the local, regional and national levels. This function will be carried out through distribution of information products and participate in the various processes of discussion on implementation of the global environmental agreements.

3.3.3. Promoting social and gender integration

GEF SGP will continue to focus on attracting and supporting women in the use and promotion of innovative methods and

The National Steering Committee of the Programme will be treated very carefully to the decision-making process with respect to the strategic importance of allocating funds to those or other design ideas to ensure that the limited resources of the Programme will be spent with the greatest benefit.

technologies. Due to various reasons, the number of women farmers in Tajikistan is limited. However, additional efforts will be made to ensure that women have the opportunity during the project implementation process. The same special attention will be paid to the integration of young people in the activities of the country program.

Tajikistan is an agrarian country and, accordingly, more than half of the employed population find work in the agricultural sector. Development of private and dehkan farms, as well as the state allocation of 75,000 ha of land (presidential) for the development of these farms, contribute to the growth of total employment in the countryside. The development of the agricultural sector in the context of human development goals is a key factor in ensuring the economic empowerment of people.

In connection with the majority men departure in labor migration, women began to play significant role in the economic survival of their families, this situation is common for rural areas. Therefore, women's priority concerns include issues relating to agricultural development and access to land, as well as loans for business development.

As for women, compared with men, they have less land, do not have equal access to decision-making processes in field of agriculture, to distribution of financial benefits from the harvest, to credit, etc. Among the farms managers the proportion of women 6.5 times lower in comparison to men. 87.7% of dehkan farms leaders in Tajikistan are men.

The number of dehkan farms (DF) headed by women has increased over the period from 2008 to 2014, from 2695 to 5700. However, attention is drawn to the fact that the specific weight of the DFs, headed by women, over the years has decreased from 13.9% to 12.3%. This is due to the fact that in recent years, from the previously established collective DFs separated

¹¹ Grants + strategy under the OP 6, relating to this measures, will promote the building of partnerships, establishment of contacts and strategies development in key SGP areas

a considerable number of shareholders-men, and the new family and individual DFs were established headed by men.

At the same time, farms headed by women, working in many cases better than farms headed by men. Official statistic records higher rates on agricultural products yields in DF, in which women are a leader.

UNDP GEF SGP will be targeted to involve and support the participation of women and youth, as well as NGOs and POs in all initiatives, programmes and projects being implemented in the model areas.

All project activities are strategically focused on capacity-building - at the systemic, institutional and individual level - in order to ensure the sustainability of the initial investment for the project. Wherever possible, the GEF SGP will also seek to build the capacity of neighboring communities (for example, groups of local communities and vulnerable groups), to enable them to participate more actively in the implementation of the SGP initiatives.

3.3.4. Knowledge Management Plan

Knowledge Management Plan will be unchanged borrowed from the previous country programme strategies of the GEF SGP, since it has proved its effectiveness. Each project or a group of similar projects will capture the results and experience gained in the course of their activities on the ground. Much attention will be paid to the analysis of economic costs and benefits of each proposed practice, as ordinary people are concerned, primarily in the financial attractiveness of the practice. The environmental aspect in itself can not serve as an incentive to move to the proposed technology, without a clearly defined economic incentives. The results are then widely shared with other resource users, civil society, government and other relevant stakeholders to promote the reproduction and expansion of community-based innovation.

The strategy will use the following tools and approaches:

- Creation of guides on practices and technologies;
- News bulletins and analytical articles providing economic assessment practices / technologies;
- Organization and participation in days of field practice, during which will be a direct demonstration of the practice / technology;

- Organization and participation in knowledge exchange process "from equal to equal", for example, from a farmer to farmer;
- Organization and participation in national fairs, round tables, seminars, etc.

All available information products and guidelines, as well as existing analytical documents will be uploaded to the global electronic library "South-South" on experience exchange. Also, the GEF SGP in Tajikistan website continues to run - <https://sgp.undp.org/>, which is a source of open access to all available information accumulated by the GEF SGP, during his work in Tajikistan.

3.3.5. Communication strategy

Effectiveness of the communication strategy is based entirely on demonstration of successful examples of how the environment can be maintained while benefiting local communities. Demonstrations and articulate description of the advantages and benefits of each technology for the economy and the nature of the country will serve as a key tool to inform about the GEF SGP results to all possible partners and beneficiaries, and to involve key stakeholders in further distribution, reproduction and expansion of the practices / technologies. Willness to have similar results will serve as a basis for the further build partnerships with civil society organizations and state institutions. The GEF SGP will also inform UNDP about the results of the demonstrations for the possible start of political dialogue with state partners to advance the practices / technologies.

Aspiration to have similar results will serve as a basis for further build partnerships with civil society organizations and government institutions. UNDP GEF SGP will also inform about the results of demonstrations for possible start of political dialogue with partners to advance the practices / technologies. Success of practices and effectiveness of the implementing SGP projects in the process of enhancing individual and institutional capacity in many respects depends on awareness of rural communities, local and national government as well as other stakeholders.

Communication and awareness-raising will be one of the main activities of UNDP-GEF SGP. The knowledge and experience acquired in the framework of the UNDP-GEF SGP projects will be collected and consolidated in the form of manuals, newsletters, analysis of success stories, films and videos. Then, this information will be disseminated to practitioners to identify good / best practices and strategies, as well as

to compare and share experiences. Sharing knowledge and experience will also take place at the workshops, meetings, public presentations, as well as - if necessary - through different networks and electronic information media.

Particular importance in communication and knowledge management aspects has been conducted through training programmes and seminars under the UNDP-GEF SGP projects. UNDP-GEF Small Grants Programme in Tajikistan will include a requirement for a continuous exchange of knowledge between the current and previous recipients of grants for the exchange of best practices and lessons learned; documenting the sharing of best practices; creating among the grant recipients a "experience directory", so that they can access each other for advice; creation of websites and e-groups for the purpose of regional grouping and sub-coordinators.

UNDP-GEF Small Grants Programme in Tajikistan will urge grant applicants to include in proposed project components for knowledge demonstration and dissemination. In order to inform the public about the past (success, awards, recognition, etc.), present and future activities, grantees will be regularly prepare and distribute electronic and / or printed form of small "press releases". Grantees will be required to provide a continuous and open exchange of knowledge, experiences and lessons learned.

The best results and achievements of the GEF SGP in Tajikistan will be put on the website: <https://sgp.undp.org/>, which is the source of open access to all available information collected during the implementation of programme in Tajikistan.

3.3.6. UNDP Social and Environmental Standards

Social and environmental sustainability is a cornerstone of human development and poverty reduction. UNDP strategic plan and policy framework clearly formulate the organization's strategic commitment to promote sustainable development in all its activities in cooperation for development. UNDP Social and Environmental Standards (SES) underlie the commitment of UNDP to the main social and environmental sustainability in its programs and projects in support of sustainable development.

SES activates UNDP efforts to achieve social and environmentally friendly development results and present a comprehensive framework to achieve the appropriate level of quality in UNDP

programming. SES require that all UNDP programmes and projects enhance the positive social and environmental opportunities and benefits, as well as to ensure that the adverse social and environmental risks and impacts can be avoided, minimized, mitigated and managed.

Social and environmental sustainability are fundamental to achieving development results and should be systematically taken into account in the management of the UNDP programmes and project cycles. Opportunities to strengthen the social and environmental sustainability should be identified at an early stage of the programme and project development, implemented through the introduction, monitoring and evaluation. Social and environmental impact assessment is carried out for all programmes and projects.

UNDP programmes and projects adhere to the purposes and requirements of social and environmental standards. SES objectives are: (I) strengthening the social and environmental outcomes of programmes and projects; (II) in order to avoid negative consequences for people and the environment; (III) to minimize, mitigate and manage the adverse effects where prevention is not possible; (IV) strengthening the UNDP and partner capacity to manage social and environmental risks; and (v) ensuring full and effective stakeholder engagement, including through the mechanism of response to complaints from project and affected people.

UNDP is committed to support governments to adhere to their commitments in the field of human rights and opportunities for individuals and groups, especially the most marginalized, to realize their rights and to ensure that they are fully involved throughout UNDP programming cycle.

Experience and practice the previous SGP projects showed that provided small grants are bringing a particularly noticeable effect in field of expansion of protected areas and improving their management, development of alternative sustainable livelihoods in production landscapes, environmental education, building awareness and capacity, as well as accelerate the development of communities and poverty reduction. At the same time, one of the major factors causing the success of such initiatives is involvement of local people in environmental activities. Directly participating in solving the problem, the local people are able to ensure the sustainability of measures to conserve their natural and cultural heritage.

Practical measures of the GEF SGP in landscape and targeted areas will contribute to the creation of a stable and productive platform for further market development and improve

the living standards of local communities. The knowledge, skills and best practices that farmers receive in the course of implementation of the program, aimed at long-term and sustainable benefits for local households on the rational use and conservation of local agrobiodiversity.

Through the implementation of SGP activities and through additional financial support the farmers will be have opportunities for the effective and efficient use of local genetic resources, which in turn will serve not only for development of agribusiness, local markets, and benefit, but also to preserve and increase the unique local genetic resources. In particular, the SGP initiatives on building plants for the processing and preservation of products will create new jobs and promote economic growth, reduce poverty and improve the socio-economic situation of the vulnerable groups, empower women and young people living on targeted areas.

At the same time, sustainable management of natural resources, measures to improve access to renewable energy and the implementation of climate proofing practices will reduce the negative human pressures on natural ecosystems and landscapes, contribute to communities adaptation to climate change and will harmoniously complement the efforts of environmental agencies in relation to environmental protection.

Another GEF SGP achievement is that people have learned to independently participate in the SGP initiatives, to involve small grants and micro-credits for the purpose of development of horticulture and agribusiness, conservation of genetic resources, use of energy-saving technologies, etc. For the stable implementation of the SGP and better understanding and perception of the programme from the local population, in all target areas is systematically being conducted trainings and seminars for wider community involvement and expanding GEF SGP experience.

¹² Changing with the World: UNDP Strategic Plan, 2014-2017: at http://www.undp.org/content/undp/en/home/librarypage/corporate/Changing_with_the_World_UNDP_Strategic_Plan_2014_17.html

4. List of the expected results

Table 3 shows the expected results of the GEF SGP National Programme Strategy in Tajikistan, and programme indicators which will subsequently be evaluated.

Table 3. Accordance with the Global Programme Components of the GEF SGP OP 6

1 Components of the global SGP for OP6	2 National Strategy objectives	3 Activities	4 Indicator Objective	5 Test method
<p><u>Component 1 of the GEF SGP OP 6:</u> <i>Conservation of terrestrial and aquatic landscapes and their ecosystems by communities</i></p> <p>1.1 National programmes of the GEF SGP contribute to conservation, sustainable use and management of important terrestrial and coastal / aquatic ecosystems through the application of practices / technologies for terrestrial and aquatic landscapes at the community level in about 50 countries</p>	<p><i>Implementation of sustainable land use practices and management of forest resources in the mountain forest landscapes, and savannaide ecosystems, involving local communities.</i></p>	<p>Initiation and implementation of pilot projects for the conservation, sustainable use and management of mountain forest landscapes and their ecosystems by rural communities or civil society.</p> <ul style="list-style-type: none"> ● Mountain horticulture and forestry as an effective tool for biodiversity conservation. Creating a community nursery of rare and endangered plant species, followed by transplanting seedlings into natural habitats to restore the cut sections of the forest ecosystem. ● Restoration of mountain forests to reduce the erosion of hillsides and introduction of community-based system for forest management; ● Conduct awareness campaigns for the conservation of biodiversity and agro-technologies, creating nurseries of forest and fruit trees and care for them; ● Promote the conservation of forest resources through the introduction of innovative and effectiveness of traditional technologies for energy conservation in the villages; ● Biodiversity Conservation through development of beekeeping; 	<p><i>Indicator: Number of hectares of mountain forest landscapes, where improved land use</i></p> <p><i>Initial data:</i></p> <p><i>200 hectares of mountain forest landscapes under improved land use practices using GEF SGP before GEF-6 launch</i></p> <p><i>Objective: Improved land use at least on 200 hectares of mountain forest landscapes and their ecosystems</i></p> <p><i>(Sustainable land and water management practices are applied on the area of 200 ha (of which 70 ha will be directly covered, and 130 ha - indirectly) of mountain- forest landscapes and savannah ecosystems).</i></p>	<p>Report of individual SGP projects</p> <p>Baseline assessment and comparison of variable dimensions (use of conceptual models and data provided by partners, if applicable)</p> <p>Annual report on monitoring (ARM)</p>

1	2	3	4	5
		<ul style="list-style-type: none"> • Conservation of rare, valuable and local varieties of global significance, especially in protected areas; strengthen and improve the co-management of protected areas resources (forests, non-wood variety) by the local community in the surrounding areas of protected areas; • Training of local communities using pasture forage, its production and livestock management; • Promote conservation and sustainable use of natural resources through the creation of small industrial community agro shops processing of local (traditional) crops with the use of innovative market-based approaches; • Promote development of local markets - exhibitions \ local fairs of environmentally friendly products; • Support initiatives / activities income-generating, through the establishment of greenhouses (nurseries) for cultivation and production of early-spring food (vegetables), fast-growing commercial timber (poplar, etc.), seedlings of wild fruit and nut crops (apple, walnut, almonds, pistachio and others.); • Promote awareness and capacity building of local people to conserve the natural mountain and forest ecosystems; • Implementation and development of ecological tourism in the buffer zones of protected areas, belonging to the category of tourist and historical areas, with involvement of local community under the system "Payment for ecosystem services" for biodiversity conservation, having national and global significance; 		

1	2	3	4	5
		<ul style="list-style-type: none"> • Contribute to preserve and increase the number of Red Book flora (collective nursery), with the active involvement of local communities and stakeholders, both at local and national levels. • Exchange best practices and experience of water resources management, use of new water-saving technologies in the field of cross-border rivers, and promotion of dialogue with neighboring countries; • Contribute to improving the quality of water resources (drinking water supply, irrigation, etc.), including rivers and lakes, reservoirs and reservoir • Promote the efficient management of waste that fall into the rivers and lakes of international value, through restoration of the old and construction of new small-scale sewage treatment plants and introduction of modern water treatment technologies; • Develop and conduct information campaigns and dissemination of information to civil society on modern approaches and international conservation water resources. 		
<p><u>Component 2 of the GEF SGP OP 6: Innovative agroecology, given the climate situation:</u></p> <p>2.1 Agri-environmental practices, including measures to reduce CO² emissions and increase resilience to climate change, tested in protected areas, buffer zones and forest corridors, and widely distributed in at least 30 priority countries.</p>	<p><i>Introduction of agro-ecological practices include measures to reduce CO² emissions and increase resilience to climate change in forestry, agroforestry and agricultural landscapes</i>¹¹</p>	<p>Development and implementation of the projects initiated by rural communities and institutions of civil society aimed on growing climate adapted crop varieties, water-saving and soil conservation technologies and development of organic farming.</p> <ul style="list-style-type: none"> • Introduction of alternative irrigation systems and water supply in rural areas. (Examples: * gidrotaran, collected rainwater from the roofs of houses, rational use of springs, drip irrigation system, etc.) * gidrotaran - water pump working by the water flow energy; 	<p><i>Indicator: the number of hectares of land under agri-environmental practices that reduce CO² emissions and promoting the increased resilience to climate change</i></p> <p><i>Baseline: 10 hectares</i></p> <p><i>Target: At least + 200 hectares</i></p> <p><i>(Agro-ecological practices and measures on reducing CO₂ emissions are introduced and successfully implemented in forest, agroforest and agricultural landscapes on the area of 200 ha.)</i></p>	<p>Report individual SGP projects</p> <p>Indicators of social and environmental sustainability for the production of landscapes (SEPLs)</p> <p>Annual report on monitoring (ARM)</p>

¹³ Subject to raise additional funds and funds available from other resources, not including fixed assets of the Programme allocated to the GEF SGP. This also applies to project objectives and number of hectares. Exclusions - projects within the 30% of the funds allocated to other subjects.

1	2	3	4	5
		<ul style="list-style-type: none"> • Implementation of alternative and advanced systems for production and use of environmentally friendly biological fertilizer. Promoting biological crop protection methods; • Introduction of technologies for the production of organic fertilizers to reduce the use of synthetic fertilizers, pesticides and herbicides; • Restoration and creation of windbreaks and plantations in order to reduce and prevent water and wind erosion; • Promote integrating of biological drainage systems to prevent salinization of the soil and restore the productivity of irrigated land; • Restoration of irrigated agricultural lands, creating new jobs, improving food security; • Grafting seedlings and seeds in degraded slopes to prevent landslides, formation of gullies and slope stabilization; • Contribute to creation of the Advisory services center for local farmers, and demonstration of best practices (demonstration sites) on preparation and use of land, on alternative irrigation system (hydronic) to improve water use efficiency per unit area, on the correct use of fertilizers, and sowing calendar (time frame of farming); • Promote awareness and capacity building of local population, through distribution and retrieval of the best lessons (show-cases) for alternative and sustainable land management to prevent land degradation and desertification; • Improve the use and sustainable land management (SLM) (change of land use practices, combating desertification, erosion: water, wind, etc); under the land use, land and forest use change; 		

1	2	3	4	5
		<ul style="list-style-type: none"> • Promote an increase of forest area, forest cover and plantation (development of agro / forestry, forest-restoration, community nurseries) to prevent erosion and land degradation, disaster risk reduction; • Rehabilitation and rangeland management (improved pasture rotations, reducing the load on the pastures, etc), as well as the introduction of productive livestock breeds, its diversity, improving the quality of forage on degraded sites; • Promote sustainable land management through the introduction of alternative methods and technologies for agriculture in dryland or rainfed landscapes (organic farming, drip irrigation (the rational use of springs)), conservation of soil moisture, introduction of drought-resistant crops, biological fertilizer (komposting) and biological methods of protecting plants. 		
<p><u>Component 3 of the GEF SGP OP 6:</u> <i>Mutual benefit from access to low-carb energy resources</i></p> <p>3.1 Decisions to provide communities access to low-carbon energy sources are successfully implemented in 50 countries, bringing into line and integrate these approaches into larger programmes, such as SE4ALL, which started its activity in at least in 12 countries</p>	<p><i>At least one documented and demonstrated innovative typology¹², including solutions applicable to the terrain¹³</i></p>	<p>Increasing local public awareness on energy-efficient building standards and standards of heating systems and devices.</p> <ul style="list-style-type: none"> • Development and implementation of technologies that contribute to climate changes adaptation in the field of agriculture and forestry; • Contribute to implementation of energy saving and construction of energy-efficient buildings and installations; • Introduction of traditional ecological methods of heat conservation in rural homes and schools, promote the reduction of heat loss; 	<p><i>Indicator: the number of demonstrated innovative typologies</i></p> <p><i>Baseline: 2 typologies, demonstrated by the GEF SGP before the beginning of the GEF-6, including: mini hydroelectric power station to produce electricity and energy-efficient technologies (energy-efficient furnace on biogas and compost)</i></p> <p><i>Target: At least two projects on energy and energy efficiency.</i></p>	<p>ARM, the national report ARM, the international database, national reports</p> <p>Certain national research¹⁴</p>

¹⁴ Typology in this case refers to the demonstrated practices / technologies (solar, minigidro, wind energy, biogas, environmentally friendly and energy-efficient cooking stoves) in the field of access to energy, mutual benefit, organic agriculture, forest pasture, agroforestry, etc.

¹⁵ Subject to raise additional funds and funds available from other resources, not including basic (CORE) Programme funds allocated for the implementation of the SGP. This also applies to objectives in number of projects and typologies. Exclusions - projects within 30% of the funds, allocated to other subjects.

¹⁶ It applies only to the leading countries in this strategic initiative

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		<ul style="list-style-type: none"> • Reducing the influence of local population in remote mountain areas on natural ecosystems, through the use of solar energy for needs of his farm, including dried fruits and herbs • Introduction of new technologies that contribute to saving natural resources, save energy and reduce greenhouse gas emissions • Introduction of renewable energy sources in the autonomous communities, social institutions and settlements (biogas installing); • Promotion of solar energy using (solar panels, solar power plants, etc.) in return for the use of wood for heating, hot water, cooking, lighting. • Adaptation to climate change at the community level through the new knowledge / best practices, innovative methods and technologies that contribute to the conservation of water and land resources; • Introduction of alternative energy sources: HPP, solar collectors, solar power plants, biomass, methane production from waste (light and heat), processing of biomass into solid and liquid bio-fuels instead of fossil fuel raw materials (fuel, gas, etc.); • Increasing the sequestration of carbon dioxide gas (carbon) by increasing the forest area, forest cover and plantation (development of agro / forestry, forest-restoration, community nurseries); • Support development of sustainable and ecological urban transport, and construction (transport / equipment is not equipped with a motor / engine); 	<p><i>(More than 2,000 people (approximately 294 households) from local communities gained access to energy efficient technologies and renewable energy sources (RES); and greenhouse gas emissions into the atmosphere and loads on mountain ecosystems are reduced as well).</i></p> <p>294 households emit approximately 294x15 ton (approximate level of emissions of all categories) = 4410 ton per year.</p>	

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		<ul style="list-style-type: none"> To promote awareness and strengthen the capacity of local population, through dissemination and training best practices based on lessons learned (show-cases and demonstration areas) for alternative and renewable energy sources, energy-saving and energy-efficient technologies, adaptation measures in the field of agriculture and forestry as well. 		
<p><u>Component 4 of the GEF SGP OP 6:</u> <i>From the local to the global coalition on chemicals:</i></p> <p>4.1 Demonstrated innovative tools and approaches at the community level, deployed and transferred appropriately, with the support of new or existing coalitions in at least 20 countries, to manage hazardous chemicals and wastes</p>	<p><i>Available practices of POPs use reduction and their isolation are shown locally on the project sites.</i></p>	<ul style="list-style-type: none"> Conducting information campaigns (on the level of local jamoat and district communities) about the dangers of persistent organic pollutants, and methods to reduce their impact on the environment, ecosystems and human health. Support the recovery of storage and burial sites of industrial and chemical waste; make an inventory of storage and burial sites (statistics, etc); Promote reducing of production and use of chemical and toxic substances / drugs (PVC, DDT) and persistent organic pollutants (POPs) in agriculture and introduce organic farming; Contribute implementation and development of efficient available technologies and agricultural practices that contribute to environmental protection; Introduction of environmentally friendly technologies and equipment for the destruction / elimination of medical waste (chemical waste, thermometer, etc); Promote broad public awareness and dissemination of information and experiences among the local community about the dangers and consequences of chemical and toxic agents use (PVC, DDT, etc), as well as persistent organic pollutants (POPs); (Strategic Approach in International Chemicals Management «SAICM»). 	<p><i>Indicator: the number of demonstrated projects and innovative typologies</i></p> <p><i>Baseline: 1 typology, demonstrated by the GEF SGP before the beginning of the GEF-6:</i></p> <p><i>Target: At least two projects of innovative typologies for pesticides and waste management and neutralization; awareness raising of at least 5,000 people on this topic.</i></p> <p><i>(At least 0.5 ton of POPs is not incinerated and 0.5 ton of unusable pesticides is properly disposed. Projects, initiated by UNDP-GEF-SGP, assist in implementing national plans and policies against POPs, including medical wastes, chemicals/ pesticides and e-waste).</i></p>	<p>Individual reports on the project in the framework of country SGP teams</p> <p>Annual report on projects monitoring (AMR)</p> <p>Review of the country programme strategy</p>

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<p><u>Component 5 of the GEF SGP OP 6:</u> <i>Platform for dialogue between civil society organizations and the government (Donor +):</i></p> <p>5.1. SGP supports the creation of a "platform for dialogue between civil society organizations and the government", strengthening existing and potential partnership relations in at least 50 countries</p>	<p><i>GEF SGP supports the creation of at least one platform for dialogue between CSOs and the government to discuss at least one practice</i></p>	<p>Implementation of the national round tables and meetings of NGOs, CSOs and government to discuss the development and planning of politically important decisions to promote the demonstrated practices / technologies</p>	<p><i>Indicator: the number of platforms for dialogue between civil society and the government is initiated</i></p> <p><i>Baseline: 0</i></p> <p><i>Target: To initiate the creation of at least 2 platforms for dialogue between civil society and government at local level and/or on the area of selected landscape.</i></p> <p><i>(NGOs network and a platform for dialogue with the Government are established in order to demonstrate and promote relevant practices/technologies and making important policy decisions).</i></p>	<p>Report individual SGP projects</p> <p>International SGP database</p> <p>Annual report on monitoring (ARM)</p>
<p><u>Component 6 of the GEF SGP OP 6:</u> <i>Social integration (gender, youth, indigenous peoples) (Donor +):</i></p> <p>6.1 Promotion of gender issues is included in all SGP programmes; education gender issues for staff, grantees, NCC members, partners</p> <p>6.2 Fellowship programme for indigenous people held to enhance the capacity of at least 12 scholarships.</p> <p>In the respective countries provided support of project implementation by indigenous peoples</p> <p>6.3 Involvement of youth and disabled people is supported by further SGP projects and recommendations, and sharing best practices and experience with other countries</p>	<p><i>Promotion of gender and youth involvement are applied to all projects SGP</i></p>	<p>Involvement of youth and women in programme implementation and providing gender equality in the dialogues, practices and sharing of benefits derived from the SGP activities.</p>	<p><i>Indicator: number of women / young people have benefited from participating in the SGP projects</i></p> <p><i>Baseline: 3 women and 1 representative of youth (2016)</i></p> <p><i>Target: At least 100 women and 100 young people have benefited from participating in the GEF SGP initiatives</i></p> <p><i>(More than 100 women and 100 young people are involved in the implementation of projects and have benefited from participating in GEF SGP).</i></p>	<p>Report individual SGP projects</p> <p>International SGP database</p> <p>Annual report on monitoring (ARM)</p>

1	2	3	4	5
<p><u>Component 7 of the GEF SGP OP 6:</u> <i>Global spread of knowledge on practices (Donor +):</i></p> <p>7.1 Electronic library of innovation is opened at the community level and provides access to information for communities in at least 50 countries</p> <p>7.2 South-South platform for exchange of views on innovation at the community level, discusses global issues related to the environment in at least 20 countries</p>	<p><i>SGP in Tajikistan, international digital library and South-South platform are connected for the exchange of views on issues of innovation at the community level. These sources are interconnected for mutual exchange of information</i></p>	<p>Sharing experiences and lessons learned on innovative SGP initiatives with the international community through the electronic library, South-South platform and the GEF SGP website</p>	<p><i>Indicator: the number of products and knowledge relating to the country's innovation is extended on the international level</i></p> <p><i>Baseline: 1 typology</i></p> <p><i>Target: *Share at least 2 knowledge products related to the innovations of the country and distribute them to the international level</i></p> <p><i>(2 and more innovative knowledge products and relevant practices (including monthly or quarterly issued information bulletins, projects newsletters, brochures on implemented best practices, guidance on implementing special technologies and other promo materials) are disseminated at regional/local level through the experience-sharing electronic platform or SGP GEF website)</i></p> <p><i>* Examples can be given from OP 6 and earlier GEF operating periods.</i></p>	<p>International SGP database</p> <p>Annual report on monitoring (ARM)</p> <p>Review of the country programme strategy</p>

5. Monitoring and evaluation plan

Monitoring and evaluation plan will be based on indicators and targets presented in the Table 3 of the National Programme and includes 2 levels: the implementation of individual projects and the National Programme.

Monitoring and evaluation of individual GEF SGP projects begin when a plan is focused on the project results, with clear SMART indicators. Community members who are initiators of the projects, formulate goals together with the National Coordination Committee (NCC) and SGP National Coordinator (NC).

NC provides verification that the results of a separate project complements the GEF objectives related to the global environment. Developed together in this way the project scope becomes a basis for monitoring and evaluating, and the project is evaluated respect to indicators and targets. Objectives and indicators for each project are formulated in accordance with the objectives and indicators of the national programmes. The scope of each project becomes a source of baseline information for monitoring and evaluating the project by NC and NCC during its implementation.

National Coordinator conducts visits to monitor at least once a year. The frequency of these visits depends on the degree of complexity of the project and determined in accordance with the NC the main expected results. NC also conducts unscheduled visits to randomly selected projects at the end of the project and after its completion in order to ascertain that project objectives are achieved.

Once a year, the NCC members visit a number of selected projects to inform the NCC members of the progress and results of the projects.

Indicators at the national level are monitored and recorded through annual national reports (ANR). Annual reports are transferred to the central team management of the programme in New York for further generalizations. Progress in achieving the objectives of the National Programme is evaluated annually by collecting the results of individual projects, and the relevant adaptation measures on project management can be defined as needed.

Detailed plan for monitoring and evaluation at the country programme level is presented in Table 4.

Table 4. Monitoring and evaluation plan at the level of the National Programme

Activities on monitoring and evaluation	Goals	Responsible parties	Budget resources	Terms
National Programme Development	Framework for the identification of individual community projects goals	NC, NCC and stakeholders at the country level, grantees	Provided a means of preparatory grant	At the beginning of the operating period
Annual review of the National Programme	Training; adaptive control	NC, NCC	Provided at the expense of national programme running costs	Review will be conducted on an annual basis to ensure that the national programme has not deviated from the outputs and goals, and to make decisions with respect to any amendment or need to change in management

Table continuation

1	2	3	4	5
NCC meetings for constant review of project results and their analysis	Evaluate the projects portfolio effectiveness, approaches, as well as acquisition of new knowledge, changes in management	NC, NCC, UNDP	Provided at the expense of national programme running costs	At least 2 times a year, one of which is dedicated to monitoring and evaluation, and changes in management
Annual report on monitoring (ARM) Overview (based on ARM)	Submit report to the PMCC and the GEF; result presentation to donors	NC transmits to the PMCC for consideration	Provided at the expense of national programme running costs	Once a year, in July,
Visit of project sites	Assess the effectiveness of projects, approaches, acquisition of new knowledge, changes in management	NC, NCC, UNDP	Provided at the expense of national programme running costs	NC regularly visits the project areas, NCC has at least one annual visit to selected project sites.
Strategic Review of Country Projects Portfolio	Training, adaptive control for the strategic development of the National Programme	NCC	Provided at the expense of national programme running costs	Once in the operating period

6. Resources mobilization plan

Resources mobilization is a key element in the UNDP GEF SGP strategy in Tajikistan and, therefore, is a priority for the country team and NCC. UNDP GEF SGP has an obligation to the GEF Council to ensure that the minimum rate of co-financing UNDP-GEF SGP projects was 1: 1, so that funds of co-financed parts would be uniformly expressed in cash and in kind.

Co-financing is also important to increase the number, scope and impact of funded UNDP-GEF SGP projects. Mobilize resources and cooperation are vital to strengthen the generation of income and other project components related to life support that contribute to the project "ownership" and "superintendence" by community, thus providing sustainability.

The amount currently available for the implementation of the GEF SGP in Tajikistan on OP6 does not provide sufficient funds for the full-scale and effective grants for all corners. Thus, there is a need to raise funds from other sources.

The GEF within the framework of the UNDP-GEF SGP in Tajikistan will consider a possibility of cooperation and co-financing from both traditional and non-traditional sources. Resources mobilization activities will be conducted in the following areas:

- Evaluation of interests and priorities of international donor organizations and organizations on development, as well as identifying of opportunities for partnership and co-financing;
- Private sector involvement for co-financing UNDP-GEF SGP projects as part of corporate social responsibility;
- Involving non-governmental and charitable organizations for co-financing UNDP-GEF SGP projects;
- Inclusion of the UNDP-GEF SGP projects into larger projects funded by the GEF and UN agencies;
- Inclusion the UNDP-GEF SGP projects into programmes on MDGs achievement, poverty reduction programmes, projects / programme on environment and energy in order to increase co-financing;

- Studying of complementary capabilities and cost-sharing with the state funded projects and initiatives at the local level.

UNDP-GEF Small Grants Programme in Tajikistan will examine all possible sources of co-financing in kind and cash both at the programme, and project levels. To this end, the programme intends to establish and maintain close partnerships with existing projects and the UNDP Environment and Energy Programmes, in particular Community Development Programme and full-scale UNDP/GEF projects, including donors, UN agencies, charitable organizations, the private sector and the government as well.

Given the commitments of UN agencies and larger GEF projects and programmes, cooperation with them is important to i) improving management system in rural areas; ii) increasing the rural population's access to financial resources, infrastructure and jobs; iii) strengthening the existing policy and regulatory framework in support of agro-biodiversity conservation and adaptation to climate change, capacity development of communities, institutional and systemic capacity which will allow local communities and NGOs to address issues related to climate risk, through the conservation and use of agricultural biodiversity and land resources and iv) support of secure waste management, water conservation, agro-biodiversity and ensure local farmers and communities with alternative sources of income.

Mutually beneficial partnership of UNDP-GEF SGP, UN agencies and larger projects / programmes of the GEF will improve the impact of all programmes in the GEF focal areas. Production resources and technical supervision provided for programmes / projects will strengthen the focus of UNDP-GEF SGP on securing global environmental benefits while generating sustainable livelihoods and expanding the successful intervention by co-financing and co-operation with existing projects

GEF SGP is also considering collaboration and synergies with international organizations implementing small grants such as Oxfam, the Embassy of Japan (JAICA), the US Embassy (USAID), the Norwegian Council for Nature Conservation, Central Asia Act, OSCE, UNDP, EBRD, the World Bank.

At the project level, UNDP-GEF Small Grants Programme in Tajikistan established and is maintaining partnerships with UNDP projects / programmes on Energy and Environment, international and national NGOs network, state agencies and national stakeholders.

With regard to the development of partnerships and co-financing at programme level, the UNDP-GEF Small Grants Programme in Tajikistan, with the National Coordinating Committee support will be able to establish cooperation with national and regional initiatives, and to attract additional funds to support local communities on project areas through extra small grants for the conservation of biodiversity, land degradation and the introduction of adapted to climate change practices at the community level.

Within this cooperation, about 10% of the total allocation will be used to cover the operating expenses of UNDP-GEF Small Grants Programme in Tajikistan related to the provision of grants to local communities. At the date the UNDP-GEF Small Grants Program in Tajikistan has already established and will cooperate with donors, international and national NGOs (i.e. OXFAM, the Swiss Agency for Development and Cooperation (SDC), the UK Department for international development (DFID), the German society for international cooperation (GIZ), and others.), which could potentially be partners for co-financing in the framework of joint projects at the community level, in accordance with the strategic objectives of the GEF-6.

All prospective and ongoing projects, which are currently being implemented on the territory of selected landscapes make up approximately 70-80% of SGP funding and are effective financial resources to implement this strategy. The SGP implementation is an experimental pilot-action in attracting and expanding the financial contributions from donors.

US Government through the US Agency for International Development (USAID), under the "Food for the Future" initiative is implementing the programme on agriculture and water in Khatlon area, which aimed at ensuring food security and improving the diet of children and women of childbearing age in the western Khatlon.

The "Food for the Future" aimed to fight hunger and provide food security, as well as will help households and small farms to increase yields, diversify and improve the value of their agricultural products. The programme aims to improve the diversity of the diet and the quality

of food in the 12 target districts of the western Khatlon, and focuses on five areas of agriculture, affecting food, including agricultural extension, horticulture, gardening, dairy production and irrigation.

The project on agriculture and water under the "Food for the Future" in Tajikistan supports the initiative of the Tajik Higher Education Institutions, private companies and NGOs that provide services to households and small farmers through the provision of advisory services on agriculture, access to quality inputs, the provision of services related to transportation, processing and storage of the crop, as well as product marketing services.

The programme activity also includes funding and training for private entrepreneurs engaged in processing of foods, which are interested in improving the processing and storage of fruits, vegetables and dairy products. In addition, the programme will assist private suppliers of agricultural equipment to increase the quantity and improve the quality of delivered agricultural products, equipment and services in the Khatlon region.

Activity of initiatives is aimed at supporting small-scale farmers, especially women, and "Food for the Future" assists partners in developing their agriculture in order to stimulate economic development and improvement of trade, leading to an increase in income and decrease hunger, levels of poverty and malnutrition.

Oxfam in Tajikistan is working with several development programmes, the purpose of each is to support poverty reducing in the country, together with the Government of the Republic of Tajikistan. The main programme of Oxfam is Sustainable livelihoods, which includes two components: livelihood and food security in the Khatlon region. The aim of Oxfam in Tajikistan is to improve the lives of vulnerable rural households, particularly women farmers and small-scale farming and potential women entrepreneurs through empowerment, increased revenue, improved tools and resources to adapt to climate change. Oxfam invests in household and farming system, to increase the ability of women and men to produce and develop businesses, that can be of great value and opportunities within the market system.

The main directions of Oxfam aimed at protection against the consequences of climate change and adaptive approaches to wider issues related to climate change; disaster risk reduction, support for communities to identify the risks they face, and to work to reduce these

risks, together with the Emergency Committee; sustainable water supply, capacity building of stakeholders and aquatic trust funds. Oxfam is an active organization and implement an innovative and effective programming that really support the poor people in the provision of clean water to remote villages, construction of greenhouses for farmers and training centers for communities to avoid flash floods, destruction of their homes and the loss of crops.

The World Bank has a number of projects in Tajikistan, the results of which are associated with increased food security and the strengthening of the agricultural sector of the country. To support the emergency food situation of the poorest farmers and female-headed households, the additional revenue which declined sharply due to makrosituation caused by the global crisis, the World Bank has allocated additional funding for food security project and import of seed which is intended to help social groups in the restoration of production losses and ensure the factors required for the production of agricultural products and animal husbandry.

The project concerns the involvement of local community groups in monitoring the distribution of winter wheat and maize seeds and fertilizers to poor households. Ultimately, the project aims at the rehabilitation of rural infrastructure, the creation of a social environment conducive to business development, the improvement of the private sector in rural areas.

European Bank for Reconstruction and Development launched the implementation of the already signed water supply projects with simultaneous deployment of other projects of water supply in the southern and northern parts of the country together with international donors. The Bank is also considering the implementation of wastewater projects, solid waste management and urban transport in smaller cities. In the energy sector, the Bank, together with the EIB and IFCA, signed a power loss reduction project in Sogd and began preparing for the project on recovery Kairakkum hydroelectric power. The latter will be financed under the pilot programme on resilience to climate change with the analysis of the climate vulnerability of the hydropower sector. Since private investors will be considered small hydropower projects in Badakhshan.

In the context of an insufficient number of funds within the GEF SGP, the programme will support local communities and partners at their request, as the role of "Donor +" in order

to help communities and civil society organizations to make requests for assistance from other donors or from other sources of funding. While money may not go directly to the GEF SGP, this activity can be considered as part of the resource mobilization strategy, as it helps to increase the flow of resources to GEF SGP partners through not financial assistance.

Tajikistan remains a country with a relatively high level of donor activities in relation to the environmental sector initiatives. During GEF SGP there is possible to involve the international donors and partners for the project implementation, and directly across the GEF SGP programme. UNDP remains the main and most active supporter of programmes in the country. Representatives of international organizations and embassies of some developed countries also provide significant support to the individual project initiatives in the framework of the programme.

Below are the projects implemented by international organizations and donors in Tajikistan:

Regional Programme for the Sustainable Use of Natural Resources in Central Asia (up to 2016) aimed at a more sustainable pasture management, forest and wildlife resources in Central Asia (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan).

As part of a comprehensive concept of the regional programme, GIZ in partnership with the Forestry Agency implements a project worth 2.8 million euros: "Adapting to climate change through sustainable forest management" (until 2018). This project promotes discussion and conclusion of agreements on joint forest management with local communities. During the first year of the project (2014-2015) it was signed about 60 agreements on joint forest management.

In cooperation and with further financial support from the Bank of development «KfW», by 2018 is scheduled to sign a total of 1,500 agreements on joint forest management. The project will also strengthen the capacity of forestry agencies, forestry enterprises and their staff to improve planning, implementation and monitoring of forest management activities (including agreements on joint forest management). The project will be aimed at promoting the development and implementation of foresters training. As a result, this will ensure the creation of seed and seedling production systems of climate-resilient species and varieties of trees.

As part of the co-financing of the regional programme, GIZ continues to stimulate the creation and interaction of local associations of pasture users, and enhances the dialogue between the pasture users, staff of local authorities and relevant ministries («Network platform for pasture management in Tajikistan»). Today, registered 177 associations of pasture users, of which 62 in Shuroabad, 32 in Muminobade, 39 in Temurmaliq, 22 in Baldzhuvane, 9 in Khovaling, 2 in Jirgatal, 2 in Tavildara, 2 in Varzob, 2 in Rogun, 2 in Vahdat, 2 in Faizabad and 1 in Rudaki.

Pilot Programme for Climate Resilience (PPCR) in Tajikistan is implemented in two phases: Phase 1, implemented from 2010 to 2012 under a grant of \$ 1.5 million, included the holding of six measures to provide technical assistance to strengthen Tajikistan's capacity and analytical evidence base, as well as the development of the second phase of projects. Based on activities of Phase 1, the Strategic Programme for Climate Resilience (SPCR) identified six potential measures on investment and capacity development, which are performed in the second phase (see table below).

Initially committees of targeted climate investment funds have approved for funding of 50 million. US \$, which, with the co-financing of three multilateral development banks (MDBs), needed to support the implementation of a pilot programme. Subsequently, the contribution of climate investment funds has been increased to 60 million US\$.

The PPCR, through a grant from the World Bank (9.45 million US\$) and the grant from the Global Environment Facility Trust Fund (5.4 mln. US \$) funded project on "Environmental management of lands and improve the economic situation of rural areas" (2014-2018.). The project aims at enabling the rural population to increase their productive assets in ways that improve the management of natural resources and increase resilience to climate change in selected climate-sensitive areas.

The project implemented by the Committee of the Environment, will be in particular: (1) provide funding and grant support initiatives at the village level and broader initiatives in the field of sustainable rural production and land management, and (2) provide technical and organizational support to the rural population in the planning, implementation and management of investments in agriculture.

Under the PPCR, the Asian Development Bank (ADB) funded project "Strengthening the capacity for adaptation to climate change" in the amount of \$ 6.7 million US\$, which is implemented by the Committee of Environmental Protection under the Government of Tajikistan (2009-2015). This project includes the provision of support in five areas: (1) improving access to information on climate change, (2) managing the risks of climate change in the planning and implementation of development, (3) strengthening of knowledge management systems, (4) reporting on monitoring and management, and (5) the establishment of links between the secretariat of the PPCR and national organizations.

Under the PPCR, the World Bank funded project on "Increasing employment for sustainable development of agriculture and water management" in the amount of 18 million US\$, which is implemented by the Ministry of Energy and Water Resources (2012-2020.). The project aims to: (1) provide employment, food-deficit, by restoring irrigation and drainage infrastructure, (2) increase resulting from improved irrigation and infrastructure, crop production, and (3) maintain the development of improved policies and institutions for water management resources so that to provide greater access to food for people with low incomes in poor rural areas, supported the project.

The International Development Association of the World Bank provided the grant (10 million US\$) to Tajikistan for implementation of the project "Creation of the system of land and cadastre registration in agriculture" (up to 2015), supported by the efforts of the Government of Tajikistan, to enhance the restructuring of agricultural land in the framework of "Farms privatization support project", and efforts to ensure that more than rural residents could become independent farmers and take management decisions in response to market challenges.

This project (1) supports the integration of the registration and cadastre data in selected areas, (2) expanding the restructuring of agricultural land and the issuance of right to use certificates for households and other types of property, and (3) support activities that complement the efforts to restructure the agricultural land and issuing certificates.

Existing micro-finance institutions (MFIs), which are based in the project area include: (1) "Imdodi Hotal" in Kulyab; (2) "Rushdie Vodii

Phase	Direction	Donor
1	Review of institutional arrangements and needs to capacity building for climate change in Tajikistan	WB
	Tajikistan Partnership on climate science and modeling of climate change impacts	ADB
	Raising of awareness on climate change in Tajikistan	WB
	Identifying opportunities to improve the sustainability of the energy sector of Tajikistan to climate change	EBRD
	Analysis of approaches for sustainable land management under climate change in Tajikistan	BF
	Analysis of approaches to river basin management for climate resilience	ADB
	Strengthening the capacity to adapt to climate change	ADB
2	Improving the provision of weather, climate and water	WB
	Climate science and modeling programe	ADB
	Strengthening Climate Resilience in the energy sector	EBRD
	Agriculture and sustainable land management	WB
	Strengthening Climate Resilience in the basin of Panj river	ADB

Zarafshon" in Zarafshan; and (3) "Faizi Surkhob" in Rasht. These institutions are self-resistant (self-sustaining) and operate in more than 8 years. Micro-finance UNDP scheme has existed since 2000. The reason for the recent changes and creation of new MFIs was in legislative changes related to the new law: "Law on micro-financial activities" approved in 2004.

MFI portfolio created by the UNDP is now more than 4 million US\$. All MFIs are stable and have shown good profits in 2007 - more than 400,000 US\$; and in 2008 (January-September) - more than 250,000 US\$. Micro loan fund (MLF) distribute resources for the projects on community development in accordance with clear criterias and policy priorities, established by public consultation with local communities.

They also support the initiatives of farmers and communities to develop business skills, the regional advisory councils on business,

business associations and farmers' associations; capacity building of producer organizations to take advantage of the capabilities of existing and new markets; strengthening the capacity of relevant government institutions to build a working environment for agro-enterprises in Tajikistan (e.g., through certification of organic material, and according to international quality standards); and work with the Ministry of Economy and Commerce to attract foreign and private investment in order to support emerging markets.

Until today, the loan repayment rate is 100%. These institutions operate stably and established relationship as the UNDP Communities Programme is the foundation (fund) of the United Nations technical assistance to Tajikistan in support of implementation of the Strategy for Poverty Reduction, and all UNDP projects in the country are aligned (aligned) with this programme.

7. Risk management plan

As with any strategy and plan, there are risks that must be considered during the preparation of the Strategy. The following risks have been identified in the framework of the Programme:

Table 5. Description of the risks identified for the implementation of OP6

Describe identified risks	Risk level (low, medium, high)	Risk probability (low, medium, high)	Measures provided for risk reduction
Lack of financial resources for project implementation in OP6	Medium	Medium	Search for additional funds from international and other donors
Control and monitoring	Low	Low	Transparency in GEF SGP project implementation
Stability and support of existing initiatives	Medium	Low	Building links between the beneficiaries, donors, local communities; improving the capacity of local communities and beneficiaries.

NCC will be closely monitoring and discuss the risks and their extent.

8. Approval of the National Coordination Committee

Note: The supporting signature at this point is indicative of the fact that this version of the National Programme is full and final, it was duly considered and approved by the members of the NCC as a guide for the implementation of the SGP National Programme on OP6.

NCC members included in the development, review and approval of the National Programme on OP6	Signature
Khurshed Kholov- GEF/SGP Coordinator in Tajikistan	
Neimatullo Safarov - NCC member, the National Coordinator of the UN Convention on Biodiversity in Tajikistan	
Tatyana Novikova – Deputy Head of the National Center for Biodiversity and Biosafety	
Svetlana Djumaeva – Director of the Center for Climate Change and disaster risk reduction in Tajikistan	
Madvaliev Umarchon – President of the Association of Renewable Energy of Tajikistan	
Kurbonali Partoev - Research specialist of the Institute of Botany, Physiology and Plants Genetic, Academy of Sciences of the Republic of Tajikistan	
Malika Babadjanova – Consultant on environmental and protection measures of the ADB Representative Office in Tajikistan	
Nargizakhon Usmanova – UNDP Programme Analyst	

Annex 1. Estimated baseline of defined landscapes for the GEF SGP Strategy within the OP6

Basic analysis of defined landscapes

The basic assessment of country landscapes include multilateral consultations with CSOs, NGOs, international organizations and donors working in the country to identify GEF priorities and develop Country Programme Strategy (SGP CPS) based on landscape planning for GEF OP6.

Landscape evaluation was conducted based on the analysis of strategic programmes and country documents on environmental protection, biodiversity, land degradation and climate change. There were studied international best practices and experiences in landscape planning and ecosystem approaches.

As a base for analysis, identifying the existing environmental challenges, gaps and opportunities for the preservation of landscapes in Tajikistan were the existing methodologies for environmental zoning; natural and economic zoning; and zoning on the degree of soil degradation.

Priorities for a landscape approach in the implementation of the GEF SGP will be mainly focused on the coverage of such issues as the preservation of the landscape (including water) at the community level, the use of climate-friendly "smart" innovative agro-ecological mechanisms in the use and implementation of the SGP, receiving parallel benefits that promote access to low-carbon energy and its optimal distribution, management of chemicals through the approach according to the principle "from the local (local) global associations", to create a platform of dialogue between CSOs and the Government on issues of landscape planning policy, promoting social integration i.e. account of gender, youth involvement, scholarships or internships for representatives of the local population, the global reach of knowledge, based on citizens' practice, the use of innovative approaches at the community level and the exchange of best practices, knowledge and lessons learned between communities.

Based on landscape assessment and ecological zoning prepared new typological landscape characteristics. 10 classes, 26 types and 87 species of landscapes have been allocated to Tajikistan. Mountain forest landscapes and savannoid ecosystem were defined as priority for GEF SGP implementation activities, and will be under the focus of 70% of GEF SGP allocation.

These landscapes are covering the central Tajikistan, Regions of Republican Subordination, and part of the southern Khatlon region. The remaining 30% of the GEF SGP funds will be directed to other landscapes and SGP areas in northern and southern Tajikistan. Gorno-Badakhshan Autonomous Area was not included in the priority landscapes due to the uneven distribution of socio-economic and environmental problems.

Selection and justification of the landscapes were carried out on the basis of indicators definition which, in turn, include: the optimum conditions for human activities, availability of valuable ecosystems, plant communities, water resources and watersheds, rare and endangered species of plants and plant genetic resources, presence of protected areas and ecological network categories, vulnerability to climate change, waste and pollution, population density and human pressure on natural resources and project experience of projects, implemented by the SGP or by donors (see table of indicators in Annex 2).

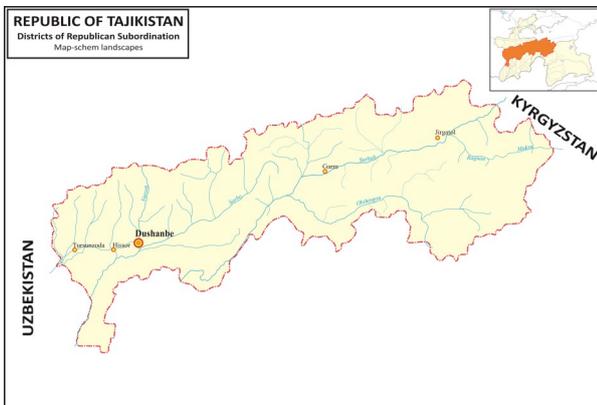
Below is a description of the selected administrative districts and landscapes.

Regions of Republican Subordination (RRS)

are located in Central Tajikistan, stretching to the border with Kyrgyzstan on the north-east and to Uzbekistan – on the west. This region occupies the central part of the country and includes the capital of Tajikistan, Dushanbe, located on the west. In the capital the population density is the highest and is 8559 people/km¹⁷, which promotes the highest level of human impact on the environment.

According to data for 2016 on territory of the RRS reside 3099.3 thousand persons. 86.7% of them are rural residents and 13.3% are urban. As the population density of the region is the third in the country (after Khatlon and Sughd areas) and is 63 people per 1km². The population growth rate for 2000-2014 was 22.4%.

The total area of RRS is over 29 thousand km², including 14% of all irrigated land in Tajikistan.



Central-Tajik zone occupies the central part of Tajikistan, including the Karategin, Vakhsh, Darvaz and Alai ridges, ridge of Peter I and Hazratishoh, as well as Karategin, Surkhob and Obihingou intermountain valleys.

In this area, along with the paleogene-neogene-quaternary sediments found precambrian formations and rocks. The average annual temperature is + 14 -16 ° C, precipitation 800-1500 mm per year. There are many snowfields. The main waterway is Kafernigan, Karatag, Varzob, Surkhob and Hingob rivers.

In terms of vegetation composition the area is considered as the most rich and represented by juniper, deciduous, xerophytic forests, woodlands, alpine and subalpine meadows, semi-savannoid and mountain steppe plants. Flora is at least 3500 species of flowering and spore plants. The climate is relatively diverse, mainly continental and cool.

The average annual temperature is + 11° C, precipitation - 500-1500 mm per year. There are formed the largest rivers of Tajikistan - Surkhob, Hingob, Vakhsh, Yaksu, in the upper reaches of which are the highest peaks and largest glaciers, including the Pamir glaciation knot, which is concentrated 40% of Central Asian glaciers. There are stained lakes.

The region is inhabited by almost all the species of mammals and birds of Tajikistan, there are about 50% of rare and endemic species of plants and animals. The most valuable plant communities and endemic species are confined to this territory.

The main environmental problems of the region include: pollution of surface and groundwater; deforestation and soil erosion; the poor state of the waste management system, as well as the degradation of agricultural drainage and irrigation systems.

Apart from the capital, Dushanbe, on the territory of the RRS are still 3 cities: Tursunzade, Hissar and Vahdat with the surrounding agricultural areas. In Tursunzode there is one of the largest industrial enterprises in Central Asia - Tajik aluminum plant. The main environmental problems of this industrial enterprise are disposal and storage of industrial waste and air pollution. Among ecological problems of Gissar and Vahdat could be mentioned the deforestation, land degradation, increasing the level of groundwater, lowering the productivity of agricultural land, as well as threat to biodiversity in the territory of southern slopes of Hissar Mountains.

Predominantly mountainous area covers southern slopes of Hissar and Karategin ridges in the range of heights from 1200 to 5099 m. The highest point is the upper Dubarsa river basin (5099 meters above sea level).

The vegetation cover is rich and varied, here represented mainly the following types of vegetation: Shibliak, semisavannas, blackwood, mountain steppes. At the top of the border found alpine and subalpine meadows. In this zone, mentioned more than 1,200 species of flowering plants are more than 10 species were included in Red Book: *Fritillaria edurda*, (*Petilium eduardii*), stalked onion (*Allium stipitatum*), Suvorov onion (*Allium suvorowii*) bunium Persian (*Bunium persicum*) and many others.

There are special value forests on this area: kserofilnye (bodomchovniki, karkasniki, regeloklenovniki, shulyashniki), broad-leaved

¹⁷ Data from the Statistics Agency RT, 2016 <http://stat.tj>

(hazels, maples, hawthorns, ekzohordniki), juniper (juniper Zeravshan, mozhzhevelnik hemispherical). It noted a lot of wild fruit and valuable genetic resources (apple, pear, hawthorn, walnut, hackberry Caucasian, babaris, plum, rose, almond and many others).

The fauna is typical for Hissar-Darwaz, this region is inhabited by rock ptarmigan (*Alectoris kakelik*), quail (*Coturnix coturnix*), oriental turtle dove (*Streptopelia orientalis*), wood pigeon (*Columba palumbus*), the golden eagle (*Aquila chrysaetus*), marten (*Martes foina*), ermine (*Mustela erminea*), weasel (*Mustela nivalis*), badger (*Meles meles*), wolf (*Canis lupus*), fox (*Vulpes vulpes*), wild boar (*Sus scrofa*), siberian goat (*Capra sibirica*), hare tolai (*Lepus tolai*), longtail marmot (*Marmota caudata*), and others. Among reptiles found viper (*Vipera lebetina*), copperhead snake (*Ancistrodon halys*), multicolored snake (*Coluber ravergieri*), patterned snake (*Elaphe dione*), sand boa (*Exyx* sp.). In the rivers inhabited by such species as marinka (*Schizothorax intermedius*), trout (*Salmo trutta oxianus*) and Turkestan catfish (*Glyptosternum reticulatum*).

Physical Geographical characteristics (topography, climate, soils)

The area is mostly mountainous, prevailing absolute elevation (ridges Gissar, Karategin with spurs). The crests of ridges are narrow rocky, spiky peaks, steep slopes (30-600), in some places with rocky cliffs, at the foot of which are widespread scree.

Hydrography. The main rivers are the Kafernigan, Sorbo, Mudzhiharf, Sangikar and Surkhob.

The width of the river is from 10 to 40 m., the depth is up to 2 m and more. Floods in the rivers are from April to September, the low-flow period is from October to March. In winter, the rivers do not freeze. The climate is continental in the mountainous part, harsh winter in the midlands, cold cloudy in the low cool. The prevailing daily temperature in the valleys is 25-31° C (absolute maximum - 38° C), 9-12° C in the night, high in the mountains, respectively 11-14° C (maximum 24° C). Average annual precipitation is 600 to 1000 mm per year. Soil is alpine steppe, desert steppe gray-brown, non-irrigated gray soils, brown leached and typical mountain brown, hayfields and pastures.

Ecological features

The zone has diverse landscapes and ecosystems, here are semi-savannoids (more than 62.5 thousand ha), shiblyak (about 50 thousand ha.), broad-leaved forests (about 85 thousand ha), juniper (approximately 62.5 thousand ha.), meadow-steppe ecosystems (about 122.5 thousand ha).

State of these ecosystems in recent years has been deteriorated. There felling trees and shrubs, mastering of areas with unique ecosystems, unsystematic cattle grazing, collecting wild fruit, roads and reservoirs construction (Rogun hydro-electric station), affecting the state of flora and fauna and the overall biodiversity on the area.

Especially valuable and protected objects

This area is a habitat for rare and endemic animals and plant species. Among the plants mentioned date-plum (*Diospyros lotus*), Hissar grapes (*Vitis gissarica*), Ostrovsky magnificent (*Ostrowskia magnifica*), Fritillaria Edward (*Petillium eduardii*), Rosenbach onion (*Allium rosebachianum*), Suvorov onion (*Allium suworovii*) and many others. Among the animals marked stone marten (*Martes foina*), stoats (*Mustela erminea*), weasel (*Mustela nivalis*), badger (*Meles meles*), the wolf (*Canis lupus*), the fox (*Vulpes vulpes*), wild boar (*Sus scrofa*), the Siberian goat (*Capra sibirica*), snow leopard (*Uncia uncia*), hare tolai (*Lepus tolai*), long-tailed marmot (*Marmota caudata*), and others. Among the birds are stone kuropaka (*Alectoris kakelik*), quail (*Coturnix coturnix*), Oriental turtle Dove (*Streptopelia orientalis*), wood pigeon (*Columba palumbus*), golden eagle (*Aquila chrysaetus*). From fish found Marinka (*Schizothorax intermedius*), trout (*Salmo trutta oxianus*) and Turkestan catfish (*Glyptosternum reticulatum*).

In this area are created:

- Ramit Nature Reserve Area (16,162 ha.)
- Komarovski Wild life Sanctuary Area (9, 000 ha.)

Nature management and threats

The area covers 30 settlements of Varzob, Vahdat, Nurabad and Rasht districts, with a population of about 131 thousand people. The population is mostly rural, they are engaged in agricultural production, mainly in animal husbandry. Also developed horticulture, vegetable growing and beekeeping. Anthropogenic factors affecting biodiversity are development of territories, cutting, mowing, pasture degradation, construction of large

industrial facilities such as Rogun hydro-electric station and construction of roads. Summer livestock pasture is causing serious harm by the irrational use of meadow pastures, one more factors of land degradation is collection of wild fruit plants. Natural factors influencing the state of biodiversity are erosion, mudslides, floods, landslides, avalanches, etc. A large part of the territory is used for rainfed agriculture and horticulture.

Socio-economic characteristics

Social standards of living are closely linked to natural resources. The population is mainly engaged in rainfed agriculture, horticulture, animal husbandry and beekeeping. More than 50% of local incomes is based on forestry and agriculture products. Because of the high unemployment working population migrates to neighboring countries to work.

Landscapes of central Tajikistan (RRS)

In central Tajikistan highlighted 2 classes, 6 types and 17 species of landscapes. On landscape map this area is highlighted by contours, from 3.1. to 4.3.4. points (see the landscape map).

Landscape class №3.

3.High-midland humid alpine savannoide, mesophyllic forest populous Surkhob (Rasht) makrolandscape, requiring environmental management regulation. (1300-5000 m. above sea level). The average annual rainfall is 800-1000 mm.

Landscape type

3.1. High mountain alpine, subalpine meadow steppefied mean population landscape, requiring regulation of grazing and agro-industry (2300-3200 m. above sea level). The average annual rainfall is 900-1000 mm.

Landscape species

3.1.1. High mountain subarid steppe cryophytic-forest Pitoukul Lyahsh micro landscape, requiring regulation of grazing (2800-3700 m. above sea level). The average annual rainfall is 900 mm.

3.1.2. High mountain cryophytic-juniper-subarid densely populated upper Karategin micro landscape, requiring regulation of grazing and land management (2600-3200 m. above sea level). The average annual precipitation is 750-850 mm.

3.1.3. Mid-sub-humid floodplain semisteppe shrub densely populated Surkhob landscape, requiring environmental management (2200-2700 m. above sea level). The average annual rainfall is 850-950 mm.

Landscape type

3.2. High mountain glacial-nival subarid seasonally populated Mux-Sauksoy mezolandscape with fragments of ringed forests, it requires tourism development and conservation activities (Kyzyl Muxsu Dzhylandy, Gardani Kaftar), (3000-4800-5500 m. above sea level). The average annual rainfall is 850-950 mm.

Landscape species

3.2.1. High mountain ice node; subarid spotted by cryophytic vegetation seasonally populated Sauksoy-Altynmazarsky micro landscape, requiring strengthening eco-tourism infrastructure (3000-4500 m. above sea level). The average annual rainfall is 600-650 mm.

3.2.2. High mountain steppe sub-humid underpopulated Djilandy-Gardani-Kaftar micro landscape requiring grazing and potato growing regulation (3000-4500 m. above sea level). The average annual rainfall is 750-850 mm.

Landscape type

3.3. High mountain alpine and sub-alpine meadow-steppe sub-humid sparsely populated mezo landscape, requiring grazing regulation (2800-3600 m. above sea level). The average annual rainfall is 800-900 mm.

Landscape species

3.3.1. High mountain alpine meadow-steppe humid seasonally populated landscape, requiring grazing regulation (3000-4600 m. above sea level). The average annual rainfall is 1000-1200 mm.

3.3.2. Mid-humid woodland shrub seasonally populated landscape, requiring environmental management (2000-2600 m. above sea level). The average annual rainfall is 1000-1100 mm.

3.3.3. Foothill-floodplain-urbanized sub-humid shrub-steppefied landscape of middle reaches of the river Surkhob, requiring environmental management (1300-2200 m. above sea level). The average annual rainfall is 700-750 mm.

Landscape class № 4.

4. High mountain midland humid glacial mesophyllic forest, meadow steppefied sparsely populated Vahiyo makro landscape, requiring environmental protection (2000-7400 m. above sea level). The average annual rainfall is 1500-1800 mm.

Landscape type

4.1. High mountain ice cryophytic-humid forest seasonally populated upper Vahiyo mezo landscape, requiring environmental protection (3200-7400 m. above sea level). The average annual rainfall is 1600-1800 mm.

Landscape species

4.1.1. Alpine humid ice Kyrgyzob-Garmoi micro landscape, requiring development of eco-tourism infrastructure (3500-7400 m. above sea level). The average annual rainfall is 1900 mm.

4.1.2. High mountain mezokriofit meadow sparsely populated Rogues-Pashmgar landscape, requiring environmental management (2600-3000 m. above sea level). The average annual rainfall is 1900-2000 mm.

4.1.3. Mid-small-leaved humid sparsely populated upper Hingob landscape, requiring grazing regulation. (2500-2800 m. above sea level). The average annual rainfall is 800-1900 mm.

Landscape type

4.2. High mountain ice kriofit alpine humid seasonally populated Mazar mega landscape, requiring development of ecological tourism (2800-4500 m. above sea level). The average annual rainfall is 1900-2000 mm.

Landscape species

4.2.1. High mountain ice cryophytic-sub-humid rocky seasonally populated micro landscape, requiring creation of environmental infrastructure (3200-6000 m. above sea level). The average annual rainfall is 1800-1900 mm.

4.2.2. Subalpine mountain mesophyllic forest and meadow steppefied humid sparsely populated landscape, requiring environmental protection (2800-3200 m. above sea level). The average annual rainfall is 1900 mm.

4.2.3. Mid-meadow-steppe, broad-leaved forest humid sparsely populated microlandscape, requiring grazing regulation (2400-2600 m. above sea level). The average annual rainfall is 2000-2100 mm.

Landscape type

4.3. Alpine mesophyllic forest, meadow-steppe humid mid populated Middle-Vahiyo mezo landscape, requiring grazing regulation (2900-3600 m. above sea level). The average annual rainfall is 1800-1900 mm.

Landscape species

4.3.1. Alpine, subalpine meadow-ring-mesophyllic humid forest sparsely populated Ragna-Miyonaduy landscape, requiring grazing regulation (2600-3800 m. above sea level). The average annual rainfall is 1800-1900 mm.

4.3.2. Mid mesophyllic humid forest mid populated Langar-Kalahuseyn landscape, requiring grazing regulation (1800-2500 m. above sea level). The average annual rainfall is 1900-2000 mm.

4.3.3. Mid mesophyllic humid forest heavily populated Tavildara micro landscape, requiring ecotourism development (1300-2600 m. above sea level). The average annual rainfall is 2000-2300 mm.

4.3.4. High mountain cryophytic-sub-humid plateau-like heavily populated Sagirdashtsky micro landscape, requiring environmental management (, 2900-3300 m. above sea level). The average annual rainfall is 1900-2000 mm.

Southern Tajikistan, Khatlon area

Khatlon area is located in the southern part of the country and is bordered on the south and southeast by Afghanistan and on the west by Uzbekistan. It covers an area of 24.8 thousand km². The area population amounted to 3065.1 thousand people (on January 1, 2016), and holds first place among the other regions. By density the area concedes just to the capital.

The population density is 118 persons per 1 km², population growth (2000-2015) - 20%, which is approximately 1/3 of the country population. As in the Sughd region, a large part of the population - about 82% live in rural areas; and 18% are urban residents.

In Khatlon region there is a significant part of irrigated land, representing approximately 45% of the total area of irrigated lands in the country, herewith 34% of these lands are located around the administrative capital of the area - Kurgan-Tube, and 11% in the Kulyab zone.

In Khatlon region there are several large industrial facilities: Vakhsh nitrogen fertilizer plant, Yavan chemical plant, and Vakhsh landfill dumping of pesticides and toxic chemicals.

South-Tajik zone occupies the southern part of the Pamir-Alai, consisting of small ridges: Babatag, Aktau, Tuyuntau, Teraklitau, Choltau and Djilantau. Gradually, they go to Parkhar-Panj, Vakhsh, and Beshkent Shaartuz oases that are relatively known as the South-Tajik depression provided cretaceous, quaternary and neogene sediments.

Here, in the lower reaches of the river Panj, Vakhsh and Kafirnigan there is forming the most abounding and the major river in Central Asia - the Amu Darya. The soils are made up of light and dark gray soils.

The climate is dry and hot. The average annual temperature is + 15 +17° C, precipitation is 150 - 200 mm per year. The significant part of the land is used for agriculture. Dominated by anthropogenic ecosystem.



The vegetation cover is diverse and represented by fragments of desert sand and tugai communities. The fauna is rich by reptiles, mammals, birds, including many rare and endemic species.

The main environmental issues are: deforestation, degradation of pasture, arable and irrigated land, as well as the poor state of collection and disposal of household waste, tailings, pesticides, water pollution and rising groundwater levels.

I. Vakhsh zone (Southern Tajikistan)

This mountainous area runs along the Vakhsh ridge (up to 2000-2200 m. above sea level). Vakhsh ridge limit is 3,000 m. above sea level.

The area covers a part of the South Tajik and Hissar-Darvoz provinces. Location on the border between two biogeographic provinces causes a wide variety of ecosystems, which are presented here in its purest form, in transition options. Vegetation stands by juniper ecosystem and fescue steppes. The flora of the area is rich and varied, here found about 800 species of vascular plants, 400 species belonging to 80 families. It is dominated by xerophytic forests and juniper, and by prickly grass closer to the watershed.

Above the slopes there are dominating Regel maples and kalofaki grandiflora. In many places there are dominating yugannik community. Here distribution is received by such endemic species as exochorda Albert, Alberta restelly, mountaineer baldzhuan, arenaria brilliant and many others. In this area there are transitional forms of trees and shrubs deciduous ecosystem, but closer to the watershed there are subalpine prickly grass ecosystems.

There are spread such endemic species of plants such as: exochorda (*Exochorda Albertii*), rastelli (*Restella Albertii*), tree climber, arenaria (*Cousinis sp.*). From the woody vegetation in the lower zone there are almonds (*Amugdalus sp.*), hawthorn (*Crategus heterobotrys*), pistachio (*Pistasia vera*), and others. Also territory is a habitat and a migration path for many wild animals included in the Red Book list of the Republic of Tajikistan: himalayan brown bear (*Ursus arctos*), Central Asian otter (*Lutra lutra*), turkestan lynx (*Felix lynx*), snow leopard (*Uncia uncia*), urial (*Ovis vignei*) bird vulture (*Neophron percnopterus*), golden eagle (*Aquila chrysaetus*), bearded vulture (*Gypsaetus barbatus*), saker falcon (*Falco cherrug coasti*) partridge (*Alectoris kakelik*) and others. From

reptiles there is quite common Central Asian cobra (*Naja oxiana*), from hunting target species - wild boar (*Sus scrofa*), fox (*Vulpes vulpes*), marten (*Martes foina*), and others. Nurek reservoir is an environment for many species of fish.

Physical Geographical characteristics (relief, hydrography, climate, soils)

The relief is mountainous. Here it is the absolute height ranges 1500-3000 m. (Vakhsh, Surkh ridges), their crests are narrow and rocky, there are steep slopes 25-45° C, which are greatly cut by rocky ravines and narrow gullies. Mountain valleys are narrow. The main waterways are the Vakhsh River, Kyzylsu, Shurabdarya, Obimazor, they have a highly branched channel, the width of which reaches from 100 to 600 m., depth of 0.6-1.6 m. Nurek reservoir located here has a length of 70 km, maximum width 30 km, average depth of 107 m., the area of 97 km.

The area with insufficient humid climate, with warm summers and moderately mild winters. Average annual air temperature does not exceed 11° C, minus temperature is being observed during 2-3 months, from late November to early March. The average monthly temperature in January is from -4 to -7, absolute minimum -34. average July temperature reaches 22-24, absolute maximum is 40° C. Precipitation is evenly. In winter, it is formed a stable snowpack. Average number of days with snow cover is about 100. The soil is alpine-meadow steppe, typical brown, sometimes leached, typical mountain brown, rain-fed fields.

Ecological features

This zone enters into Hulbek, Hissar and Sarikhosor-Pridarvaz ecological areas.

The area is rich by a variety of landscapes and ecosystems. There are mainly dominated by xerophytic forest (about 40 thousand ha), juniper (97 thousand ha), broad-leaved forests (approximately 210 thousand ha). There are anthropogenically disturbed ecosystems, as well as it is observed the development of trees and shrubs cutting, grazing, and collection of useful plants.

Especially valuable and protected objects

In the highlands of this area there are habitats of animals and birds that are included in the Red Book list of Tajikistan, such as: tyanshan brown white-clawed bear (*Ursus arctos*), Turkestan lynx (*Felix lynx*), snow leopard (*Uncia uncia*), urial (*Ovis vignei*), tailed cat, Central Asian otter (*Lutra lutra*), Indian porcupine (*Hustrix indica*), European free-tailed

bat, golden eagle (*Aquila chrysaetus*), bearded vulture (*Gypsaetus barbatus*), saker falcon (*Falco cherrug coasti*), partridge (*Ammoperdix griseogularis*). From hunting trading species here are living: the wild boar (*Sus scrofa*), Siberian ibex (*Capra sibirica*), vauquelin (*Canus felix*), dark belly ular, 30 species of waterbirds. From the plant communities here found valuable juniper and small-leaved forests.

In this zone there are Nurek wildlife sanctuary (30 thousand ha) and Sari-Khosor Natural Park (3 805 ha).

Nature management and threats

In this area entered 12 settlements of the Nurek, Rogun, Baldzhuan districts of Khatlon region, with mostly rural population more than 60 thousand people. The population is mainly engaged in agriculture. Anthropogenic stress on natural ecosystems is clearly manifested in the season of summer pasture livestock. The local population during the summer period are harming environment by irrational use of pastures, felling of trees and shrubs, collection of useful plants and poaching. In the vicinity of settlements being conducted intensive grazing and plowing, the land areas are constricting from year to year, noted a declining of pastures and medicinal plants productivity.

The presence of natural objects and some places of pilgrimage has certain recreational load for the area.

Socio-economic characteristics

The main characteristics of social anxiety are considered to be high unemployment and lack of the land. The population is mainly rural, engaged in grain growing, horticulture, animal husbandry and beekeeping partially.

2-3% work in education and health sectors. The main source of incomes for the residents is collection and sale of agricultural resources and livestock.

II. Kurgan-Tube region (Southern Tajikistan)

Lowland plain area (from 300 to 700 m. above sea level). Tugai and sandy deserts of the Vakhsh River.

The area is located along the Vakhsh River basin and is the habitat of valuable sand and tugai species of animals and plants. From Red book animals found striped hyena (*Hyaena hyaena*), gazelle (*Gazella subgutturosa*), Bukhara deer (*Cervus elaphus*), jungle cat (*Felis chaus*), gray monitor lizard (*Varanus griseus*), cobra (*Naja oxiana*), boiga (*Boiga trigenatum*), striated volkozub (*Lucodon striatus*), pheasant

(*Phasianus colchicus*), partridge (*Ammoperdix griseogularis*), serpent eagle (*Circaetus ferox*), bustard (*Otis undulata*), spoonbill (*Platalea leucorodia*), stone curlew (*Buchrinus aedincnemus*), Lesser Kestrel (*Falco naumanii*) and others. Existing lakes serve as habitat for many species of fish, like chub-lisach (*Aspiolusius esocinus*), large Amudarya lopotanos (*Pseudoscaphirhynchus kaufmanii*) and waterbirds.

Here are growing such plants as turanga, (*Populus pruinosa*), loch (*Elaeagnus angustifolia*), cattail (*Typha angustifolia*), poplar Pamir (*Populus pamarica*), tamarisk much branched (*Tamarix ramosissima*), liquorice (*Glycyrrhiza glabra*), saxaul (*Haloxylon persicum*), salsola Richter (*Salsola richterii*), zygophyllum Amudarya (*Zygophyllum*) and others.

Physical Geographical characteristics (relief, hydrography, climate, soils)

The relief of floodplain part of the «Tigrovaya balka» reserve is flat with little increase and decrease. In places of lowering usually are located lakes (about 20). The main role of existing topography formation belongs to neotectonics and processes of erosion and accumulation. Distinctive orographic elements of the area are hills Karadum, Kashka-Kum, Storm-Tau, plains of the Vakhsh River valley and partially of the Panj River. The main waterway is the river Vakhsh. By the climatic characteristics, the area belongs to the subtropical dry climate.

The temperature terms and precipitation distribution allows us to compare it with the Mediterranean. The winter is resistant. Cold cyclonic invasion causes a temporary drop in temperature to -20° C, but the influx of tropical air masses leads to the establishment of, sometimes, rather dry warm weather. The highest level is observed in some days of July (45-46° C), the lowest in December and January (-24, -25° C). Here distribution is received gray-brown, sandy and takyr soil. In addition, a wide range of soils azonal are being formed on the floodplain terrace within the reserve: alluvial-meadow, tugai-floodplain, meadow-bog varying degrees and salt marshes.

Ecological features

The district has one reserve, two botanical gardens, there are a number of unique natural formations, like Bukhara colorful flowers, combined with forests Babatag and Aktau. There are mainly dominated riparian forests, which account for about 27.5 thousand ha. A small part of the territory is occupied by psammophilous vegetation, it is around 15 thousand ha. The state of riparian forests are being degraded under the influence of

anthropogenic factors. Anthropogenic factors affecting the biodiversity of this territory include partial unauthorized land development, poaching and fires. In connection with the violation of water level it is observed secondary salinization and waterlogging.

Especially valuable and protected objects

In this area live animals and plants listed in the Red Book of Tajikistan such as pheasant (*Phasianus colchicus*), striped hyena (*Hyaena hyaena*), gazelle (*Gazella subgutturosa*), Bukhara deer (*Cervus elaphus*), gray monitor lizard (*Varanus griseus*), and waterbirds. From plants could be mentioned: Asiatic poplar (*Populus pruinosa*), cherkez (*Salsola richterii*), white saxaul (*Haloxylon persicum*), cousin capitatum (*Cousinia agelocephala*), solyanka Drobov (*Salsola drobovii*), galoharis hlopkovidny (*Halocharis gossypina*) and others. The flora is marked by the presence of more than 645 species. Particularly valuable communities are turangovniki, saksaulniki, dzhuzgunniki, tamarisk. Herbaceous plants are presented by cattail, imperative, cane, sugar, cane communities and others.

Nature management and threats

Observed heavily tugai forests cutting and poaching. Due to the geographical location, irrigation water from the settlements, livestock farms and other economic facilities, flowing freely, are strongly polluting domestic water. In recent years, the groundwater in the district is heavily polluted by pesticides. The territories of groundwater reach the level of complete disrepair, even in industrial needs.

Due to the natural instability of Vakhsh river, shores are periodically washed off and riparian systems are dried, thereby causing great damage to the habitat of fish and aquatic animals. Natural factors influencing the ecosystem of this area are frequent fires, salinization and waterlogging.

Socio-economic characteristics

As main characteristics of social anxiety are considered high unemployment and land development. Partially observed unauthorized development of the territory in order to use the tugai forests for different crops planting (maize, rice).

III. Kulyab zone (Southern Tajikistan)

It is a mountainous area runs along the ridge Hazratisho (3000 m above sea level). High-rise range limits up to 4000 m above sea level.

The area is unique: the unique xerophytic juniper, hazel and wild fruit forests are

mentioned as special value. Thanks to them, the territory is considered as one of the key environmental areas with great importance for the biodiversity conservation and maintenance of ecological stability. The area enters in Hulbek and Sarikhosor-Pridarvaz environmental areas.

The flora and fauna of the region is characterized by high diversity and concentration in a relatively limited area.

The zone is unique by species diversity, and serves as habitat for a number of wild fruit, food and medicinal plants, and also endemic plants and animals. There are marked more than 700 vascular plant species of which 39 species are included in Red Book, such as cumin (*Bunium persicum*), Ostrovsky magnificent (*Ostorwsia magnifica*), Sophora, *fisidens karatusky* (*Fissidens karataviensis*), saffron Korol'kova (*Crocus korolkovii*), tulip almost spotted (*Tulipa praestans*), almonds Vavilov (*Amugdalus vavilovii*), in range of medicinal plants found ferrule kuhistanskaya (*Ferula kuchistanica*), onions Rosenbach (*Allium rosenbachianum*), liquorice (*Glycyrrhiza glabra*), sea buckthorn (*Hippophae rhamnoides*), dandelion (*Taraxacum officinalis*) and others. From animals listed in the Red Book of Tajikistan here live such kinds as markhor (*Capra falconeri heptnerii*), urial (*Ovis vignei*), wild boar (*Sus scrofa*), badger (*Meles meles*), fox (*Vulpes vulpes*), lynx (*Haus felix*), viper (*Vipera lebetina*), cobra (*Naja oxiana*) tyanshansky brown bear (*Ursus arctos*), Central Asian otter (*Lutra lutra*), blue-gray doves (*Coluba palumbus*), partridges (*Alektoris kakelik*) and many others. In rivers live trout (*Salmo trutta morfa fario*) and ordinary marinka (*Schizothorax intermedius*).

Physical Geographical characteristics (relief, hydrography, climate, soils)

Absolute heights of the area range from 450 m., in the vicinity of the village God, to 4,576 m., top of the Kugifurush mountain. The relief is diverse, due to the complexity of the geological structure. There are deposits of permian and carboniferous to neogene-quadernary period, and many of them are very powerful and full of cuts. The climate is subtropical continental, with hot summers and cold winters. Average daily temperature in January is minus. Rainfall does not exceed 500 mm per year, at that the main part falls in the spring in form of showers. Summer is dry, sediments are practically absent. The nature of rainfall causes widespread development of flood processes, manifested annually across all channels of area watercourses. The wind regime is moderate, due to the highly dissected topography mountain-valley winds are

dominated. Wind intensified along the riverbed of the Panj and submeridional valley of lol river, marked aeolian sand formation in inflating of the Panj river floodplain, and wind erosion on denuded slopes. Soils are gray-brown and light gray, high mountain-meadow steppe, typical mountain brown, alluvial riparian meadow used for grazing.

Ecological features

The zone is characterized by significant landscape diversity. There are middle and high mountain landscapes of xerophytic juniper woodland, about 26.5 thousand ha, broad-leaved forests about 91.25 thousand ha, meadows and steppes about 15 thousand ha, mainly used for livestock grazing. Observed an average degree of degradation and contamination of pastures. Area is rich in minerals. Large deposits of coal, pickling are concentrated in this area.

Especially valuable and protected objects

Valuable xerophytic juniper and maple woods are growing in mountainous areas of this zone. The area serves as habitat for wild animals and birds included in the Red Book of Tajikistan: screw-horned goat (*Capra falconeri*), urial (*Ovis vignei*), wild boar (*Sus scrofa*), Siberian Ibex (*Carpa sibirica*), Tibetan snow cock (*Tetraogalus tibetanus*), blue-gray doves (*Coluba palumbus*), partridges (*Alektoris kakelik*), viper (*Vipera lebetina*), cobra (*Naja oxiana*). Among the plants could be mentioned pistachio (*Pistacia vera*), walnut (*Juglans regia*), Turkestan maple (*Acer turkestanicum*), Bukhara pear (*Pyrus bucharica*), etc.

In this area, there are:

- Dashtidzhum Reserve (19,700 ha)
- Dashtidzhum Wildlife Sanctuary (50,100 ha)
- Childuhtaron Wildlife Sanctuary (14.600 ha)

Nature management

Social standard of population living on this zone is associated with the natural resources. The population is mainly engaged in agriculture (grain growing, animal husbandry, horticulture and beekeeping). Pastures are used for grazing. There are deposits of coal, salt hills and other minerals.

Threats

This area covers 25 settlements of Vose, Moscow, Muminabad and Shurabad districts of Khatlon region. It is a densely populated area of the country. The population is mostly rural and is engaged in agriculture, horticulture, grain growing and cattle breeding. Among the man-made factors affecting the quality and quantity of biodiversity, the main ones are poaching

(unregulated hunting) and degradation of natural ecosystems (plowing, deforestation, grazing, construction and others.).

Unsystematic livestock grazing and hay-making has led to degradation and reduced productivity of pastures. Mentioned felling trees and shrubs as fuel. Irrational use of mineral and medicinal plants has led to the disappearance of many species listed in the Red Book of Tajikistan. Also, construction of roads affects the state of fauna of the area. There is a threat of significant reduction of markhor population, as well as morhura, ural and other species living in this area. Conducted mining of coal and other minerals. Bowels of the earth are being intensively exploited by both private and public enterprises.

Socio-economic characteristics

The selected zone included 25 settlements. The population density in the plain is high and in the mountainous part is low. The population is mostly rural, and their main activity is agriculture. There developed rainfed agriculture, animal husbandry, horticulture and beekeeping. As in other areas of the country, the population has a very low incomes. Unemployment rate is high, the working population leave in neighboring countries to work. On the map the landscape of the territory is marked by contours from 5.1.1. to 8.4.3.

Landscapes of Southern Tajikistan Khatlon region

For Southern Tajikistan, Khatlon region, identified 3 classes, 11 types and 34 species of landscape:

Landscape class №5.

5. Mid-mountain sub-humid forest mesophyllic densely populated Vakhsh makro landscape, requiring environmental management and practices (2700-3200 m. above sea level). The average annual rainfall is 1000-1600 mm.

Landscape type

5.1. High mountain meadow mesophyllic humid forest seasonally populated upper Vakhsh mezo landscape, requiring grazing regulation (1200-3900 m. above sea level). The average annual rainfall is 1500-1800 mm.

Landscape species

5.1.1. High mountain tall-meadow-steppe humid seasonally populated microl andscape, requiring grazing regulation (2600-3300 m. above sea level). The average annual rainfall is 1600-1900 mm.

5.1.2. Mid mesophyllic humid forest mid populated micro landscape, requiring environmental protection activities (2000-2800 m. above sea level). The average annual rainfall is 2000 mm.

5.1.3. Sub-humid floodplain-midland-xerophytic shrub densely populated micro landscape, requiring creating a sustainable environmental infrastructure (1200-2500 m. above sea level). Precipitation 800-9500 mm. per year.

Landscape type

5.2. Rocky forest and water humid mid populated Nurek mezo landscape, requiring reforestation and water conservation activities (800-1800 m. above sea level). The average annual rainfall is 800-900 mm.

5.2.1. Xerophytic-forest and meadow sub-humid savannoide densely populated Rogun micro landscape, requiring regulation of grazing and conservation activities (900-1200 m. above sea level). The average annual rainfall is 800-900 mm.

5.2.2. Savannoide-woodland subarid densely populated Sebiston-Kulisufiyon-Sarsarak micro landscape, requiring reforestation and creation of environmental infrastructure (800-2200 m. above sea level). The average annual rainfall is 800-850 mm.

Landscape class №6.

6. Peak, mid-mesophyllic humid forest mid populated Surkhob-Yakhsu-Obiniou makro landscape, requiring reforestation and grazing management (2000-4000 m. above sea level). The average annual rainfall is 2000-2300 mm.

Landscape type

6.1. Mid mesophyllic humid forest mid populated Shurabdarya-Yahsuy mega landscape, requiring reforestation, management and utilization of the mining industry (1000-2500 m. above sea level). The average annual rainfall is 1800-2100 mm.

Landscape species

6.1.1. Mid mesophyllic humid forest mid populated Sarikhosor micro landscape, requiring reforestation, regulation of grazing and conservation activities (1400-3200 m. above sea level). The average annual rainfall is 2000-2200 mm.

6.1.2. Mid rocky conglomerate-humid woodland-savannoide mid populated Yahsuy micro landscape, requiring regulation of grazing and wildlife (1300-4000 m. above sea level). The average annual rainfall is 1900-2000 mm.

6.1.3. Mid large herb meadow and forest humid scarcely populated Obiniou micro landscape, requiring conservation and regulation of grazing (1200-4500 m. above sea level). The average annual rainfall is 1800-1900 mm.

6.2. Lowland and hilly woodland, shrub, sub-humid, mid populated Baljuan-Hodzhamumin mezo landscape, requiring pasture regulating and environmental activities (800-1500 m. above sea level). The average annual rainfall is 900-1000 mm.

6.2.1. Lowland and hilly woodland xerophyte-subarid densely populated Baldzhuan micro landscape, requiring grazing and haying regulation, nature management (700-1400 m. above sea level). The average annual rainfall is 800-1000 mm.

6.2.2. Mid mountain savannoide-woodland-xerophytic sub-humid mid populated Hodzhamumin micro landscape, requiring regulation of grazing and wildlife (600-1300 m. above sea level). Average annual precipitation is 750-850 mm.

Landscape class №7.

7. Mid and high mountain steppe, meadow, forest humid mesophyllic densely populated Hissar makro landscape, requiring regulation of grazing and wildlife management, as well as conservation activities (800-4500 m. above sea level). The average annual rainfall is 1800-2000 mm.

Landscape type

7.1. High mountain midland mesophyllic forest, subalpine-alpine humid densely populated Varzob mezo landscape, requiring regulation of grazing and wildlife (1600-3000 m. above sea level). The average annual rainfall is 800-1800 mm.

Landscape species

7.1.1. Alpine, subalpine, meadows, savannoide, humid, densely populated micro landscape, requiring regulation of grazing, nature management and environmental infrastructure (2800-3500 m. above sea level). The average annual rainfall is 1900-2000 mm.

7.1.2. Mid mesophyllic humid forest densely populated micro landscape, requiring reforestation and recycling of mining waste (1800-2700 m. above sea level). The average annual rainfall is 2000 mm.

7.1.3. Lowland floodplain-urbanized-xerophytic woodland densely populated micro landscape, requiring regulation of urbanization, implementation of sanitary and sewage treatment, environmental protection and water conservation measures (800-1200 m. above sea level). The average annual rainfall is 800-1000 mm.

Landscape type

7.2. High mountain juniper-midland mesophyllic forest and meadow savannoide humid relatively densely populated Almas Karatag-Shirkent mezo landscape, requiring environmental management and processing of industrial wastes (1100- 3600 m. above sea level). The average annual rainfall is 1600-1900 mm.

Landscape species

7.2.1. High mountain alpine and sub-alpine meadow steppe humid sparsely populated Hissar micro landscape, requiring regulation of grazing, infrastructure development, and ecological tourism (2800-3900 m. above sea level). The average annual rainfall is 1800-2000 mm.

7.2.2. Mid mountain juniper-mesophyllic humid forest mid populated microlandscape, requiring conservation and development of eco-tourism (1800-2900 m. above sea level). The average annual rainfall is 1600-1800 mm.

7.2.3. Lowland-sub-humid savannoide densely populated micro landscape, requiring regulation of wildlife management and disposal of industrial and domestic waste (800-1200 m. above sea level). The average annual rainfall is 1000-1100 mm.

Landscape type

7.3. High mountain midland, alpine and subalpine forest-mesophyllic humid densely populated upper Kafirnigan mezo landscape, requiring regulation of grazing and development of ecotourism (2300-4000 m. above sea level). Precipitation is 1800-2100 mm. per year.

7.3.1. Alpine, subalpine meadow of tall humid scarcely populated micro landscape, requiring regulation of grazing (2000-32 000m. above sea level). Precipitation is 1700-1900 mm. per year.

7.3.2. Mid mesophyllic forest, meadow large herb humid densely populated micro landscape, requiring environmental governance and organization of ecological tourism infrastructure (1600-2500 m. above sea level). Average annual precipitation is 800-850 mm.

7.3.3. Lowland shrubs and sub-humid savannoide densely populated micro landscape, requiring water conservation and recycling (1100-1300 m. above sea level). The average annual rainfall is 600-800 mm.

Landscape type

7.4. Distilleries-cultivated oasis and sub-humid residential mezo landscape, requiring waste disposal and water supply (800-1000 m. above sea level). The average annual rainfall is 900-1000 mm.

Landscape species

7.4.1. Agro-industrial and sub-humid residential densely populated Kafirnigan-Dushanbe micro landscape, requiring disposal of municipal, construction and industrial waste, water supply and implementation of protection measures (700-1000 m. above sea level). The average annual rainfall is 850-1000 mm.

7.4.2. Residential and agricultural and industrial subarid densely populated Hissar-Karatag micro landscape, requiring waste disposal, water supply and water protection activities (600-800 m. above sea level). Average annual precipitation is 900-950 mm.

Landscape class №8.

8. Arid and low-mid mountain xerophytic-woodland-savannoide-desert severely degraded densely populated makro landscape of Southern-Tajik type, requiring environmental governance and activities (600-2400 m. above sea level). Precipitation is 600-850 mm. per year.

Landscape type

8.1. Arid lowland-xerophyte-woodland-savannoide mid populated mezo landscape (between the rivers Surkhob (Baldzhuan) and Vakhsh); They need to regulate grazing and reforestation. (700-900m. above sea level). Average annual precipitation is 600-750 mm.

Landscape species

8.1.1. Extra arid deeply dissected by steep rocky slopes sometimes small ridges xerophyte-woodland savannoide mid populated Djilantau-Karatau micro landscapes, requiring regulation of grazing, forest restoration and implementation of environmental measures (700-1800 m. above sea level). The average annual rainfall is 500-600 mm.

8.1.2. Subarid elongated trough-intermountain valleys with desert-savannoide vegetation on forest gray soils, heavily populated micro landscapes, requiring conservation and utilization of industrial and domestic waste (Dangara, Alimtay, Sargazon, Javan, Isanbay on the road). (600-650 m. above sea level). Average annual precipitation is 550-650 mm.

Landscape type

8.2. Subarid, places xerophyte arid-woodland-savannoid mid mountain mid populated mezo landscape interfluvium in lower reaches of the Vakhsh and Kafirnigan rivers, requiring regulation of nature use activities. (700-1900 m. above sea level). Average annual precipitation is 500-550 mm.

Landscape species

8.2.1. Subarid, sometimes sub-humid mid mountain deeply dissected, sometimes rocky slopes of small ridges with thermophilic juniper, rose gardens, sometimes by maples and grass-forb savannoid xerophytic woodlands on typical gray soils; micro landscapes sparsely populated; in need of regulate grazing and water supply (ridges Babatag, Hodzhamastona, Hodzhakaziana, Gazimalika). (1000-1500 m. above sea level). The average annual rainfall 550-600 mm.

8.2.2. Sub-humid steeply sloping and hilly foothills to the short grass-savannoid communities, sometimes with an admixture of ephemeroïd elymus with pistachios and rose hips on typical and dark gray soils; mid populated micro landscapes; in need of reforestation and implementation of environmental measures (Gazimalik, Daganakiik). (1000-2000 m. above sea level). The average annual rainfall is 650-700 mm.

8.2.3. Arid gently undulating lowlands with semidesert-savannoid vegetation (less gammadovymi deserts); micro landscapes densely populated of lower reaches of the Vakhsh and Kafirnigan rivers; in need of regulate grazing and wildlife. (500-680 m. above sea level). The average annual rainfall is 400-500 mm.

Landscape type

8.3. Extra arid aeolian-hilly plain with sand-desert vegetation on light gray soils; sparsely populated mezo landscape in floodplains of the Panj, Vakhsh and Kafirnigan rivers; in need of regulating environmental management and activities (400-570 m. above sea level). The average annual rainfall is 300-350 mm.

Landscape species

8.3.1. Arid desert sand-plain, aeolian-hilly with belosaksaulnikami and dzhuzgunnikami on light gray soils; micro landscapes uninhabited; young floodplain terraces of Amu Darya river, in need of shore protection measures (300-500 m. above sea level). The average annual rainfall is 300 mm.

8.3.2. Arid desert sand and denuded hills with sparse xerophytic shrub communities on the light desert sand uninhabited black earth microlandscapes, in need of environmental protection (400-500 m. above sea level). The average annual rainfall is 250-350 mm.

8.3.3. Arid salt marshes in the alluvial plains proluvial annual and perennial halophytes on light sandy gray soils, stains among the sand and clay sites in oases of the sparsely populated micro landscapes (Parkhar, Vose, Jilikul, Bishkent), (350-600 m. above sea level). The average annual rainfall is 350-400 mm.

Landscape type

8.4. Extra-arid - floodplain lowland landscapes with tugai vegetation in the meadow-bog soils; sparsely populated micro landscapes, in need of environmental protection (300-350 m. above sea level). The average annual rainfall is 250-300 mm.

Landscape species

8.4.1. (19) Extra-arid young floodplain terraces with cultivated vegetation on irrigated alluvial meadow gray soils; mid populated micro landscapes, requiring environmental governance and implementation of soil protection measures (550-650 m. above sea level). The average annual rainfall is 200-300 mm.

8.4.2. Extra-arid strongly meandering river valleys with an abundance of lakes, the elders, trostnikovnikami overgrown with sparse shrubs and single trees; rarely infested microlandscapes, in need of environmental protection. (Vakhsh river receiving the most extensive development to the south of Jilikul, rises over the river up to 8 m), (300-350 m. above sea level). The average annual rainfall is 300 mm.

8.4.3. Extra-arid cultivated irrigated densely populated micro landscapes of Kulyab-Vakhsh oases; requiring drainage and waste management activities (400-600 m. above sea level). The average annual rainfall is 350-400 mm.

Annex 2: Table of indicators for the selection and justification of the priority combined makrolandscape classes to implement the SGP implementation

Ecological regions	Combined regional macro landscapes	Indicators for the selection of priority landscapes										Score *
		Optimum height for activities	Presence of valuable ecosystems	Catchment basin	Valuable genetic resources	Rare endangered species	Coverage of protected areas and Category for Econet	Vulnerability to climate change	Waste and Pollution	population of the territory	Experience and partners	
1. Central Tajik mid mountain humid forest province	1. Mid-mountain humid subalpine mountain forest, savannoid landscape	3	5	2	3	2	4	5	2	1	3	30
	2. High mountain midland humid alpine and subalpine stepped mesophyllic forest landscape (Garm, Vahiyo).	1	2	3	3	3	2	2	2	1	1	20
2. South Tajik lowland subarid woodland province	3. Mid- low- mountain sub-humid xerophyte- woodland-ephemeral landscape.	1	2	1	1	2	1	1	1	0	0	10
	4. Lowland arid desert ephemeral landscape.	2	1	1	1	1	1	1	1	1	1	11
3. Zarafshan-Surkhob medium- and high-mountain sub-humid, stepped-juniper forest province	5. High- mid- mountain sub-humid, rocky, ice, lake and coniferous forest stepped landscape	0	2	2	2	2	1	1	0	0	0	10
	6. Mid- mountain, cryo-arid, steppe formation, ruderal, mining landscape.	0	2	1	0	0	0	1	2	0	0	6

Ecological regions	Combined regional macro landscapes	Indicators for the selection of priority landscapes										Score *	
		Optimum height for activities	Presence of valuable ecosystems	Catchment basin	Valuable genetic resources	Rare endangered species	Coverage of protected areas and Category for Econet	Vulnerability to climate change	Waste and Pollution	Population of the territory	Experience and partners		
4. Pre Syr Darya mid-low-mountain sub-arid semi-steppe woodland province	7. High- mid- mountain sub-humid, sparsely populated Turkestan coniferous forest steppified landscape	0	2	2	2	2	2	1	0	0	0	0	7
	8. Mid- mountain Kuramin sub-arid heavily populated semi-desert steppified landscape	0	2	1	0	0	0	1	2	0	0	0	6
5. Gorno-Badakhshan sub-arid steppified -ring forest province	9. Alpine glacial rocky uninhabited sub-humid landscape	0	1	1	0	1	1	1	0	0	0	0	5
	10. Alpine sub-humid low density ring-forest desert steppified landscape	1	2	1	1	0	0	0	0	0	0	0	5
6. Pamir high mountain-arid desert province	11. High mountain ice-cold cryophytic-alpine-desert landscape of low density	0	1	1	0	2	2	0	0	0	0	0	5
	12. High mountain lake and tussock-marsh cryophytic landscape	0	1	1	1	1	1	0	0	0	0	0	5

* Score landscapes and indicators evaluation includes from the less priority 0 to 30 highest priority.

Annex 4: Description table of the SGP priorities by administrative and geographical areas

Region	Catchment basin	Geographical position	Landscape	Ecosystems	Activities
Central Tajikistan (RRS)	Hissar, Kafirigan, Surkhob and Hingob	Hissar, Vakhsh, Karategin ridges	Middle and high mountain sub-humid	Mountain-forest, coniferous forest and savannoide, agroecosystems	<ul style="list-style-type: none"> - Creating rainfed gardens of fruit crops; - Organization of nurseries; genetic resources - Restoration of forest ecosystems; - Restoration of pastures; - Organic farming; - Creating of mini shops for the processing of agro-biodiversity products; - Creating of mini shop for the production of solar dryers; - Organizing of production and conservation of agro-biodiversity products; - Development of beekeeping
Southern Tajikistan (Kurgan-Tube, KuliYab)	Vakhsh-Surkhob-Yakhsu-Kyzylsu-Panj	Hazrat and Darvazsky ridges	High- mid- mountain humid	Savannoide ecosystems and agro-ecosystems	<ul style="list-style-type: none"> - Creating gardens of genetic resources - Conservation of agro-biodiversity - Restoration of pastures - Ecotourism development - Disposal of solid waste and toxic chemicals - Development of energy and energy efficiency
Northern Tajikistan (Zarafshan)	Zeravshan-Yagnobi-Kairakkum	Kurama, Turkestan, Zeravshan ridges	Mountain-piedmont, mid- and high- mountain, arid and sub-arid	Savannoide ecosystems and agro-ecosystems	<ul style="list-style-type: none"> - Prevention of natural disasters and emergencies; - Cleaning of the river basins and prevention of water resources pollution - Disposal of industrial and radioactive waste - Energy development and efficiency - Restoration of pastures - Ecotourism development

Annex 5: Table of the SGP distribution by the GEF priorities

Project name	Number of projects	Amount of funding USD	Activities	Ecosystems	Areas	Results
Conservation of genetic resources	3	75,000	<ul style="list-style-type: none"> - Restoration of forest ecosystems - Creating gardens of fruit crops - Organization of nurseries of rare plant species 	Mountain forest and savannoid ecosystems	Shurabad, Baldzhuvan, Hovaling, Sari Khosor, Nurabad, Tojikobod	<ul style="list-style-type: none"> - Created 20 hectares of gardens with genetic resources - Saved 10 species of rare plants and genetic resources - Created mini shops for processing, drying and canning of agro-biodiversity products - Market development and local communities receiving benefits
Energy Development and Efficiency	2	60,000	<ul style="list-style-type: none"> - Creating a small / mini hydropower plants - Creation of energy-efficient furnaces on the basis of compost and biogas 	Mountain forest, coniferous forest and agro-ecosystems	Shurobod, Baldzhuvan, Hovaling, Sari Khosor, Zarafshan	<ul style="list-style-type: none"> - Created 1 mini hydropower plants - Created energy-efficient technologies (biogas stoves) - Expanded access to energy efficient technologies for communities - Reduced deforestation and CO² emissions
Water Supply and Sanitation	4	350,000	<ul style="list-style-type: none"> - Strengthening of the riverbanks and anti-dam systems - Restoration of drainage systems - Conducting line of water supply and provide drinking water - Prevention of emergencies 	Savannoid and agro-ecosystems	Karatag, Kurgan-Tube, Kulyab, Khujand	<ul style="list-style-type: none"> - Communities got access to clean drinking water - Improving the state of ecology, hygiene and public health CO²
Restoration of pastures	2	150,000	Create 2 demonstration sites for the restoration of mountain pastures	Mountain-steppe, savannoid, and agro-ecosystem	Shurobod, Baldzhuvan, Hovaling, Rasht	<ul style="list-style-type: none"> - Restoration of grazing land; - Improving and protecting biodiversity; - Improving pastures productivity; - Reducing degradation and desertification

Project name	Number of projects	Amount of funding USD	Activities	Ecosystems	Areas	Results
Climate and innovative smart agroecology	2	55,000	<ul style="list-style-type: none"> - Creation of 2 demonstration sites for growing climate resilient species, water saving and soil protection technologies - Creation of helio greenhouse to save the climate resilient rare species and fruit crops 	Savannoide and agro-ecosystems	Shurobod, Baldzhuvan, Rasht	<ul style="list-style-type: none"> - Reduction of CO² emissions and increase resilience to climate change
Disposal of waste and toxic chemicals	1	35,000	<ul style="list-style-type: none"> - Refining and disposal of pesticides - Recycling of solid domestic and industrial waste 	Savannoide and agro-ecosystems	Dushanbe, Khujand, Kairakkum, Vakhsh, Kulyab, Faizabad	<ul style="list-style-type: none"> - Constructed landfill for solid and household waste - Ennobled storage spaces for pesticides - Disposed solid and household waste - Improved ecological conditions and safety of the environment
Development of beekeeping	2	25,000	Provision of bee families to local communities	Coniferous forest, mountain steppe and savannoide	Shurobod, Baldzhuvan, Hovaling, Faizabad, Rasht	<ul style="list-style-type: none"> - Pollination and improvement of biodiversity - Improving the socio-economic situation of local communities
Development of ecotourism in protected areas	2	50,000	<ul style="list-style-type: none"> - Creation of ecotourism infrastructure - Development of traditional species and crafts - Creation of nature trails and conduct ecological tours in and around protected areas 	Coniferous forest and meadow-steppe	Shurabad, Baldzhuvan, Tavildara, Rasht, Zarafshan	<ul style="list-style-type: none"> - Increasing benefits and improve community well-being
TOTAL:	18	800,000				

Annex 6. Applications of donor-partners strategies under OP 6

Please attach a detailed application SCP in the context of partnerships with donor-partners (i.e. the Australian Government, which funds the Central Bank of REDD + (CBR +); the Japanese government supported the Satoyama initiative - COMDEKS, Good NGOs Management Programme (financed at the expense of the EU) and the Global initiative BMUB ICCA).

Principles and methods of landscape planning should be considered in the context of environmental aspects in the Republic of Tajikistan. One of the important directions of modern landscape studies allowing to obtain new scientific and practical results in the field of nature using and the environment protection, is development the issue of the landscape approach and landscape diversity.

Located in different areas the natural and cultural landscapes are a reflection of traditional knowledge and land use systems of local communities, and understanding the relationships between nature and culture are important for the conservation of biodiversity as well as cultural integrity. Increasing attention is being paid to the role and importance of the various land use within a certain landscape, for example, to combat land degradation, increase agricultural productivity, water management and ecosystem conservation of wetlands, as well as for recreational purposes and aesthetic purposes.

In order to be successful and achieve lasting results, collaboration in mountain areas should be directed to the solution of many interrelated issues, from agriculture and forestry to energy and transport, landscape planning and river basin management, sustainable tourism and biodiversity conservation.

In the world there are a number of global initiatives aimed at preserving productive landscapes and principles, and harmonious governance mechanisms on marine and terrestrial landscapes, such as the Satoyama Initiative, UN Programme on reduction emissions caused by deforestation and degradation of forests, initiative REDD + (CBR +), Programme «Good NGO governance», funded by the European Union, the International Council of chemical associations (ICCA).

Due to the fact that these initiatives have a wealth of experience in landscape planning at the international level and the financial ability to provide funds in the implementation of the small grants, need to consider mechanisms for the involvement of funds for grant projects implementation in Tajikistan. It is also advisable to establish local funds to involve funds from these global initiatives and the implementation of grant projects with the participation of CSOs and local communities. Below is a brief description of these initiatives.

Initiative Satoyama (COMDEKS) In 2011, the Ministry of the Environment of Japan and the Secretariat of the Convention on Biological Diversity (CBD), jointly with United Nations Development Programme (UNDP) and United Nations University (UNU) launched the Initiative on Knowledge Management Satoyama (COMDEKS), under the agreement on encouraging practices of natural resources management for the biodiversity benefit and human well-being.

COMDEKS, implemented by UNDP and supported by the Government of Japan, SCBD, UNU has two components. One focuses on community development based on grants to communities in developing countries through the use of existing small grants delivery mechanism, implemented by UNDP. Another focuses on knowledge management, capacity building, replicating and scaling.

In support of the Satoyama Initiative, the Government of Japan initially allocate \$ 2 million for the first year of the 5-year programme, through the Japan Fund for Biodiversity, set in SCBD. Small grants will be allocated to public organizations through UNDP implemented schemes, including the Small Grants Programme of the Global Environment Facility.

Expected that COMDEKS implementation will help in slowing the biodiversity loss process in the world, with two consequences of biodiversity conservation, in natural human environments under the influence and promote the sustainable use of natural resources, while improving human well-being.

Working under the GEF SFP COMDEKS provides small grants to local NGOs to develop sustainable use and management of

biodiversity, sustainable activities of livelihood for the conservation, restoration and revitalization of the socio-ecological production of landscapes and seascapes. "Societies in harmony with nature" is defined as a vision of the Satoyama Initiative.

COMDEKS project seeks to provide community development, learning and knowledge sharing, making small grants available to community organizations to help them maintain a more sustainable production, social and environmental landscape. Types of community-based projects that will be supported by the initiative COMDEKS include restoration of degraded land in the coastal zone of the lake, revegetation in arid areas, restoration of wetlands surrounding the lake, and the establishment of nurseries of wild plant endemic species.

In addition, other types of projects may include the promotion of innovative practices of pond, farming to alleviate the burden on the naturally occurring fish species of the lake, as well as the cultivation of medicinal herbs, use of renewable energy, to reduce the impact of logging and carbon emissions in atmosphere. More information can be found following <http://satoyama-initiative.org/>.

Initiative REDD+(CBR+)

United Nations Programme on Reducing Emissions as result of Deforestation and Forest Degradation, Initiative RDD + (CBR +), is a partnership between UNDP-RDD + and the GEF Small Grants Programme, which provide grants directly to indigenous peoples and communities to enable them to participate fully in development, implementation and monitoring of REDD + readiness activities, and to develop experience, lessons and recommendations at the local level that can be included into the national processes.

RDD+CBR+ goals:

- Support the full and effective participation of indigenous peoples, communities and civil society in the processes at the national level, relating to reducing emissions caused by deforestation and forest degradation;
- Capacity building and raising community awareness to participate in REDD + activities and processes;
- Promoting the integration of community-based activities, knowledge and ideas in the national REDD + processes; and
- Development and exchange of knowledge and experiences at the community level to

inform national and international REDD + policies and practices.

- Supporting the protection of forests, as well as the empowerment of communities that live and depend on them, CBR + aims to contribute to the achievement of broader environmental and social objectives, including biodiversity conservation, enhancing food security, improving the rights and livelihoods of indigenous and local communities, as well as adaptation to climate change.

REDD+ CBR + co-financed jointly by the UNDP SGP, which operates in more than 120 countries for more than 20 years. Its contribution under the pilot phase CBR + (2014-2017) includes US\$ 400 000 for public grants in each of the six pilot countries. Grants of up to US\$ 50 000 support a range of activities at the community level, such as the elimination of deforestation and forest degradation, increasing the capacity of communities to participate in REDD + readiness processes, clarifying and improving the definition of land use rights, exploring mechanisms of benefit sharing.

EU Programme «Good NGOs Governance»

«Good NGOs Governance» programme, implemented by the European Union, is aimed to institutionalize reforms and best practices of good governance at all levels of government and civil society organizations for poverty reduction, protection of the rights and promotion of sustainable human development. The project goal is to improve and to ensure equitable access to state services through the redeployment of the relevant goods in favor of vulnerable segments of the target groups (women, youth and children - with a particular focus on minority representatives) in rural areas, by improving processes of good governance at the local and national levels.

ICCA Global Initiative (BMUB ICCA)

The International Council of Chemical Associations (ICCA) is one of the leading chemical industry associations in the world, representing chemical manufacturers and producers all over the world.

ICCA aims to strengthen the existing cooperation with a number of global organizations, including UNEP, UNITAR, OECD and other intergovernmental and non-governmental organizations to strengthen and improve the management of chemicals throughout the world, and to achieve sustainable development goals.

ICCA is the world leader in the chemical industry, in 2010 with a turnover of more than 2.3 trillion (excluding pharmaceuticals). More than 20 million people worldwide are engaged, directly or indirectly, in chemical industry. The ICCA accounts for more than 60 % of global chemical sales. ICCA is focused on the key issues for the chemical industry, such as the promotion and coordination of the responsible and safe management of chemicals in the global product strategy.

The International Council of Chemical Associations (ICCA) has introduced initiatives

regarding responsible product care and management aimed at reduction of chemical risks. Vision and mission of the ICCA is to eliminate unacceptable or unreasonable risks and extent economically feasible, to reduce the risks posed by chemicals by applying a comprehensive approach, involving a wide range of possible measures to reduce the degree of danger and precautionary measures based on a comprehensive analysis of the "life cycle" of chemical substances. More information can be found at the link <http://www.icca-chem.org/>.

Addition 1. Table of donor projects and programmes in Tajikistan

No	Project name	Subject area	Date of completion	Donor	Project amount	Executing agency
1	Project on adaptation to climate change in the Panj river basin	Climate change, Water resources	2020	ADB	US\$ 21,550	Ministry of Water Resources
2	Water management in the Panj river basin	Water resources	2016	ADB	US\$ 25 million	Ministry of Water Resources
3	Capacity building on climate change adaptation/APIIC	Climate change	2018	ADB	US \$ 16,877,000	Agency of Hydrometeorology
4	Promotion of local decision-making process among the non-governmental organizations for sustainable pasture management in a decentralized Murghab	Degradation of pastures	2017	EU	US \$ 481 602.00	Ministry of Agriculture of RT
5	Rehabilitation of water supply in Central Tajikistan	Water supply	2017	EU	US \$ 7 200 000.00	Ministry of irrigation and water resources
6	Adaptation to climate change through sustainable forest management	Reforestation	2018	GIZ	US \$ 10,8 million.	Forestry Agency under the Government of Tajikistan
7	Programme for the sustainable use of natural resources in Central Asia	Reforestation	2016	GIZ	EUR 4,4 million	Forestry Agency under the Government of Tajikistan
8	Project on animal husbandry and pasture development	Agriculture and animal husbandry	2017	International Fund for Reconstruction and Development	US \$ 15,8 million	Ministry of Agriculture of RT
9	Improved access of small farmers to quality seeds in Tajikistan	Agriculture	2017	FAO fund, State Programme	US\$ 925,131	Ministry of Agriculture of RT
10	Increase of population employment for sustainable agriculture and water management	Agriculture, water resources	2020	World Bank	US\$ 45,90 million	Ministry of irrigation and water resources

No	Project name	Subject area	Date of completion	Donor	Project amount	Executing agency
11	Environmental management of land resources and rural livelihoods	Land usage and agriculture	2018	World Bank	US\$ 16,88 million	CEP
12	Interpretation and reconstruction of the National Action Plan for the Stockholm Convention on persistent organic pollution	POP, waste	2016	GEF/UNIDO	US\$ 180,000	CEP
13	Creating a system of land registration and cadastre in agriculture	Land usage	2017	World Bank	US\$ 6,700,000	Ministry of Agriculture of RT
14	Project on animal husbandry and pasture development	Pastures degradation	2017	IFAD	US\$ 15,8 million	Ministry of Agriculture of RT
15	Life cycle management of pesticides and disposal of pesticide waste, containing POPs , in Central Asian countries and Turkey	POPs	2017	FAO	US\$ 8,136,986	Ministry of Agriculture of RT
16	Improvement of water supply systems and hygiene practices in the mountain regions of Tajikistan	Water supply	2016	MSDSP		Aga Khan Foundation
17	Project on creation of opportunities in a safe environment (COSE)	Environment	2015-2016	FOCUS		Switzerland Government, the Aga Khan Foundation
18	Promoting stability of induced threat to climate change, such as flooding glacial lakes and lakes breakthrough	Climate change	2017	FOCUS		Ministry of Emergency Situations
19	"Food for the Future" Project	Agriculture	2014-2018	USAID	US\$ 5.5 million	Ministry of Agriculture of RT SLC of RT
20	Building resilient communities to natural disasters in the highland isolated areas of Tajikistan and Kyrgyzstan - Phase IX	Climate change	2016-2017	The FOCUS, the European Union, the Aga Khan Development Network	US\$ 1,149,168	
21	Project on environmentally-sustainable land management and improve livelihoods in rural areas	Climate change, land degradation	2014-2017	World Bank	US\$ 54, 788.00	CEP
22	Reducing the risk of natural disasters and integrated watershed management in Tajikistan	Water resources, Emergencies	2014-2016	CARITAS	TJS 3,814.000	

No	Project name	Subject area	Date of completion	Donor	Project amount	Executing agency
23	Sustainable production and implementation of new technologies of heating and cooking	Energy efficiency	2014-2016	CARITAS	TJS 1,051.789	
24	Project on animal husbandry and pasture development	Land degradation	2012-2017	IFAD	US\$ 9,300.000	
25	Project on management of solid waste of Kurgan-Tube city	Waste	2013-2017	EBRD	US\$ 4,940.000	
26	Adaptation to climate change through sustainable forest management in climatic catchment area	Climate change	2015-2018	Development bank KfW / CARITAS	US\$ 8,812.000	
27	Project for wells construction	Water supply	2010-2016	Global Partners, UK	US\$ 42,000	
28	Ensuring sustainable food security through the implementation of locally adapted conservation agriculture in arid areas of Northern Tajikistan	Agriculture	2014-2017	German Agro Action	EUR 689,127	
29	Project on Dangara Valley irrigation	Water supply	2013-2019	Islamic Development Bank	US\$ 30,540.000	
30	Project aimed to restore the drinking water supply systems in the Panj district	Water supply	2014-2018	Japanese International Cooperation Agency	US\$ 16,280.000	
31	Development of incentives for youth to sustainable food supply and livelihoods in biocultural landscapes of highlands areas in Tajikistan	Food security	2014-2016	Christensen Fund Programme Mountain Societies Development Support	US\$ 154,596.00	
32	Project on ensuring public employment for development of sustainable agriculture and water management	Agriculture and water supply	2013-2018	World Bank	US\$ 45,900.000	
33	Project on commercialization of agriculture	Agriculture	2015-2020	World Bank	US\$ 12,163.016	

Addition 2. A list of terminology used on the landscape

Arid	Landscapes with a dry climate and high air temperatures, experiencing large daily fluctuations, and a small amount of precipitation, or their complete absence.
Gumid	Landscapes with excess moisture climate in which precipitation is more that contributes to the prosperity of moisture-loving forms of vegetation.
Sub arid	Landscape with a semi-arid climate type
Semi gumid	The landscape provided the most rainfall, the species of steppe climate
Krio arid	Landscape with a cold climate regions, characterized by very cold winters with average temperatures below 0 ° C.
Extra arid	Landscape with extremely arid and semi-arid climate type
Cryophytic	Landscapes with the presence of cold-loving and cold-resistant types of ecosystems
Sparsely populated	Area with small density, up to 100 people per 1m ²
Heavily populated	Areas where there is a large number of population per 1m ² more than 1 thousand people
Densely populated	Territory, where observed the big density of the population (cities and towns).
Seasonally populated	Areas where people are living seasonally
Mid populated	Territory, with the average number of people, sparsely populated mountainous areas with small settlements of up to 10 families.
Not populated	Areas that do not show signs of economic and human activity
Steppefied	Type of serried grass vegetation, in which, along with the ruling mesophilic grasses and forbs, an important role played by turf steppe grasses (such as fescue), small steppe bushes, shrubs and grasses.

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