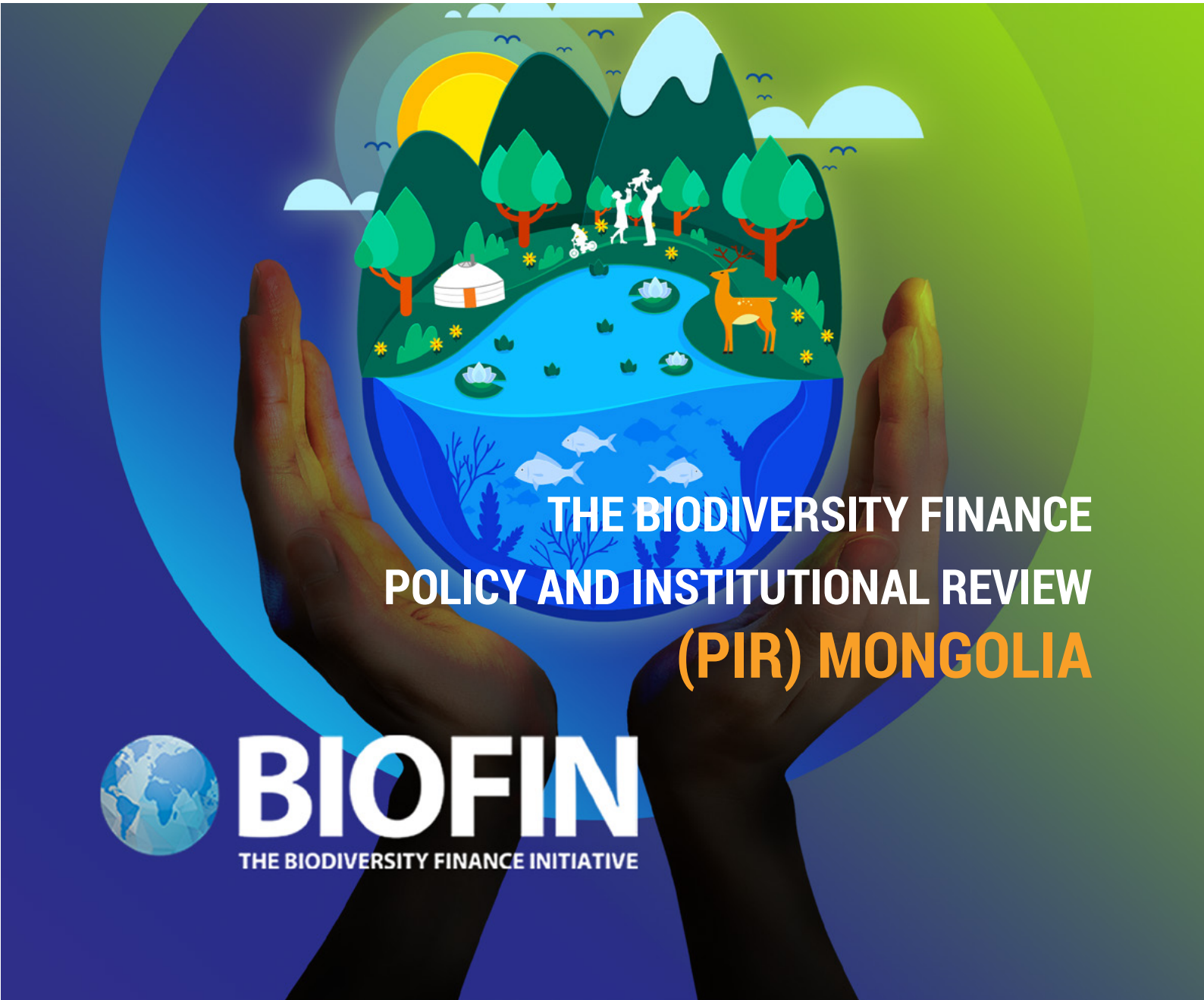
GOVERNMENT OF MONGOLIA

MINISTRY OF ENVIRONMENT AND TOURISM

UNDP

Empowered lives. Resilient nations.



THE BIODIVERSITY FINANCE POLICY AND INSTITUTIONAL REVIEW (PIR) MONGOLIA

BIOFIN

THE BIODIVERSITY FINANCE INITIATIVE

TECHNICAL TEAM:

THE BIODIVERSITY FINANCE POLICY AND INSTITUTIONAL REVIEW (PIR)

Z.Batjargal, Environment Consultant

B.Chimed-Ochir, Project Lead expert

A.Javkhlan PhD (Sc.D), National Project coordinator

BIODIVERSITY EXPENDITURE REVEW (BER)

FINANCING NEEDS ASSESSMENT FOR BIODIVERSITY (FNA)

T.Oyunchimeg, Finance Consultant

BIODIVERSITY FINANCE PLAN (BFP)

FINANCE SOLUTIONS FOR FILLING THE GAPS IN FINANCING NATIONAL BIODIVERSITY STRATEGIC ACTION PLAN - B.Chimed-Ochir, A Head of Technical Team, Lead expert

ASSESSMENT ON NATURAL RESOURCE USE FEE COLLECTED AND SPENT LOCALLY

METHODOLOGY OF ESTIMATION OF INCORPORATING BASE EXPENDITURE ON ENVIRONMENTAL PROTECTION AND RESTORATION INTO LOCAL BUDGET BASE EXPENDITURE - L.Otgontuya, (Ph.D), Consultant

FEASIBILITY OF CONSERVATION TRUST FUND - B.Chimed-Ochir, Project Lead expert

INCLUSIVE MEAT BUSINESS PLAN - D.Kadirbek, Consultant

EDITOR:

A.Bakei PhD *(Sc.D)*, Environment, agriculture and finance expert

PROJECT TEAM:

A.Javkhlan, National Project Coordinator

B. Chimed-Ochir, Lead Expert

P. Jargalsaikhan, Communication Specialist

D. Bayarmaa, Finance and Administration Officer

O. Ganchimeg, Finance and Administration Officer

DESIGNERS:

B.Sarnai, B. Molorsetsen, P.Jargalsaikhan, T. Jarkin

PHOTOS:

©Mongolian Photographers' Federation, Ts. Batbaatar, V. Battulga, Ya.Ariunbaatar, James Maiden, P.Jargalsaikhan.U.Buyaandelger, T.Bunchingiv, M.Baasansuren, UNDP Mongolia projects, UN Redd, UN Mongolia, NGOs, BIOFIN

GOVERNMENT OF MONGOLIA

MINISTRY OF ENVIRONMENT AND TOURISM

UNDP Empowered lives. Resilient nations.

THE BIODIVERSITY FINANCE POLICY AND INSTITUTIONAL REVIEW (PIR)

MONGOLIA

BIOFIN THE BIODIVERSITY FINANCE INITIATIVE

This project is co-funded by the European Union

Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety

NORWEGIAN MINISTRY OF FOREIGN AFFAIRS

Flanders State of the Art

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Office for the Environment FOEN

INTRODUCTION

The Biodiversity Finance Initiative – BIOFIN project was officially commenced by the United Nations Development Programme (UNDP) and endorsed by the Ministry of Environment, Green Development and Tourism (presently Ministry of Environment and Tourism) in September 2015. BIOFIN objectives and activities are directly linked with the biodiversity conservation policy, strategy and actions plans in Mongolia.

In response to the global needs of biodiversity financing, which was agreed at the Conference of Parties of "Convention on Biological Diversity" in October 2012, BIOFIN was initiated by UNDP, and has become a global partnership available in more than 40 countries in Asia, Latin America and Africa. Primary goal of BIOFIN focuses on resource mobilization from all potential sources for the biodiversity conservation activities. It is envisaged that mobilizing resources for conservation activities will contribute to the successful implementation of the Sustainable Development Vision (SDV) of Mongolia and the Agenda-2030 for Sustainable Development.

Achieving the national, regional and global biodiversity goals and financing the biodiversity is a shared responsibility of all stakeholders including the representatives from public, private sectors, NGOs, CSOs, international donors and other organizations. BIOFIN aims at providing methodological framework, facilitating the identification, development and implementation of optimal, evidence-based finance plans and solutions. BIOFIN methodology includes the following main steps:

THE BIODIVERSITY FINANCE POLICY AND INSTITUTIONAL REVIEW (PIR): Analysis of the policy and institutional architecture for biodiversity finance and existing finance solutions.

BIODIVERSITY EXPENDITURE REVIEW (BER): Analysis of public and private expenditures targeting biodiversity.

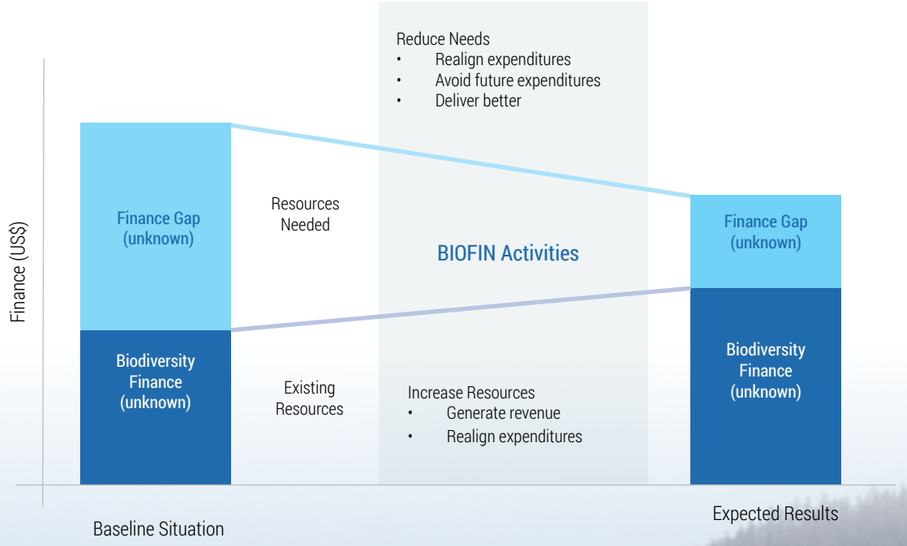
FINANCE NEEDS ASSESSMENT (FNA): Estimates the investment required to implement national biodiversity plans and achieve national biodiversity targets and results.

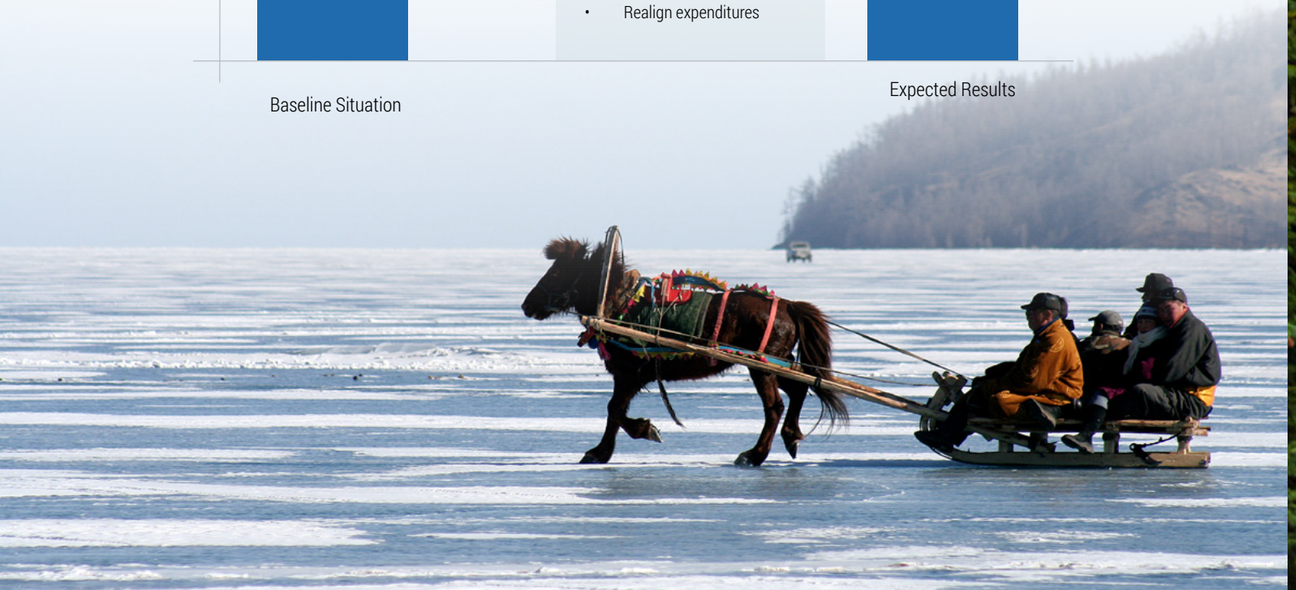
BIODIVERSITY FINANCE PLAN (BFP): Identification and prioritization of various finance solutions to mobilize resources from all potential sources (public, private, national, international, traditional and innovative) and fill the biodiversity finance gaps as well as to expand future investments in biodiversity conservation.

PILOT-TESTING OF FINANCE SOLUTIONS: Complete detailed feasibility study and pilot the prioritized finance solutions and support the implementation of policy recommendations emerging from BIOFIN.

Financing the biodiversity conservation, ensuring sustainable use and restoration activities are the basic requisite for achieving the Sustainable Development Goals (SDGs), and it is feasible through a successful implementation of the finance solutions and recommendations developed by the BIOFIN team.

FIGURE 1: THE BIOFIN APPROACH





THE BIODIVERSITY FINANCE POLICY AND INSTITUTIONAL REVIEW (PIR) MONGOLIA

CONTENT

ABBREVIATRIONS

MET	Ministry of Environment and Tourism
UN	United Nations
UNDP	United Nations Development Programme
NAP	National Action Plan
CBD	Convention on Biological Diversity
GDP	Gross Domestic Product
PA	Protected Area
CC	Climate Change
MECSS	Ministry of Education, Culture, Science and Sports
MFALI	Ministry of Food, Agriculture and Light Industry
MMHI	Ministry of Mining and Heavy Industry
ME	Ministry of Energy
MH	Ministry of Health
MFR	Ministry of Foreign Relations
MJHA	Ministry of Justice and Home Affairs
MLSP	Ministry of Labour and Social Protection
MD	Ministry of Defence
MCUD	Ministry of Construction and Urban Development
MTD	Ministry of Transportation and Development
IC	International Cooperation
ADB	Asian Development Bank
WWF	World Wildlife Fund
FAO	Food and Agriculture Organization of the United Nations
DVAB	Department of Veterinary and Animal Breeding
BAUM	Business as usual model
BIOFIN	The Biodiversity Finance Initiative
OMM	Optimal management model
UN REDD	United Nations Programme on Reducing Emissions from Deforestation and Forest Degradation
PAGE	Partnership for Action on Green Economy
GEF	Global Environmnt Facility
AF	Adaptation fund
TNC	The Nature Conservancy

I. EXECUTIVE SUMMARY

Biodiversity provides humanity with innumerable benefits.The most important benefit is the indispensable ecosystem services that biodiversity provides to the humankind. Since the ecosystem services are permanent needs of the humans, initiatives seeking their protection without deterioration of their values as well as their optimal utilization for meeting the needs of the population should be integrated into the short- and-long term environmental programme, laws and procedures for mandatory implementation.

Given that the biodiversity resources have been rapidly depleting over the last half a century, the nations around the globe united with a common goal to plan and take wider-scale actions for new approaches and trends. A bright example is the UN Conference on “Environment and Development” held in Rio-de-Janeiro in 1992 where the decline in biodiversity was recognized globally, and international Convention on Biological Diversity (CBD) was adopted and followed by ratification of over 160 states including Mongolia. Parliament of Mongolia ratified the Convention on Biological Diversity in 1993 becoming the 30th country to join the Convention.

One of the main recommendations from the 12th Conference of Parties of the CBD was “each party to the CBD should develop their own national biodiversity programme incorporating the Aichi targets. Moreover, rapid developments in social, economic and environment of Mongolia have necessitated the redevelopment of the National Biodiversity Strategic Action Plan ensuring cohesion with the Aichi 20 goals and the environment sector policies. In this regard, an extensive research was conducted during 2012-2015, and the National Biodiversity Programme (NBP) was redeveloped and was approved by the Government order no.325 on 29 June 2015. NBP is a mid-term policy document, which elaborates the needs of national and international biodiversity targets, urgent issues to be solved, priority objectives and goals to be achieved. Policy and Institutional Review (PIR) of BIOFIN project aims to review the current biodiversity policies, practices, analyze the biodiversity finance landscapes, mechanisms, research the impacts on biodiversity, and identify pertinent stakeholders and main actors to successfully implement the NBP.

Environmental legal framework and policy documents are very well established in Mongolia. However, despite the well design of environment policy documents, they lack proper implementation in practice. This could be attributed to the lack of monitoring and evaluation system by the Ministry of Environment and Tourism. In other words, the implementation of the environmental laws should be improved thorough effective monitoring system, specially of the natural resources use.

Negative and positive impacts on biodiversity was also evaluated as part of the PIR research. It was found out that animal husbandry, agriculture, infrastructure, unplanned development are the main factors that have negative impacts on the biodiversity. Moreover, five agricultural subsidies such as cashmere, wool, fertilizers etc., and two mining subsidies have negative impacts. Reducing or removing these subsidies could be a inexpensive alternative for effective biodiversity conservation.

As part of the biodiversity financing landscape, sources of biodiversity financing as per the current legal framework was analyzed. It was found out that most of the financial resources as per the current legal framework should be funded by the state and local budget, donor fund, and natural resources use fee. Presently, several finance solutions including the natural re-

sources use fee, polluter pays principles, protected area fee, and etc. are implemented in Mongolia. Nevertheless, more finance solutions such as conservation trust funds, income generation for protected areas, biodiversity offset, results-based budgeting, should be explored and implemented, as a huge potential was observed.

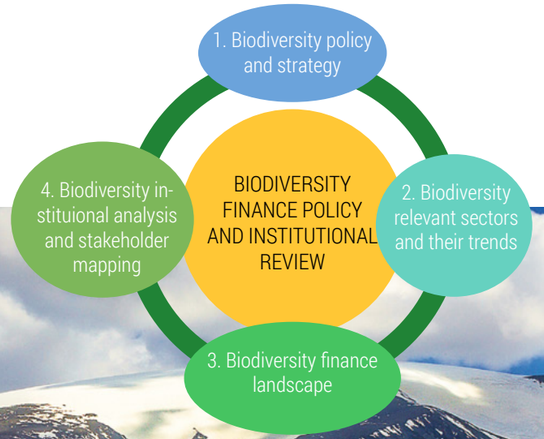
Biodiversity pertinent stakeholders were identified with reference to the legal framework and the sectors that have the most impacts on biodiversity. Key actors in implementing the NBP was assessed based on their weight and level of involvement of the identified pertinent stakeholders. Cooperation and partnership among Government ministries, their respective agencies and departments are critical for implementation of the NBP, especially on initiatives such as to reduce the sectoral impacts (ecological footprint) on biodiversity. In other words, there is a need to study and analyze the sectoral impacts on biodiversity, and the appropriate conservation policies and actions should be incorporated to the respective sectoral policies, as biodiversity conservation activities and ensuring inter-sectoral cooperation is not only the duty of Ministry of Environment and Tourism, but of other ministries as well.

A stakeholder mapping with four levels of key actors were identified based on their present involvement in NBP. A successful implementation of the NBP is highly dependent on the key actors' involvement and cooperation; thus, following management actions should be ensured for each level of stakeholders.

1. Level I stakeholders: improve cooperation of horizontal organizations and encourage a mechanism that assess results based on participation.
2. Level II stakeholders: build their capacity to a level that they can operationalize their interests in biodiversity conservation.
3. Level III stakeholders: establish incentives to increase their interest in biodiversity conservation, so their full capacity and influence is utilized.
4. Level IV stakeholders: explore their hidden capacity and establish incentives to increase their interest in biodiversity conservation.

Considering the current economic and financial situation in Mongolia, key measures to successfully conserve and sustain biodiversity are: right policy and proactive measures; appropriate options for institutional and management framework; community participation based on citizens' initiatives; and private sector involvement based on the right balance of profitability and social responsibility.

FIGURE 1. BIODIVERSITY FINANCE POLICY AND INSTITUTIONAL REVIEW STEPS



II. BIODIVERSITY VISION AND STRATEGY

Mongolia is of global biodiversity significance due to its transitional ecosystems e.g. the Siberian Taiga, Central Asian steppe, and the Gobi desert, which creates a unique assemblage of species. (Batjargal et al, 1999). Biodiversity in Mongolia was an integral feature of the intact ecosystem until the mid of 20th century.

The pastoral livestock husbandry well adapted to seasonal climatic and geographical conditions was a part of those ecosystems. Such unique formation was the peak of biodiversity development at the given geographical and climatic conditions. Unfortunately, due to global climate change and negative anthropogenic impacts (Batjargal, Enkhjargal 2012), a total of 72.3 percent of Mongolian land has degraded, soil nutrition has lost, desertification has occurred, more than 70 percent of pasture has degraded to an extent, vegetation growth and species amount have reduced, many rivers, springs and lakes have dried out, forest area has reduced by two million hectares and more than 300 species of flora and fauna are at the stake of being endangered.

2.1 MONGOLIA'S INTERNATIONAL COMMITMENT AND MULTI-LATERAL AGREEMENTS

Biodiversity (or Nature) is a complex concept involving a variety of living organisms from all sources—including terrestrial, marine and other aquatic ecosystems, the ecological complexes of which they are a part, and together with their genetic diversity. Biodiversity is not just the sum of biological species; it is a fully functioning system of life. The most vital importance of biodiversity is in its indispensable ecosystem services it provides to the humankind. Since ecosystem services are permanent needs of the humans, initiatives seeking their protection without deterioration of their value as well as their optimal utilization for meeting the needs of the population should at the end be integrated into short-long-term environmental policy planning, development of programmes, laws and procedures for mandatory implementation.

Given that the biodiversity resources have been rapidly depleting
Given that the biodiversity resources have been rapidly depleting
over the last half a century, the nations around the globe united with a common goal to plan and take wider-scale actions for

new approaches and trends. A bright example is the international and multi-lateral agreements such as the "conventions". Parties to the conventions commit to common goals and cooperate for shared responsibility. Since the 1990s Mongolia has become a party to all of the major legally binding agreements relevant to biodiversity conservation and climate change and their related protocols. Conventions, protocols that are ratified in Mongolia are listed below:

2011-2020 United Nations Decade on Biodiversity

1990 — UNESCO World Heritage Convention

1990 — Basel Convention on the Control of Transboundary Movements of Hazardous Wastes

1993 — Convention on Biological Diversity (CBD)

1993 — United Nations Framework Convention on Climate Change

1994 — Convention on Migratory Species of Wild Animals

1994 — United Nations Convention to Combat Desertification

1996 — Vienna Convention for the Protection of the Ozone Layer

1996 — Montreal Protocol on Substances that Deplete the Ozone Layer

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

Convention on Wetlands of International Importance (The Ramsar Convention)

1998 — Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade

1999 — Stockholm Convention on Persistent Organic Pollutants

1999 — Kyoto Protocol to the United Nations Framework Convention on Climate Change

2003 — Cartagena Protocol on Biosafety

2014 — Nagoya Protocol on Access and Benefit Sharing to the Convention on Biological Diversity

2.2 SUSTAINABLE DEVELOPMENT AND BIODIVERSITY POLICY OF MONGOLIA

International commitments and multi-lateral agreements are implemented through the laws, regulations and policy documents, which are approved by the State Great Khural and government of Mongolia. it is worth to note that most of the laws state "If an international treaty to which Mongolia is a party is inconsistent with this Law, then the provisions of the international treaty shall prevail". In accordance with the international development trends, vision and concept of development in Mongolia is also being revised.

For instance, Sustainable Development Vision-2030 (2016) and Green Development Policy (2014) were approved by the State Great Khural. Sustainable Development Vision-2030 (SDV-2030) envisages Mongolia to a leading Middle-Income Country with steadily growing diversified economy, prevailing prosperous middle class, ecological balance preserved and with stable democratic governance.

SUSTAINABLE DEVELOPMENT VISION, IN 2030 MONGOLIA AIMS TO ACHIEVE:

Increase its G**NI per capita to USD 17,500 a**nd become an upper middle-income country based on its income per capita.

Ensure average annual economic growth of not less than **6.6 percent through 2016-2030**.

End poverty in all its forms.

Reduce income inequality and have **80 percent of the population i**n the middle and upper-middle income classes.

Increase the enrollment rate in primary and vocational education **to 100 percent and establish lifelong learning system**.

Improve the living environment of the Mongolian people to lead a healthy and long life; increase life expectancy at birth to **78 years.**

Be placed among first **70 countries** on the ranking of countries by the human development index.

Preserve ecological balance and to be placed among first **30 countries** on the rankings of the countries by the Green economy index in the world.

Be ranked among first **40 countries** by the Doing Business Index and among first **70 countries** by the Global Competitiveness Index in the world.

Build professional, stable and participative governance, free of corruption that is adept at implementing development policies at all levels

The SDV-2030 is based on economic, social, environmental and governance sustainability of Mongolia.

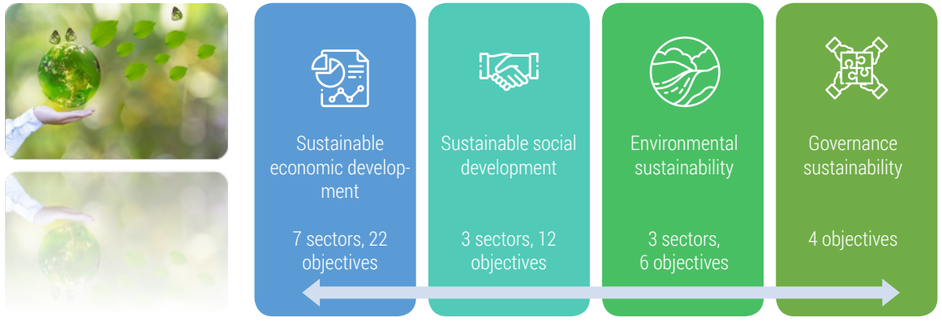


FIGURE 2: PILLARS OF SUSTAINABLE DEVELOPMENT VISION OF MONGOLIA

THE SDV-2030 CONTAINS SIX OBJECTIVES THAT AIM TO ENSURE SUSTAINABLE DEVELOPMENT OF THE ENVIRONMENT:

OBJECTIVE 1. Protect water resources and prevent water shortage.

OBJECTIVE 2. Increase drinking water supply that meets health standards and improve the availability of sanitation and hygiene facilities.

OBJECTIVE 3. Establish national capacity to cope with climate change and strengthen the system to prevent from meteorological hazard and natural disaster risks.

OBJECTIVE 4. Adopt environment friendly advanced technologies and reduce the emission of carbon dioxide from production and consumption.

OBJECTIVE 5. Preserve the natural landscape and biodiversity and ensure sustainability of the ecosystem services.

OBJECTIVE 6. Improve the planning of cities and urban settlements, enhance the quality of and accessibility to infrastructure facilities, advocate scientific and clean-living habits among the populace, and improve the quality of the environment and waste management systems.

Furthermore, five sectors are identified to ensure a successful economic sector including agriculture, mining, tourism, industry, energy and infrastructure. Each sector has several objectives to achieve, and below are the biodiversity relevant objectives.

TABLE 1: BIODIVERSITY RELEVANT OBJECTIVES OF THE SECTOR

SECTOR	BIODIVERSITY RELEVANT OBJECTIVES OF THE SECTOR
AGRICULTURE	**OBJECTIVE 1.** Preserve the gene pool and resilience of pastoral livestock breeding that is adept to climate change, increase productivity; create proper flock structure of livestock in line with grazing capacity, reduce the grazing and land deterioration and rehabilitate, adopt international standards in animal disease traceability, inspection and maintenance technology, and develop livestock sector that is competitive in international markets.
	OBJECTIVE 3. Increase the fertility of soil, reduce land deterioration, adopt economical and efficient advanced agro-technical and irrigation technology to repair soil, and develop intensified farming in order to meet the domestic demand for grains, potato and vegetables.
MINING	**OBJECTIVE 2.** Encourage transparent and accountable extractive industry and improve the competitiveness of the mining sector.
TOURISM	**OBJECTIVE 1.** Mongolia would become the international destination for nomadic culture and tourism
INDUSTRY	**OBJECTIVE 2.** Introduce advanced technology in food industry, improve the competitiveness, increase domestic supply in main food products, and ensure that citizens are supplied with healthy and safe food products.
ENERGY AND INFRASTRUCTURE	**OBJECTIVE 6.** Provide greater independence to urban areas and settlements, build roads and transportation, and engineering infrastructure, create a healthy, safe and comfortable living environment for citizens, and improve urban planning in line with world-class green development model.

The progress of implementation of the SDV-2030 is measured with 20 indicators and the following three indicators are used for environmental sustainability (Table 2)

TABLE 2. ENVIRONMENTAL TARGET INDICATORS IN ACCORDANCE WITH THE IMPLEMENTATION OF SUSTAINABLE DEVELOPMENT VISION OF MONGOLIA

TARGET INDICATOR	UNIT	2015	2018	2030[1]
ENVIRONMENTAL PERFORMANCE INDICATOR[2]	Rank	111	83	90
AREA OF LAND AFFECTED BY DECERTIFICATION[3]	Percentage	78.2	76.8	68
AREA OF SPECIALLY PROTECTED LAND[4]	Percentage	13.5	17.87	30

1. https://www.un-page.org/files/public/20160205_mongolia_sdv_2030.pdf
2. https://epi.envirocenter.yale.edu/epi-topline
3. http://sdg.1212.mn/Home/SDV_indicator
4. https://eic.mn/spa/

Since the 1990s, Mongolian parliament and government have approved more than 500 policy documents, but only 170 are valid now. More than 67% of the valid policy documents were approved by the government of Mongolia, while remaining were approved by the Mongolian parliament. In terms of biodiversity related policy, the Mongolian parliament and government have approved the following 30 policy documents.

TABLE 3. LIST OF BIODIVERSITY RELEVANT POLICY DOCUMENTS

POLICY DOCUMENTS	PARLIAMENT	GOVERNMENT
National Program on Education for Sustainable Development (2017-2022)		✓
Law on Genetic Resources of Animals (2017)	✓	
Law on Violations (2017)	✓	
Sustainable Development Vision-2030	✓	
Government Action Plan (2016-2020)	✓	
National Biodiversity Programme (2015-2025)		✓
Green Development Policy (2014-2030)	✓	
State Policy on Minerals Sector (2014-2025)	✓	
State Policy on Forest (2014-2020; 2021-2030)	✓	
The regulation on revenue receipts, expenditures for environmental protection and rehabilitation and reporting (2014)		✓
Forest cleaning program (2014)		✓
Law on Environmental Impact Assessment (2012)	✓	
Law on Fauna (2012)	✓	
Law on Water Pollution (2012)	✓	
Law on Forest (2012)	✓	
Law on Natural Resource Use Fee (2012)	✓	
Resolution (#302) of the Government on Renewed Approval of Water Ecology and Economic Valuation		✓
National Program of Protection of Endangered and Critically Endangered Species (2011-2020)		✓
National Education Program (2010-2021)		✓
National Security Concept of Mongolia (2010)	✓	
State Policy on Ecology (2010-2020)	✓	
National Water Program (2010-2015; 2016-2021)	✓	
National Program on Climate Change (2011-2021)	✓	
National Program to Combat Desertification (2010-2020)		✓
Law on Air Pollution Tax (2010)	✓	
Mongolian Livestock Program (2010)	✓	
National Program on Special Protected Area (1998-2015; 2015-2030)	✓	
Law on Government Special Funds (2006)	✓	
Law on Land (2002)	✓	
Law on Energy (2001)	✓	
Law on Environmental Protection (1995)	✓	
Law on Special Protected Area (1994)	✓	

With reference to these mid and long-term policy documents, the government of Mongolia aimed at maintaining the natural state of the environment; keeping ecological balance; conducting the appropriate assessments for natural resources, ecology, economy and environmental impacts; undertaking strategic and accumulative environmental impact assessments; pursuing environmental audits; establishing economic mechanisms for environmental sector; applying progressive fees for environmental damage and pollution based on the results of ecological and economic assessments of natural resources; increasing environmental responsibilities for both individuals and entities; and spending the adequate percentage of revenue from natural resources use fee on environmental protection and rehabilitation activities.

The complete and effective implementation of these policy documents cannot only enable the reduction of environmental degradation and pollution, but also limit the shortage of natural resources and ensure the increase in financial sources for biodiversity conservation. A successful implementation of the biodiversity policy can contribute to achieving the Sustainable Development Vision and the SDGs. However, implementation of these policy documents, action plans and regulations remain inadequate, due to financial incapacity, insufficient intersectoral cooperation and collaboration between pertinent stakeholders, lack of their management of activities and public participation.

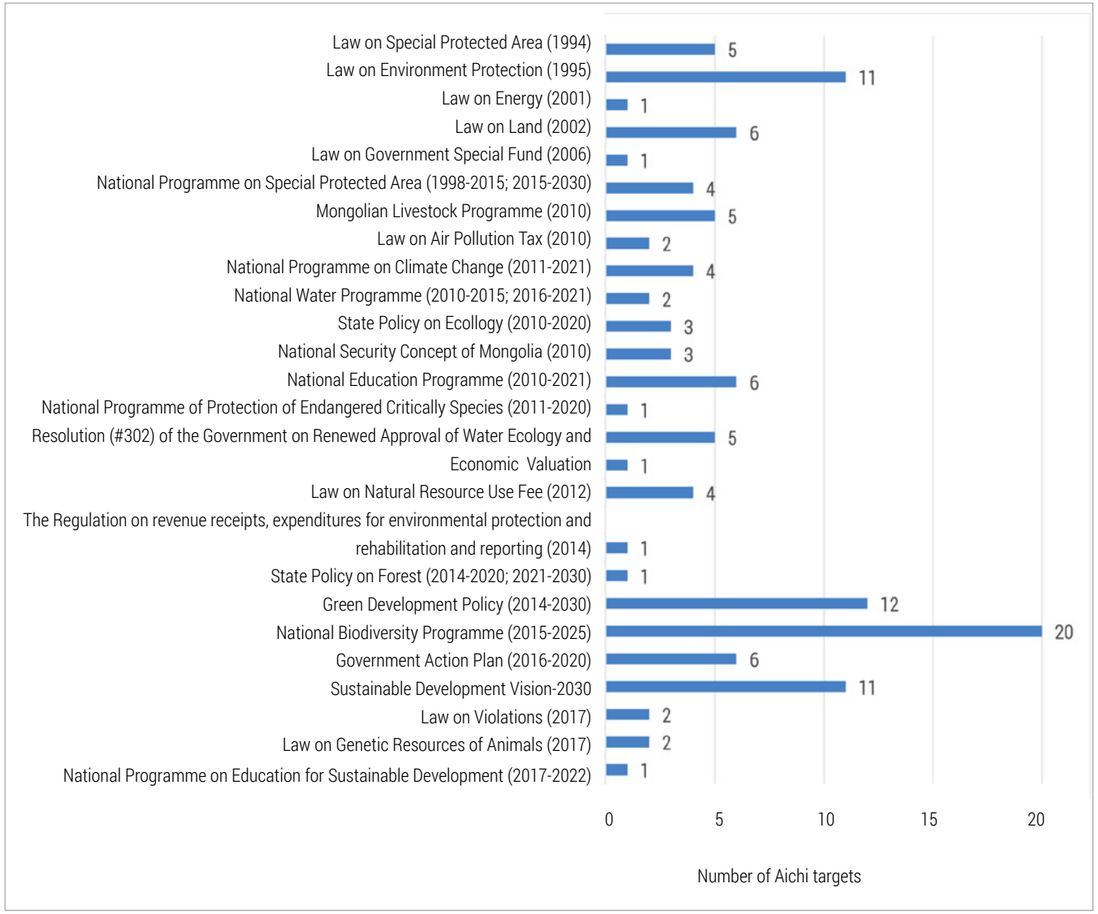
2.3. CONVENTION ON BIOLOGICAL DIVERSITY AND RELEVANT POLICY DOCUMENTS

Mongolia was the 30th country to ratify the Convention on Biological Diversity (CBD), making the CBD into force in 1993. Since then various programme and policies have been developed mainstreaming the issues of biodiversity. For example, the National Biodiversity Strategic Action Plan (NBSAP) was approved in 1996.

It consisted of 21 goals and 87 actions covering the research, protection, and sustainable use of biodiversity, and improvement of cross-sectoral policy. A comprehensive report on the implementation of the biodiversity action was developed in 1998, 2003, 2007, 2009 and 2014, and submitted to secretariat of the CBD. Biodiversity program implementation was evaluated twice, and the latest evaluation, which was conducted in 2010, reported that the programme had a success of 96 percent of implementation. However, at Rio+20 conference it was reported that only half of the objectives on protecting the environment were achieved in Mongolia.

The 12th CBD Conference of Parties adopted the Aichi 20 targets and a recommendation for each member country to develop and upgrade a NBP in line with the Aichi Targets was issued. The new plan consists of five strategic goals, including twenty Aichi Biodiversity Targets. An analysis of the relation between Aichi targets and the Mongolian policy documents (Figure 2) shows that all of the 20 targets are reflected in 30 policy documents of Mongolia.

FIGURE 2. POLICY DOCUMENTS AND THEIR RELATIONS TO AICHI TARGETS



Following the Aichi targets, the new NBP (2015-2025) was approved by the government of Mongolia, which incorporates all of the 20 targets. Mongolia's NBP has the vision of guaranteeing all citizens' "right to a healthy and safe environment and to be protected against environmental pollution and ecological imbalance" as defined by the Constitution of Mongolia. NBP includes 14 goals, 29 objectives, and 74 outputs within the frame of 4 strategies to ensure the conservation and sustainable use of Mongolia's biological diversity until 2025:

STRATEGY 1:	STRATEGY 2:	STRATEGY 3:	STRATEGY 4:
Increase awareness and knowledge on Biodiversity conservation and sustainable use among both decision makers and the general public (2 goals, 4 objectives and 9 outputs)	Develop and implement science-based policy on conservation and sustainable use of biological resources (5 goals, 12 objectives and 34 outputs)	Sustainable Use of Biodiversity (3 goals, 5 objectives and 14 outputs)	Improve policies and legal environment for conservation and use of biological diversity and ecological services (4 goals, 8 objectives and 17 outputs).

Although there are 5 strategic goals of Aichi targets, it was divided into six areas to identify the links between the national biodiversity goals and Aichi targets: 1) Biodiversity mainstreaming; 2) sustainable use; 3) protection; 4) restoration; 5) Access and benefit sharing of genetic resources utilization (ABS); and 6) enhance implementation. Within the framework of these 6 strategic areas, Aichi-20 targets and 14 goals of the NBP are classified as shown in Table below. Further analyses of BIOFIN, which are the Biodiversity expenditure review and finance needs assessments, are carried out according to this classification.

1. BIODIVERSITY MAINSTREAMING;
2. SUSTAINABLE USE;
3. PROTECTION;
4. RESTORATION;
5. ACCESS AND BENEFIT SHARING OF GENETIC RESOURCES UTILIZATION (ABS); AND
6. ENHANCE IMPLEMENTATION.

TABLE 4. AICHI TARGETS AND NBSAP GOALS

	CBD strategies clustered	Aichi Targets	NBSAP Mongolia goals
1	Biodiversity mainstreaming	1, 2, 3, 4	2, 6, 10, 12
2	Sustainable use	5, 6, 7, 8, 9, 10	7, 8, 13
3	Protection	11, 12, 13	4, 5
4	Restoration	14, 15	9
5	ABS	16	3
6	Enhance implementation	17, 18, 19, 20	1, 11, 14

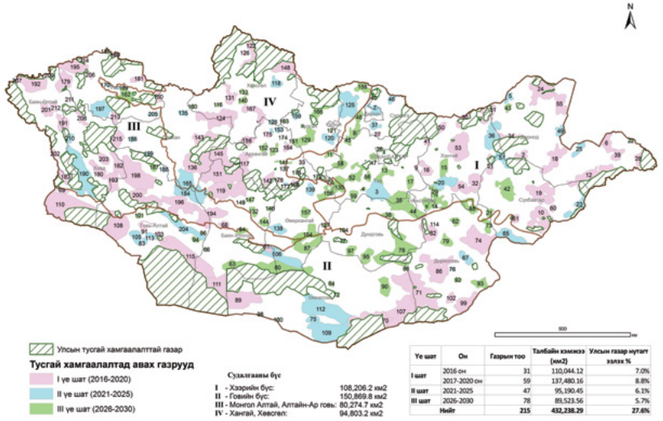
5. https://www.cbd.int/doc/world/mn/mn-nbsap-v2-en.pdf

III. BIODIVERSITY DRIVERS, TRENDS AND RELEVANT SECTORS

3.1. POSITIVE FACTORS IMPACTING ON MONGOLIAN BIODIVERSITY

In 1992 at the Earth Summit, Mongolia committed to make the at least 30 percent of the territory a specially protected area. This percentage was set based on the theoretic and practical knowledge of that time on protected areas and on the opinions of national scientists and experts (Batjargal et al. 1999). The size of the state protected areas network of Mongolia has expanded each year reaching at present 28 million ha or 17.4 percent of the total territory . In addition, there are 911 locally protected areas covering 16.3 million ha and 10.4 percent of total territory of Mongolia. The total size of the state and locally protected areas reached 44.3 million ha, which is 28.3 percent of the total territory (Batjargal, Shiirevdamba 2016). Additionally, research was conducted to further expand the protected area network and identify areas that need to get protected; thus, the ecological and biodiversity important areas are identified at a country level (Figure 3).

FIGURE 3. ECOLOGICALLY IMPORTANT AREAS



Besides the protected areas network, some areas are listed as globally significant as per the international agreements and conventions that Mongolia is part of. For instance, four areas are listed as UNESCO World Heritage Sites, 11 areas are listed under the Ramsar Convention, six areas are in the network of Man and the Biosphere Programme (MAB), and 70 places are part of bird important area network. Furthermore, to ensure complexity of ecosystem conservation, trans-boundary protected areas such as Mongol Daguur (1994, Russia, Mongolia and China) and Uvs Lake Basin (2011, Russia and Mongolia) have been established.

It can be concluded that the state policy on the expansion of protected areas network has been implemented continuously and steadily since the commitment in 1992. As a result of the expanded protected areas network, conservation activities are secured, thus having a positive impact on the overall biodiversity in the country.

3.2. NEGATIVE FACTORS IMPACTING ON MONGOLIAN BIODIVERSITY

Starting with second half of the 20th century the following factors emerged and intensified as negative drivers for biodiversity. In particular, the reduction and fragmentation of habitat, pollution, and the depletion of life supporting resources such as water. The main factors negatively impacting biodiversity are:

1. INCREASE OF HUMAN POPULATION WITH INCREASED DEMAND FOR PRODUCTS AND SERVICES THAT IS BEYOND BASIC HUMAN NEEDS (BHN).

Changes to traditional ways of livestock breeding, such as the over-cultivation of land, overuse of natural resources and other types of pressure on ecosystems combined with climate change are leading to degradation of species' habitats, shrinking of the home range, fragmentation of habitat, and decreasing resources.

2. THE LIVESTOCK POPULATION HAS GROWN WHILE THE HERD COMPOSITION IS SHIFTING, WHICH IS DESTRUCTIVE FOR PASTURE VEGETATION.

According to the land classification of Mongolia, 73.8% is agricultural land; 9.1% is forest resources; 15.9% is land for special use, land under cities, settlements and villages; 0.7% is land under roads and pipeline networks and 0.4% is lands with water resources. Of the 9 million ha of registered degraded land, 97.7% is pasture and haymaking fields, 0.43% is cropland, 1.7% is land with forest resources, and 0.12% is land excavated and damaged in the course of mining activities and construction work (National Statistics Office, 2013). These numbers are from 2012, when Mongolian economic growth was at its peak. Before Mongolia`s transition to a market economy, agriculture was the main socio-economic sector, and provided over 35 percent of Mongolia's GDP and 45 percent of the country`s employment. Since 1990s, Mongolia's expanding mining sector has caused the agriculture sector`s contribution to GDP to gradually decrease. However, agriculture continues to be one of the main components of the Mongolian economy both in terms of its

contribution to GDP (14.5%) and to employment (29.8%). The livestock sector is predominant within the agriculture sector and plays a major role in generating employment and providing livelihood in rural areas of Mongolia (Greater Tumen Initiative, 2015). With increasing land degradation, this major source of employment and GDP is under threat.

Mongolian traditional pastoral livestock husbandry is based on semi-natural ecosystem, and resilient to external risks. When Garrett Hardin's theory of "tragedy of the commons" became popular, many countries in Asia and Africa with livestock breeding and livestock husbandry practices divided their pastureland and fenced off the land into parcels, with livestock contained within these limited areas. These measures drove up livestock breeding costs and caused a decrease in revenues and gains, to the point where livestock breeding almost ceased to exist in some countries. Many international scholars agree that Mongolia made the correct choice in its decision not to follow this trend (Suttie, 2005; Konagaya, 2003). Nevertheless, the current situation in Mongolia needs to be analyzed to define an optimum policy of management of the pasture land—which makes up 72.1% of Mongolia's entire territory—to neutralize the ecosystem degradation.

However, since 1990s, the livelihood of the rural population in Mongolia has changed significantly and is impacting the environment. One of the consequences of these changes is a continuously growing number of livestock and especially an increase in the number of goats within the herd structure. While pasture degradation in Mongolia was 20 percent in 2000, it increased to 70 percent in 2010 (IFAD-GEF project Mongolia, 2010). Recent studies show that pasture degradation has increased even more now (Environmental Information Center, 2013). A core aim of Mongolia's agricultural policy is to establish and implement a relevant regulatory environment able to provide its population with abundant and healthy food on regular basis and increase employment opportunities. Furthermore, livestock husbandry occupies a significant percentage of agriculture, and the Mongolian constitution established in 1992 states that "livestock is a national resource and shall be under state protection".

Consequently, developing the agricultural sector, increasing its competitiveness, improving food quality and ensuring sustainability of the environment are becoming main principles of the agricultural sector. To ensure the sustainability of the livestock husbandry sector and to improve people's livelihood, the Parliament of Mongolia has approved and is implementing the Government Policy on Herders (2009) and the National Program on Mongolian Livestock (2010). There is no apparent policy on restricting the number of livestock with reference to the pasture carrying capacity; but there are several incentives to increase production of wool and cashmere production and awards for herders with a thousand or more livestock, which encourages the increase of livestock number and contributes to pasture degradation.

3. USE OF CERTAIN PARTS OF THE LAND FOR CROP PRODUCTION (IMPOSING PRESSURE ON THE ENVIRONMENT WITH THE APPLICATION OF CHEMICAL FERTILIZERS, HERBICIDES, PESTICIDES).

The majority of the Mongolian territory is located in a harsh climatic condition, where crops are difficult to grow. Agricultural land occupies 73.8 percent of the total land reserves of Mongolia, of which only 0.5 percent (600,000 ha) is used for crop production (National Statistics Office, 2013). This is two times smaller than the rotation plot land (1.2 million ha) as compared to the 1990s. The crop land was reduced significantly due to the closure of the state farms after the transition to market economy, thus the land has become unfertile and unproductive. Studies show that around 40 thousand ha of cropland had been degraded in Mongolia.

The Government has provided an immense amount of loans and benefits to support crop production. Statistics show that subsidies given to agriculture (wheat and meat) fluctuated around 4.7% of the total amount of government subsidies from 2007 to 2013. As a result of this government policy, investment in crop production has been increasing continuously. This has included the import of nitrous fertilizer, which has increased by 10 thousand tons per year in 3 years (National Statistics Office, 2013). As some researchers have pointed out, there are cases of excessive fertilizer and pesticide residue in the environment and in products due to weak regulations regarding the utilization of these chemicals. The agriculture programme and policy papers issued since 2000 have strongly focused on increasing crop production while the financial support provided by the state has ignored the issues of ecological balance, soil fertility, and the economical use of water resources. These policies threaten soil and water resources as well as biodiversity.

4. EXPANSION OF INFRASTRUCTURE SUCH AS RAILROADS AND POWER TRANSMISSION LINES. THESE DEVELOPMENTS COVER 0.3 PERCENT OF MONGOLIA'S TOTAL TERRITORY

Vast territory and scattered population in Mongolia hinder the development and undermines the competitiveness of the power and electricity sector as well as the transportation system.
In recent years road construction has intensified, connecting Bayankhongor, Ömnögobi, Dornogobi, Suhbaatar Dorno and Kuvsugul aimags with the capital city via paved roads. In addition, preparation to construct a highway connecting Zamiin-Uud, Ulaanbaatar and Altanbulag is underway.

Moreover, work has begun to upgrade the railway into a double-line road and to connect with four Chinese border checkpoints via railways. Dirt roads are 90 percent of the entire road network while asphalt and enhanced dirt roads do not exceed 10 percent. Unplanned dirt roads are one of the factors contributing to environmental deterioration and pollution, as well as desertification.

The railways both currently in operation and planned for the future negatively impact habitat fragmentation, especially for migratory ungulates. A clear example is the transmongolian railway cutting through the country from north to the south, which was built without any passages for wildlife. Because of this, the habitat of migratory ungulates such as gazelle (Procapra gutturosa) and goitered gazelle (Gazella Subgutturosa Guldenstaedt) was fragmented. The barbed wire line along the frontiers also has the same impact. AAdditionally, electrical lines connecting industries and city or province centers have no protection or good technological solutions and have caused the deaths of thousands of birds. In order to decrease this impact, in 2015, a mandatory standard to create passages for wild ungulates along the highways and railways in steppe and Gobi areas (underpass, over pass, level cross) was developed and approved. However, there are no standards in the other biomes.

5. DEVELOPMENT OF MINING WITH DESTRUCTIVE IMPACTS ON BIODIVERSITY THROUGH HABITAT FRAGMENTATION, AIR, WATER AND SOIL POLLUTION.

Mongolia achieved a high growth rate of GDP and other macroeconomic indicators by focusing more on mining in its development policy. As a result, Mongolian economy has become very dependent on mining. For instance, in 2013, 81.9 percent of Mongolian exports was coal, which provided 40 percent of the country's GDP. However, this sector has not stepped beyond semi-processing of mineral commodities such as coal, copper or gold, and materials are exported through a "single exit" or "single gate" with little added value. Such high dependence from a single sector is making the Mongolian economy quiet sensitive to fluctuations in world mineral prices, which leads to sudden fluctuations in Mongolia's economy. At present, Mongolia is the most wasteful compared to other developing countries in the region in terms of its use of natural resources put into rotation including mineral resources per unit of human development index (Batjargal, 2011).

This implies that Mongolia spends resources in amounts that exceed the actual requirement for the level of development achieved, with a low level of efficiency regarding the utilization of natural resources. It is not uncommon among resource-based economies that the environment becomes degraded and polluted, natural resources become scarce, and financial crises occur.

As the mining sector becomes more developed, the environment of mineral rich areas is greatly degrading; soil erosion is intensifying; many rivers, streams, springs, lakes, ponds and oasis are drying out; numerous nationally and globally significant or threatened flora and fauna species' habitat is shrinking and their numbers are decreasing; enormous damage is occurring to national forest fund, hence intensifying the desertification; herders are losing their pasture land and winter camps; land degradation is greatly occurring in five million hectares of land due to roads that follow mining development; and peoples' right to live in a safe and healthy environment is being infringed upon. For instance, due to the government encouragement of the "gold" program that started in 1990, 24122 kg of gold was extracted from around 100 deposits in 2005 using the least environmentally friendly techniques, such as water weapon and scrubber, which has left an enormous amount of waste dumps and abandoned mines. Consequently, individuals or artisanal miners started entering those areas and the locally protected areas to re-extract minerals such as gold and fluorspar and have caused significant damage to the environment. Currently, more than 20 thousand hectares of land have been damaged in Mongolia due to mining exploration and operation.

Considering mining's impacts on the environment, particularly on water resources and forest and vegetation cover, the Parliament of Mongolia passed the Law on Prohibition of Mineral Exploration and Exploitation in Conservation Zones of the Areas with Heads of Rivers and Water Streams and the Areas with Forest Resource in 2009 and revoked approximately 200 exploration and exploitation licenses. In terms of the law's implementation, the cost of environmental rehabilitation required for the reclamation of 60 thousand hectares of area covering 237 gold mine licenses is estimated to be 1.1 trillion Mongolian tugrik. Unfortunately, due to the instability of policy and economic difficulties, the government has reissued most of the previously revoked licenses.

In 2006 government resolution no.309 on "Undertaking mining operation with low impact and damage on the environment" program was approved, and it outlines the government policy on environmental rehabilitation along with its objectives and implementation methods. While this program states to develop a formal standard on environmental and technical requirements of mine rehabilitation, these standards have not been developed or approved yet. Thus, there is still environmental degradation and an imbalance within ecosystems.

Currently, major deposits, namely Erdenet, Oyu Tolgoi, Tavan Tolgoi as well as Khotgor and Khushuut coal mines as well as few mid-size gold, iron and uranium mines are in operation. While environmental impact assessments of these major or mid-size deposits are being conducted as per the law and regulations, their environmental protection plans are quite generic.

6. NEW HUMAN SETTLEMENTS WITH COMPLEX IMPACT ON BIODIVERSITY.

Urbanization intensified drastically since the 1950s when only 20 percent of the population of Mongolia inhabited urban areas. Nowadays, 68 percent of Mongolians who used to be nomadic and lived in rural areas have become urbanized, which is much higher than the Asian average. Ulaanbaatar city, the capital of Mongolia, emerged to be the nucleus and location of urbanization. Over 40 percent of the population resides in the capital city, which is clearly a center of economic growth—60 percent of Mongolia's GDP and 50 percent of investment come from Ulaanbaatar. Occupying only 0.3 percent of the entire territory of the country, the population of Ulaanbaatar has been increasing by over 4 percent annually since 2000.

Urbanization brings to Mongolia the following consequences: intense rural-to-urban migration and unplanned population growth in the capital city are leading to increase in the unemployment, traffic congestion, air pollution, negative impacts on the environment, expansion of the peri-urban ger areas and many other challenges. More than 60 percent of the total population of city Ulaanbaatar live in the ger areas without modern infrastructure such as water supply and sewage systems, power connection, paved roads, public transport, hospitals, schools, apartments, recreation centers. The ger district population is also under high risk of natural disasters. There is a lack of optimal solutions to the designation of living areas and the capital city's proper urbanization. Thus, it is a pressing issue to design the new settlement zones based on mines and other economic sector development to be environmentally friendly with minimal impact on biodiversity.

7. THE INTENSITY OF CLIMATE CHANGE REACHED THE LEVEL OF AFFECTING BIODIVERSITY.

Based on the meteorological data obtained since the 1940s, it can be observed that Mongolia is one of the countries most affected by climate change. During the past few decades, desertification has affected 77.8 percent of the territory, and certain changes are observed across 90 percent of the grassland (Environmental information center 2013). Increased aridity resulted in 30% loss of moisture level in crop production zones, and pasture yield has been reduced.

The water regimes of rivers and brooks are changing and often leading to a complete drying out. Almost 27.8 percent of the glaciers are lost, ice thickness on most rivers has decreased by 35cm in average and the water temperature has increased by 2 degrees Celsius. The frequency of disaster events over the last 2 decades show that there were 75 disaster events during the first decade and as twice as many during the second decade. Moreover, a total of 26 new livestock diseases, 8 diseases that are resurging and 6 diseases that are expanding their scope were registered in recent years.

Climate change modeling reveals that the average temperature is expected to increase by 2.2 degrees in near future (2016-2035), while it will continue to increase by 3.5 – 6.0 degrees Celsius, depending on the greenhouse gases emissions, in the distant future (2081-2100). Climate change can have both negative and positive impacts on the environment:

POSITIVE IMPLICATIONS OF CLIMATE CHANGE FOR MONGOLIA:	• Reduced severity of winter; • Early onset of spring and late end of autumn; • Rivers, brooks, lakes and ponds will freeze late and melt early; • Prolonged growing period for vegetation; • Increased adaptation of heat-loving trees, bushes, and plants • Increased diversity of crops; • Prolonged stay of migratory birds and other animals.
NEGATIVE IMPLICATIONS OF CLIMATE CHANGE FOR MONGOLIA:	• Sudden and frequent intense frosts in winter; • Increased number of hot days in summer; • Alternation of periods of increase and decrease in precipitation without significant summary increase; • Intensification in evaporation reducing moisture accumulation in soil; • The precipitation in summer will be scarce with showers prevalent over drizzles; • There will be seasonal shift of precipitation and increased snowfall in winter. The annual level of soil moisture will reduce. Negative impact on the formation of water flow in rivers and creeks; • Climatic terrestrial ecosystems will shift northwards and the climatic zones will rise upwards; • The forest zone may be pushed to the northern borders and the area of coverage may be limited to mountain gorges; • The desert and semi-desert zones will advance northwards and the vegetation cover may get frayed; • Changes in the composition of the pasture vegetation may reduce the pasture carrying capacity; • Changes in the pasture vegetation growth regimes may lead to stunting of animals and decline in their productivity; • More frequent penetrations of invasive species of plants from warmer belts.

A summary of impacts and vulnerability depicts a steady tendency of growth of the air temperature in all seasons in Mongolia and growth of precipitation in winter without an increase in summer. This implies that climate change is going to result in increased aridity and droughts with direct and indirect impacts on the environment, weather conditions and major socio-economic sectors. The shifts in the terrestrial ecosystems and climatic zones and the increase in the intensity and frequency of natural disaster events may bring either temporary or irreversible changes to the biodiversity.

8. ECONOMIC SUBSIDIES MIGHT NEGATIVELY AFFECT BIODIVERSITY

One of the twenty Aichi targets states that "By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio-economic conditions." [5], which aligns with the Mongolian NBP Goal 12 on "Create a legal environment where subsidies or financial assistance are prohibited for use in agriculture, mineral resource extraction, infrastructure, energy, light industry, food manufacturing, and service industry projects and actions deemed to be harmful to or potentially harmful to biological diversity in accordance with environmental strategy evaluations" [6]. The indicator for achieving the goal is defined as "Number of subsidies and financial aid programs negatively affecting biodiversity".

As of 2018, there are few subsidies that might have negative impact on biodiversity. Most of these subsidies are used to promote agricultural [7] and mining sectors. Overview of these subsidies are shown in Table 3.

5. Aichi Target 3
6. Goal 12, Mongolian NBSAP
7. Review, Estimates and Analysis of Agriculture Subsidies, WB, March 2014
8. http://www.legalinfo.mn
9. http://mofa.gov.mn/exp/blog/43/92
10. https://www.mongolbank.mn/dblistgoldbom.aspx?vYear1=2017&vYear2=2018&vMonth1=01&vMonth2=12
11. https://www.mongolbank.mn/dblistgoldbom.aspx?vYear1=2017&vYear2=2018&vMonth1=01&vMonth2=12

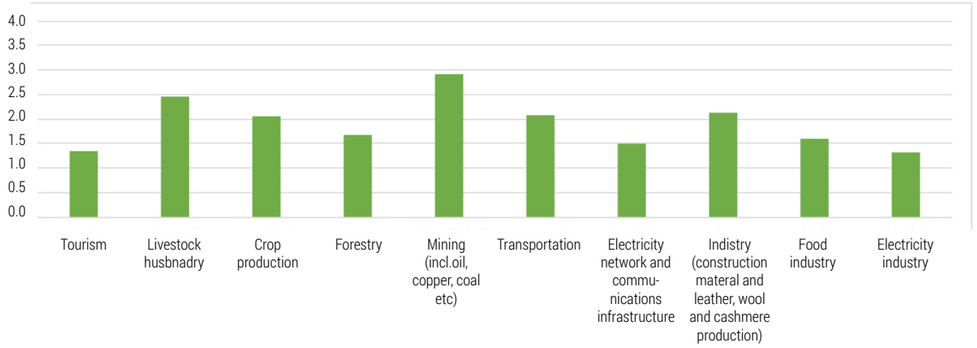
TABLE 3. SUBSIDIES MIGHT HARM BIODIVERSITY IN MONGOLIA

SECTOR	TYPE OF SUBSIDY	DESCRIPTION	POSSIBLE HARMFUL IMPACTS TO BD	STATUS
Livestock	Personal Income tax exemption	Income tax exemption for herders and absentee herders was approved by the amendment of the Law on Personal Income Tax has been amended in 2009. [10]	Promoting the increase of livestock numbers beyond pasture carrying capacity, have negative impact on biodiversity.	Ongoing
Livestock	Wool subsidies	Incentive for raw wool collection to promote domestic wool processing factories and increase herders' income was approved by the Parliament decree No.74 in 2013, and further implemented by the Government decree No.122 in 2015. A total of 158.5 billion tugriks were spent on wool subsidy in 2011-2017 [11].	Promoting the increase of livestock numbers beyond pasture carrying capacity, have negative impact on biodiversity.	Ongoing
	Cashmere subsidies	Incentives for cashmere collection to promote domestic processing factory was approved by the Government decree No. 260 in 2008.	Promoting the increase of goats, thus contributing to the imbalance in herd structure	Occasionally
	Pasture management grants	Grants mostly used for pasture irrigation and rodent control	Increased habitat competition between livestock and wildlife, using chemical for rodent's control and/or less effectiveness.	Ongoing
Crop production	Fertilizer subsidy	Subsidized loans bellow market price	Increased pollution through chemical fertilizer	Occasionally
Mining	Gold royalty fee	Since 2014, the Law on Minerals has been amended 19 times, and in 2016 the gold royalty fee was reduced to 2.5%. As a result, the amount of gold paid to the Central Bank of Mongolia, have been increased to 20 and 21.87 tons in 2017 and 2018, respectively. [12]	Increase of mining activities could have negative impact on biodiversity.	Ongoing
		Law on Prohibition against Exploration and Mining in Headwater Areas, Protected Zones for Water Reserves and Forest Lands was approved in 2009. It has been amended 7 times since 2014, and each amendment eased the prohibition. For instance, the restriction zones have been reduced.	Promoting the increase of exploration and mining activities without considering the negative impact on the surrounding environment.	Ongoing

3.3. BIODIVERSITY RELEVANT SECTORS

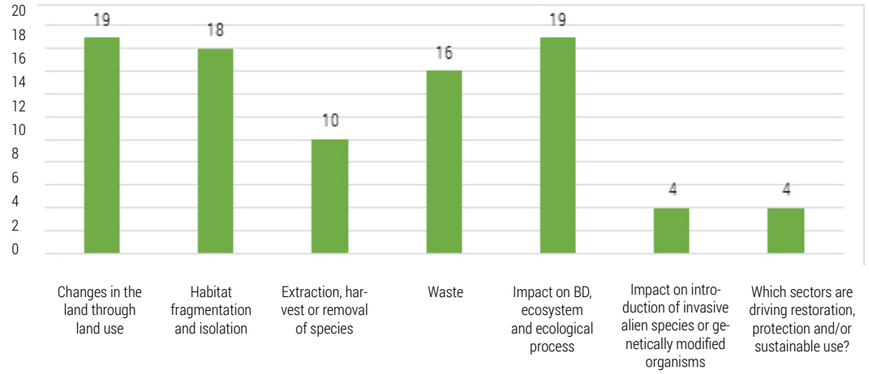
- As per BIOFIN guidelines, main sectors that are negatively affecting biodiversity were identified based on the following factors:
  - economic importance;
  - linkage to activities that are ecologically disruptive or illegal;
  - contribution to the implementation of national goals;
  - dependency on biodiversity;
  - potential for maximum economic growth in future; and
  - both positive and negative impacts on biodiversity and ecosystem are considered.
- Depending on these factors, each sector was given score 1 to 4 (Figure 4), and key sectors were ranked as per the guideline provided by BIOFIN (UNDP 2014).

FIGURE 4. BIODIVERSITY RELATED SECTOR RANKING BASED ON THEIR INFLUENCE



It can be seen from the ranking that sectors such as mining, livestock husbandry, heavy industry, crop production, transportation and food industry are most related to the biodiversity. Ranking of these sectors' impacts on biodiversity and ecosystem is shown below (Figure 5).

FIGURE 5. SECTOR IMPACT ON BIODIVERSITY AND ECOSYSTEM



It can be seen from the above figure that these sectors have certain negative impacts such as changes in the land through land use, habitat fragmentation and isolation, waste production, and biodiversity and ecosystem degradation through change of ecosystem or ecosystem services. Contribution of these sectors to natural resources conservation, rehabilitation and sustainable use appear to be very low or insignificant.

Hence, it can be concluded that these sectors' negative impacts on biodiversity outweigh their positive impacts, which leads to increase of required budget for biodiversity conservation rather than prevent from future expenses. These sectors are:

- Mining
- Livestock husbandry
- Crop production
- Transportation
- Industry (construction material and leather, wool and cashmere production)

The following factors are influencing negative impacts of these sectors on biodiversity. These are:

1. EFFECTIVE POLICY, LEGAL ENVIRONMENT AND MANAGEMENT APPROACH OF IMPORTANT SECTORS THAT ARE CONTRIBUTING TO THE NATIONAL GDP ARE NOT ONLY NON-ENVIRONMENTALLY FRIENDLY BUT ARE ALSO ACTING AS NEGATIVE MECHANISMS.

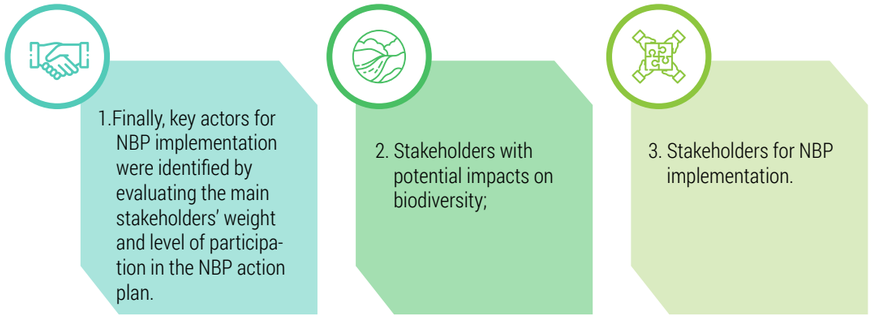
For instance, while there is no apparent policy on restricting the number of livestock that greatly degrade pasture, there are economic mechanisms such as the encouragement of wool and cashmere production or herders with a thousand or more livestock. Agricultural development policy documents are greatly focused on increasing harvest through economic incentive, but not linked to keeping ecological balance, soil nutrition or encouraging appropriate use and saving of water resources, which in turn lead to degradation of soil, water and biodiversity that negatively affect development of agricultural sector. Moreover, despite approving the law on "Prohibition of Mineral Exploration and Exploitation in Conservation Zones of the Areas with Heads of Rivers and Water Streams and the Areas with Forest Resource" in 2009 and revoking more than 200 licenses, the government has renewed them, blaming the country's economic difficulty and unstable policy.

2. LACK OF ENVIRONMENTAL CONTROL MECHANISMS.

The legal environment lacks comprehensiveness, implementation, control mechanisms, well-established structures as well as participation of stakeholders, hence it is inadequate to reduce the environmental impacts of main economic sectors.
These factors were carefully considered during the development of the NBP 2015 - 2025, which aims at tackling the negative impacts. Successful implementation of goals within the framework of the fourth strategy on improving the legal environment, can enable the reduction of mentioned negative impacts on the biodiversity. Moreover, the sustainable development can be achieved through the key economic sectors (agriculture and livestock husbandry) that are based on natural resources.

IV. BIODIVERSITY INSTITUTIONAL ANALYSIS

An important part of the PIR is to identify and rank key actors of biodiversity finance. In other words, a review of main actors that play a role in generating and allocating biodiversity finance and fiscal policy. The following key criteria were used:



Finally, key actors for NBP implementation were identified by evaluating the main stakeholders' weight and level of participation in the NBP action plan.

As per BIOFIN guidelines, a 1 to 4 points score system was used to rank the stakeholders depending on their impacts and participation. Stakeholder participation in NBP implementation or biodiversity impact with 71 percent or more obtains a score of 4 (VERY HIGH), 31-70 percent obtains 3 (HIGH), 11-30 percent gets 2 (MEDIUM) and 10 or lower percent gets one score (LOW). Key actors were ranked based on the average scores of participation and impacts. Environmental conservation planning method "open standard" was used to evaluate the percentages.

4.1. STAKEHOLDERS IDENTIFIED AS PER THE LAWS, REGULATIONS AND INSTITUTIONAL FRAMEWORK

Stakeholders can be identified by analyzing the legal environment on biodiversity conservation and sustainable use. In general, the roles and responsibilities of government institutions, international CSOs, NGOs, and private sector representatives are stated in laws and regulations.

4.1.1. THE INSTITUTIONAL STRUCTURE OF GOVERNMENTAL AGENCIES

The Law on the Government of Mongolia states that the government should consist of 16 members including the Prime Minister of Mongolia, Deputy Premiers, and Head of the Cabinet Secretariat and line ministers. According to the Mongolian Government resolution no.3, dated July 27, 2016, Government of Mongolia will operate with 13 ministries in next four years (Table 5).

TABLE 5. LIST OF MINISTRIES

GENERAL FUNCTION	SPECIFIC FUNCTIONS
• Ministry of Environment and Tourism (MET) • Ministry of Foreign Relations (MFR) • Ministry of Finance (MF) • Ministry of Justice and Home Affairs (MJHA) • Ministry of Labor and Social Protection (MLSP)	• Ministry of Defense (MD); • Ministry of Construction and Urban Development (MCUD); • Ministry of Education, Culture, Science and Sports (MECSS); • Ministry of Transportation and Development (MTD); • Ministry of Mining and Heavy Industry (MMHI); • Ministry of Mining and Heavy Industry (MMHI); • Ministry of Food, Agriculture and Light Industry (MFALI); • Ministry of Energy (ME);

The Government also includes 27 agencies of which 10 are regulating agencies, 17 are implementing agencies, and it is regulated to have no change in the number of agencies. In addition, Forest Research and Development Centre, and Fresh Water Resources and Environmental Protection Centre that operate under the Ministry of Environment and Tourism as well as the "Mongol Us" state owned company will operate in coming years to implement environmental, forest and water regulations.
During the past few years, the changes to the government structure are mostly directed at implementing the policy and programs of the ruling political party rather than reflecting the actual needs and demands of the Mongolian public. This change will bring 30 to 40 percent changes to previous government structure and is going to require replacing more than 50 percent of staffs at former ministries and becomes one of main factors that negatively affect stability of policy implementation.

4.1.2. BI AND MULTILATERAL PARTNERS OF THE GOVERNMENT

Following bilateral and multilateral organizations are in operation in Mongolia.

UNITED NATIONS DEVELOPMENT PROGRAMME (UNDP) works in areas such as environmental conservation, disaster risk reduction and adaptation to climate change as well as mitigation of climate change impacts. UNDP has been implementing numerous projects with the funding from Global environmental facility (GEF), Adaptation fund (AF), Global climate fund (GCF) etc. For instance, The Partnership for Action on Green Economy (PAGE), BIOFIN, and Ensuring Sustainability and Resilience of Green landscape in Mongolia to name a few.

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS (FAO) – FAO focuses on reducing poverty and lack of nutrition by improving the agricultural sector and its development in Mongolia. Moreover, FAO actively works in areas such as supporting environmental conservation and sustainable development and improving disaster risk management.

SWISS DEVELOPMENT COOPERATION (SDC) – SDC started its operation in Mongolia in 2001 with improving livelihoods of herders and vulnerable groups that lost their livestock to dzud, and helping them to overcome the damages from natural disasters. Initially, they were mostly providing physical or material assistance to those who experienced harsh dzud by sending food, clothes, hay as well as gers. SDC's operational strategy in 2013 to 2016 was 1) agriculture and food safety 2) professional education and training and 3) administrative reform, local governance and public participation. Through these, SDC aimed to contribute to socio-economic sustainable development of Mongolia. In terms of the biodiversity national program, the SDC is implementing projects and programs in education for sustainable development, sustainable artisanal mining and pasture management improvement.

ASIAN DEVELOPMENT BANK (ADB) – Asian Development Bank is one of major partners that supports Mongolia's development. ADB has been operating in Mongolia since 1991 and has showed 1.92 billion $US support. ADB Mongolia programs, loans and supports mainly focus on Mongolian economic growth, particularly improving livelihoods of women, children and vulnerable groups. ADB expanded its operation starting 2015 and is planning to invest 297.5 million $US to programs of increasing jobs, improving social protection and fighting climate change.

GERMAN INTERNATIONAL COOPERATION AGENCY (GIZ) – GIZ has been in Mongolia since 1991 and officially opened its branch in Ulaanbaatar in 1998. GIZ works in areas such as the sustainable use of natural resources, energy sources and equal distribution of economic benefits for Mongolian people. GIZ implements projects and programme on biodiversity and ecosystem conservation. for instance, Multi-purpose forest count of Mongolia and Forest ecosystem and biodiversity adaptability to climate change.
German Reconstruction Development Bank (KfW) is a German state-owned development bank which has been expanding its development operations in the Asia Pacific's in recent years. The KfW is active in biodiversity and energy sectors in Mongolia.

WORLD BANK projects mostly focus on infrastructure and improve economic and mining sectors' governance. World Bank Group partnership strategy was developed in line with Mongolian National Development Complex Policy and this partnership strategy identified three priority areas: 1) Improving the capacity of Mongolia to manage the mining economy sustainably and transparently; 2) Building stable multi-foundation in both cities and countryside that supports economic growth and employment; 3) Solving vulnerability and decreasing inequality by increasing inclusiveness of services, improving social protection system as well as disaster risk management.
Japan International Cooperation Agency (JICA) – JICA started its operation in Mongolia in 1990 and officially opened its representative office in 1997. As part of its various loan, grant aid and technical cooperation activities, JICA sent approximately 620 Japanese volunteers to Mongolia and more than 4000 Mongolians to Japan as technological interns. JICA's key operation focuses around five different sector development that belong to three strategic vision of Mongolian National Development Plan. For example, JICA works in areas such as improving human resources capacity, protecting environment, supporting countryside development, establishing infrastructure to support economic development, ensuring sustainable development of mining sector and improving its governance, and improving management of spending of natural resources use fee.

KOREA INTERNATIONAL COOPERATION AGENCY (KOICA MONGOLIA) – KOICA was established in Mongolia in 1991, and implements South Korean government grant aid and technical cooperation programs. In 2006, the two countries decided to cooperate on reducing desertification and yellow dust, received funding of 11.8 million US dollar from South Korean Government, established the "Green Wall" project cooperated by South Korea and Mongolia, and aimed to plant trees in 3000 hectares of area between 2007 and 2017 in ten years.

UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT (USAID) – Starting early 1990, USAID started supporting the establishment of a market economy through capacity building of organizations and its first program was critical assistance to Ulaanbaatar electrical stations. Moreover, it worked in areas such as providing assistance for food security, improving capacities of decision-makers and building capabilities of newly establishing NGOs. More recently, it is working in fields namely, private entity operation, international and national investment, economic growth and employment support that benefit long-term sustainable development of Mongolia.

4.1.3. INTERNATIONAL NGOS IN MONGOLIA

Number of international NGOs implement short and long-term projects in biodiversity conservation in Mongolia. These NGOs play a significant role in the conservation of Mongolian biodiversity.

- **WORLD WIDE FUND FOR NATURE (WWF)** Mongolia Programme Office – WWF started its operation in Mongolia in 1992 by establishing a protected areas project. It established its country office in 1997 and changed its status to Mongolia Programme Office in 2002 and is conducting its operation according to law. WWF works to protect rare animals such as argali sheep, snow leopards and saiga in Altai Sayan and Amur River basin ecoregions since they are listed under 35 eco-regions that require inevitable conservation as announced by WWF. To achieve these, WWF cooperates with local citizens and other stakeholders, and implements local community-based natural resource management concepts, and works in fields such as protected areas network, integrated water resource management, implementation of environmental regulations, developing responsible mining operations and enabling migration of wild animals.

- **THE NATURE CONSERVANCY (TNC) MONGOLIA** – TNC has been working actively in protecting Mongolian steppe ecosystem since 2005. With cooperation of various stakeholders, they carried out an ecological assessment of the entire country and prepared regional reports that can assist planning development with minimum impacts on the environment. They also assist with Toson Khulstai natural reserve conservation management.

- **WILDLIFE CONSERVATION SOCIETY (WCS) MONGOLIA–** Officially opened its office in Ulaanbaatar in 2003. WCS works on projects such as wildlife illegal hunting and trading in the east and gobi regions of Mongolia, migration monitoring, distribution, resources and hygienic condition along with supporting capacity building of local citizen-oriented organizations, protected areas, ensuring implementation of laws, modelling and planning of wildlife-friendly mining and infrastructure (railway and road) development.

- **ASIA FOUNDATION** – The Asia Foundation started its operation in 1990 and was one of the first NGOs to significantly contribute to Mongolia's development to date. The Asia Foundation greatly assists Mongolia in areas, namely, strengthening anti-corruption initiatives and activities, administrative reforms, improving public participation and governance, improving gender equality, sustainable use of natural resources and environmental protection. In terms of environmental protection programs, the Asia Foundation is working to support responsible artisanal mining, reduce environmental damage and violations, introduce cooperation involvement approach for natural resources use control in countryside, and cooperate with government agencies on soil and water resources use control management.

4.1.4. PRIVATE ENTITIES

Private organizations and entities contribute to biodiversity conservation in various ways. For instance, approximately 100 entities are planting trees in 9000 hectares of area annually, while more than 200 organizations are preparing 30 million plant seeding for forest or tree planting. "Oi-an" LLC from Selenge province for example prepared 1.5 million plant seeding per annum and planted trees in 350 hectares of area. Moreover, private entities are funding environmental protection activities of various NGOs as a way of promoting their company or operation.

Additionally, several major mining companies are developing and implementing environmental protection program to reduce their environmental impacts. Examples may include:

- **OYU TOLGOI LLC:** Oyu Tolgoi is one of the major gold and copper mines in the world. Oyu Tolgoi LLC is jointly owned by the Government of Mongolia (Erdenes Oyu Tolgoi LLC – 34 percent) and Turquoise Hill Resources (66 percent, which 51 percent is owned by Rio Tinto), and has been operated by Rio Tinto since 2010. The company has a biodiversity-monitoring program, which comprises species monitoring, environmental conservation management, identification and reduction of environmental impacts, and offset rehabilitation and environmental impact reduction activities that are aimed to implement adaptability management.
- **TAVAN TOLGOI LLC:** This is one of the largest coal deposits not only in Mongolia, but in the world, is in the South Gobi. The coal deposit is owned by Erdenes Tavan Tolgoi, a state-owned company, except for the section of Ukhaa Khudag coal deposit. Tavan Tolgoi's environmental program covers offset rehabilitation, environmental reclamation and waste management, all of which aim to reduce environmental impacts of the mine.
- **MOBICOM CORPORATION:** It has started implementing a project to improve the habitat for cirtically endangered species of Mongolia (specifically the Gobi bear- Mazaalai) since 2016 within its corporate social responsibility framework. This project is implemented by Mobicom jointly with WWF, Institute of Biology of the Academy of Sciences, London Animal Research Society, International Bear Research Society and Gobi Strictly Protected Area Administration.

4.1.5. BIODIVERSITY RELEVANT ORGANIZATIONS

Chapter 6 of the Mongolian Law on Environmental Protection legalizes the responsibilities of any entity or organization regarding protection of the environment and natural resources, and such requirement not only ensures environmental protection but also specifies an environmental protection funding mechanism. Stakeholders for this mechanism are:

1. Professional organizations;
2. Private organizations, entities or companies;
3. Non-governmental organizations and
4. Community initiatives – community-based organizations (CBO)

Research shows that approximately 500 environmental professional organizations are operating in Mongolia, which most of are in forest and water field (Table 6).

TABLE 6. PROFESSIONAL ORGANIZATIONS WORKING IN ENVIRONMENTAL FIELD

Class	Forest	Fauna	Water	Natural vegetation	Land rehabilitation	Hydrology and meteorology	Environmental assessment	Total
Too	215	15	157	16	10	21	67	501

Chapter 8 of the Mongolian Law on Environmental Protection specifies the "Community based natural resources management" and its establishment, institutional structure and operational directions in terms of environmental conservation, which can also assist the financial mechanism of environmental conservation funding. Currently, there are over 260 environmental protection community initiatives and over the 1600 forest groups (forest user and protection groups) in Mongolia. With the establishment and involvement of community initiatives, illegal hunting and logging have significantly decreased, which allows for a reduction in the financing required for biodiversity conservation.

A majority of local NGOs or 72.8 percent are operating in Ulaanbaatar, while 21.8 percent are based in countryside. Most NGOs are divided into five major areas according to their operation, which are research, citizen monitoring and consulting, training and promotion, and environmental protection. Out of these NGOs, 80 percent of them work in the training field, 8 percent in research, 10 percent in environmental protection and rehabilitation, and 2 percent in management. NGOs are greatly involved in combating desertification, planting trees and protecting the forest, conducting research and undertaking evaluation, and they are mostly funded from various programs operating in these fields or through the environmental conservation fund.

In addition, Khustai Center NGO is responsible for environmental protection and management of the Khustai national park and successfully carrying out its operation. Moreover, other NGOs such as Argali Research Centre and WWF Mongolia Program Office are in charge of Ikh Nart and Khar Yamaar nature reserves management.

Over 1000 NGOs and 500 professional entities are currently operating in the area of environment.

4.2. BIODIVERSITY RELEVANT SECTORS

Impacts on biodiversity and key sectors causing these impacts have been identified by considering the following two factors.

These are:

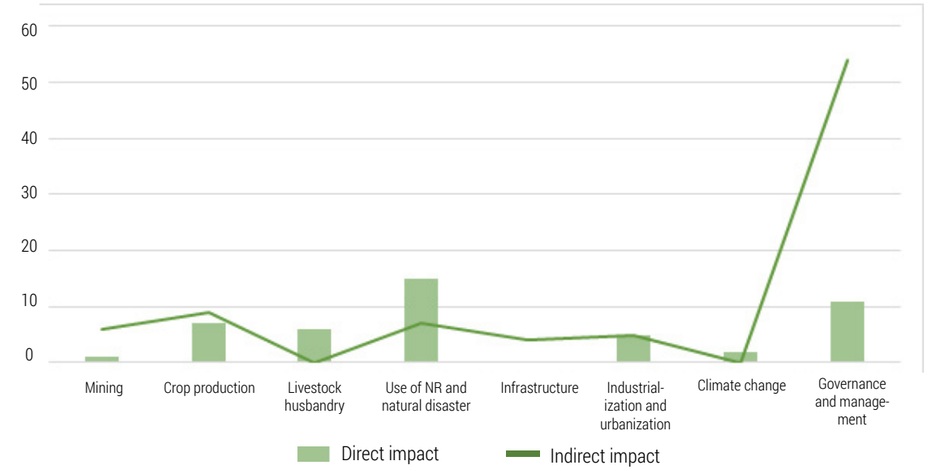
1. As mentioned in the previous chapter, the following sectors appear to have the most impact according to biodiversity impact evaluation. These are:
- Mining;
- Livestock husbandry;
- Crop production;
- Transportation
- Industry (construction material and leather, wool and cashmere production)

2. Key actors were identified by their roles and responsibilities defined in the NBP. For instance, particular objectives and their implementation-related challenges as well as their causes have been identified in the national program. Based on that, the program implementation required actors have identified and attempted to be ranked depending on their influence on 14 impacts index. Since there is a limited opportunity to represent these in percentage, participation and impacts have each evaluated by score of 1 and then their integration was used for comparison (Figure 8, Appendix 1).

It can be seen from the figure that main sectors having impacts on biodiversity are the followings:

- Individuals and entities directly using natural resources;
- Livestock husbandry;
- Crop production;
- Industries and cities;
- Mining and
- Infrastructure
- Lack of management and weak governance result in the largest impacts on biodiversity both directly and indirectly, thus decent policy planning, appropriate approach and actions are critical for stabilization of Mongolian biodiversity.

FIGURE 6. DIRECT AND INDIRECT IMPACTS OF CHOSEN SECTORS



4.3. KEY ACTORS OF THE NATIONAL BIODIVERSITY PROGRAMME

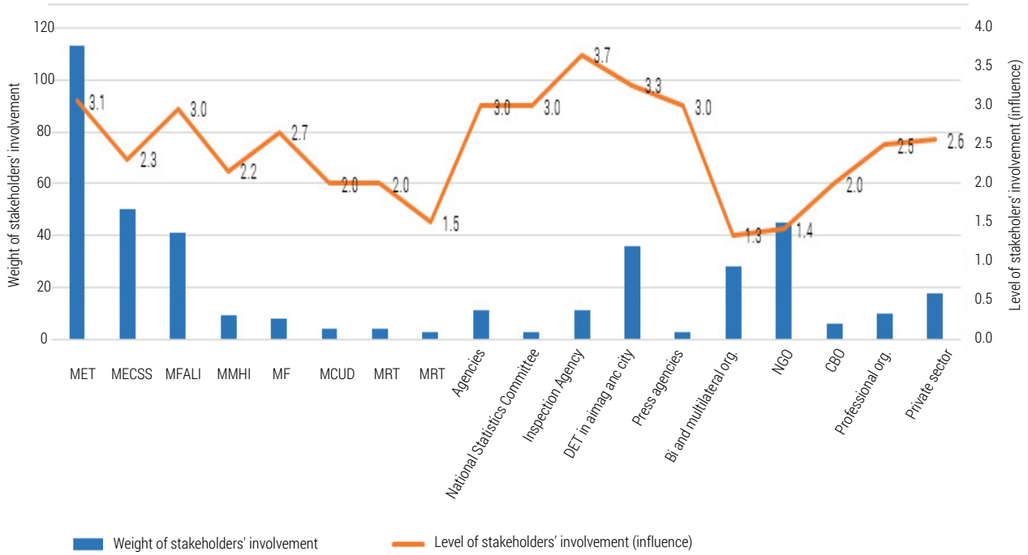
Within the scope and responsibilities of the Government of Mongolia, its ministries and agencies, actors that would likely to manage and be involved in achieving the goals and objectives of the NBP have been identified and analyzed. This analysis considered not only government organizations and agencies, but likely actors from private sector, international organizations and professional agencies, and has identified their involvement based on their operational sector and the program goals and objectives. To realize this identification, discussion forums were organized twice, which determined activities that can help achieving the program goals and objectives, and actors who will be involved in each activity. To identify the key actors, each actor was ranked based on their roles and its influence. A score of 1 to 4 was used, and the following two criteria or factors were considered. These are:

WEIGHT OF GENERAL INVOLVEMENT OR SCOPE OF INVOLVEMENT: Stakeholder's involvement and scope in implementing the NBP activities, and a combined score for each NBP activity was used to define stakeholders' weights in numeric value.

LEVEL OF INVOLVEMENT OR INFLUENCE: Stakeholder's role and influence on achieving the goals and objectives of the NBP. Also, a score of 1 to 4 was used for the evaluation, and "Open standard" for the environmental conservation planning method, which was used to prepare the NBP, was applied.

Weight and level of actors' involvement shows that 8 ministries out of 13, 3 agencies out of 27, 2 government agencies that are under Deputy Minister, 1 independent and media organization, environment and tourism departments of city and province administrations, bilateral and multilateral organizations, international NGOs, community initiatives (community-based organization - CBO), professional agencies and private entities will be involved in implementation of the NBP. It further shows that while some actors have less involvement, they may have larger influence. For instance, the State Specialized Inspection Agency has less involvement, i.e. they are involved in achieving a few numbers of goals and objectives, but their influence is quite large (Figure 7).

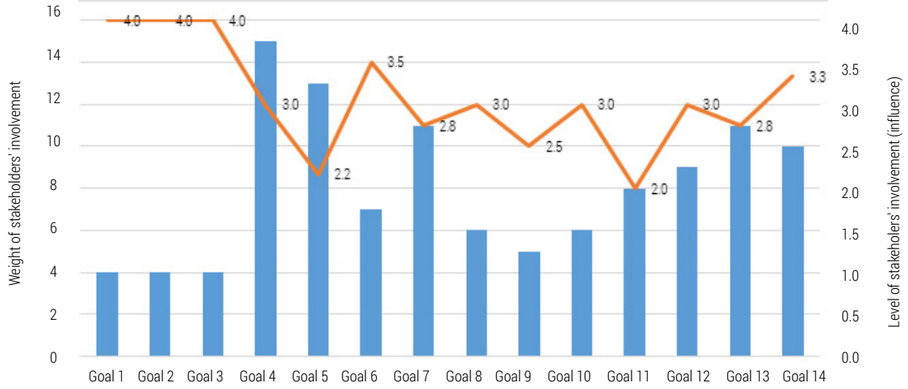
FIGURE 7. WEIGHT AND LEVEL OF ACTORS' INVOLVEMENT IN IMPLEMENTATION OF THE NBP



4.3.1 MINISTRIES, AGENCIES AND THEIR RESPECTIVE ORGANIZATIONS

Figure 7 shows that the state central administrative body in environment or the Ministry of Environment and Tourism (MET), and its respective agencies and organizations' weight NBP (Figure 8).

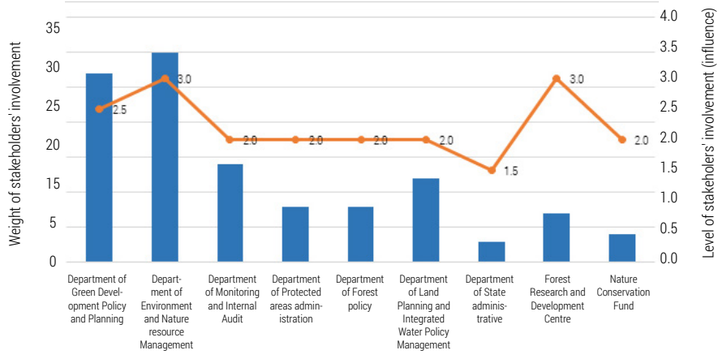
FIGURE 8. MET, AND ITS RESPECTIVE AGENCIES' WEIGHT AND LEVEL OF INVOLVEMENT IN IMPLEMENTATION OF THE NBP

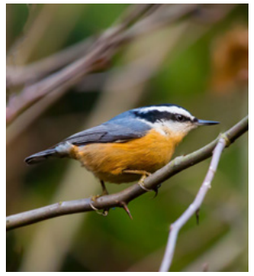


Involvement at the MET shows that seven out of all eight departments of the ministry (except the Department of Tourism Policy management) will be involved in implementation of the program. The Department of Environment and Nature Resource Management, Department of Green Development Policy and Planning, Department of Monitoring and Internal Audit, and Department of Land Planning and Integrated Water Policy Management will have the highest levels and weights of involvement.

In terms of level of involvement, responsibilities of all departments are increased (Figure 9). In other words, for agencies and departments that have assessed as low level of involvement due to their relation to number of NBSAP goals, but have high responsibilities regardless, it is all subject to direction of goals and objectives of the program.

FIGURE 9. MET, AND ITS RESPECTIVE AGENCIES' WEIGHT AND LEVEL OF INVOLVEMENT IN IMPLEMENTATION OF THE NBP





The Ministry of Education, Culture, Science and Sports (MECSS) and its respective agencies and departments will be involved in the implementation of 9 goals out of 14 (Figure 10) in the program and the Department of Education Policy appears to have highest level of involvement since it will be heavily involved in ecological and sustainable development education objectives. Furthermore, the Academy of Sciences and the universities appear to have high rate of involvement for the national program as well (Figure 11).

FIGURE 10. MECSS, AND ITS RESPECTIVE AGENCIES' WEIGHT AND LEVEL OF INVOLVEMENT IN IMPLEMENTATION OF THE NBP

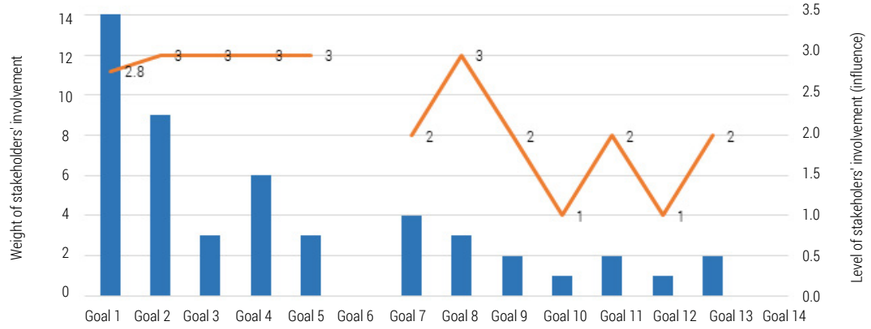
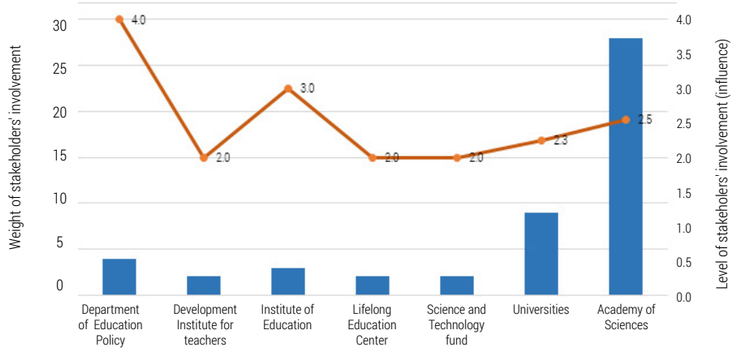


FIGURE 11. MECSS, AND ITS RESPECTIVE AGENCIES' WEIGHT AND LEVEL OF INVOLVEMENT IN IMPLEMENTATION OF THE NBP



The Ministry of Food, Agriculture and Light Industry (MFALI) and its respective agencies and departments were assessed to have the highest rate of involvement compared to others (Figure 7), and will be involved in achieving 5 goals of the national program (Appendix 4, Figure 17). MFALI has eight departments, however, it appears that Department of Policy and Planning, Department of Livestock Policy Implementation and Department of Crop production have the highest rate of involvement in the program implementation (Figure 12).

FIGURE 12. MFALI, AND ITS RESPECTIVE AGENCIES' WEIGHT AND LEVEL OF INVOLVEMENT IN IMPLEMENTATION OF THE NBP

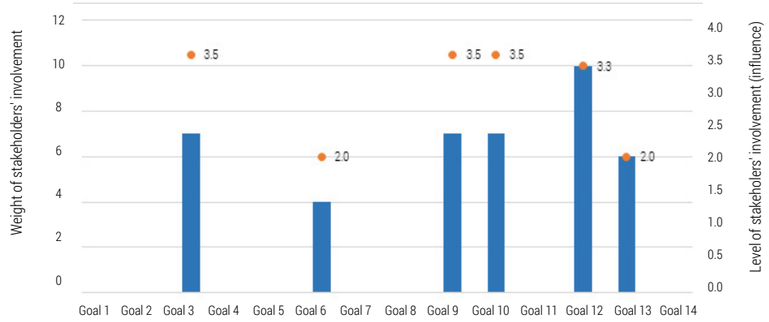
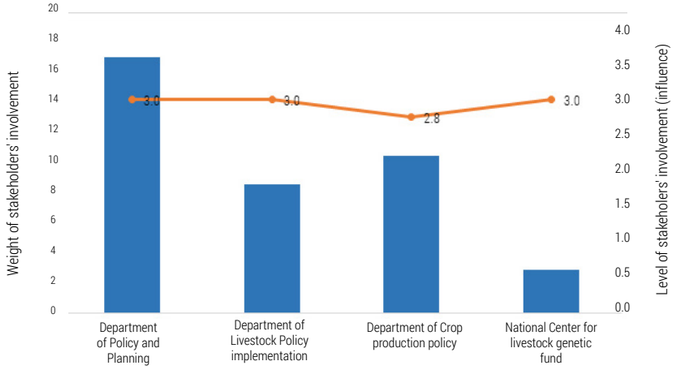


FIGURE 13. MFALI, AND ITS RESPECTIVE AGENCIES' WEIGHT AND LEVEL OF INVOLVEMENT IN IMPLEMENTATION OF THE NBP



For the Ministry of Mining and Heavy Industry (MMHI) and its respective departments, the Department of Mining Policy and Department of Policy Implementation will be involved in implementing three different goals of the NBP (Figure 14, 15).

FIGURE 14. MMHI, AND ITS RESPECTIVE AGENCIES' WEIGHT AND LEVEL OF INVOLVEMENT IN IMPLEMENTATION OF THE NBP

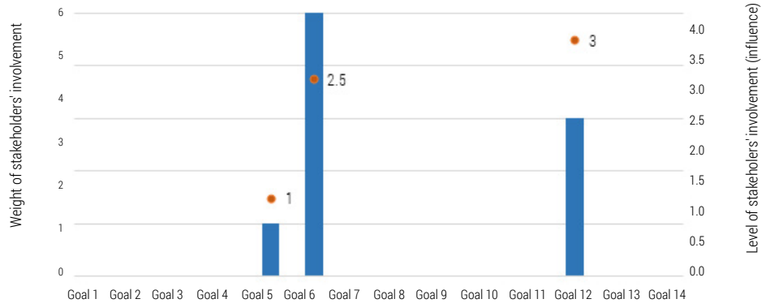
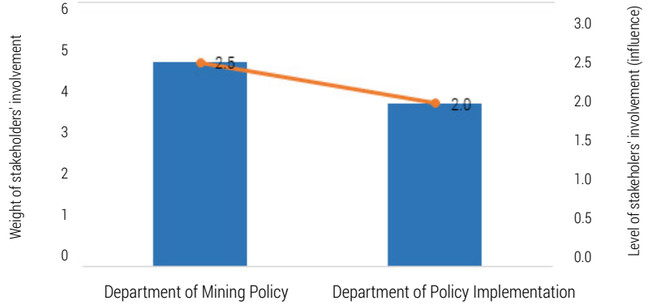
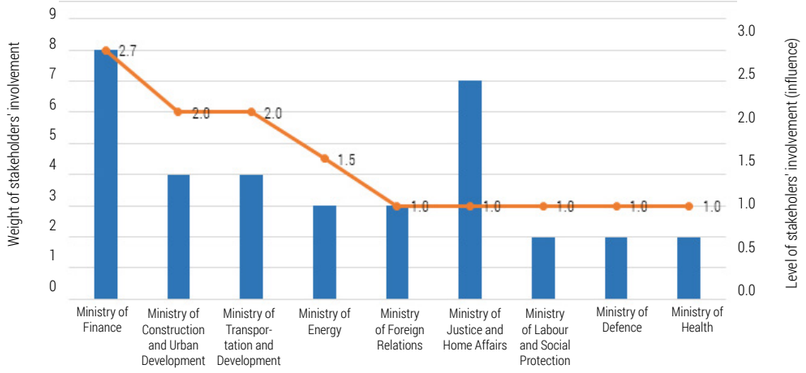


FIGURE 15. MMHI, AND ITS RESPECTIVE AGENCIES' WEIGHT AND LEVEL OF INVOLVEMENT IN IMPLEMENTATION OF THE NBP



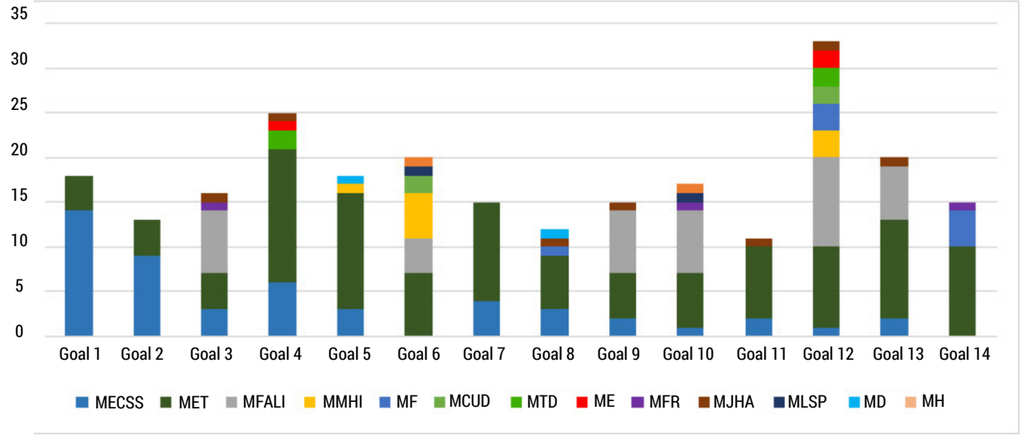
Regarding other ministries, Ministry of Finance, Ministry of Construction and Urban Development, Ministry of Transportation and Development, and Ministry of Justice and Home Affairs appear to have more involvement in implementation of the NBP than others (Figure 16).

FIGURE 16. WEIGHT AND LEVEL OF INVOLVEMENT OF OTHER MINISTRIES IN IMPLEMENTATION OF THE NBP



It can be seen from the weight and level of involvement that most ministries will be involved in the NBP implementation, particularly for the implementation of goal number 12, which requires the highest levels of where the cooperation and involvement (Figure 17). Goal number 12 of the NBP reads: "Create a legal environment where subsidies or financial assistance are prohibited for use in agriculture, mineral resource, infrastructure, energy, light industry, food manufacturing, and service industry projects, and actions deemed to be harmful to or potentially harmful to biodiversity in accordance with environmental strategy evaluations." Furthermore, four or more Ministries and their respective agencies appear to be involved with the implementation of goal numbers 4 (The national programs on conservation of rare and endangered animal and plant species is fully implemented), 6 (Protect soil and water resources from chemical and nutrient pollution) and 8 (Introduce management techniques for the sustainable use and conservation of natural resources by creating partnerships between government, local community and private sectors) of the NBP.

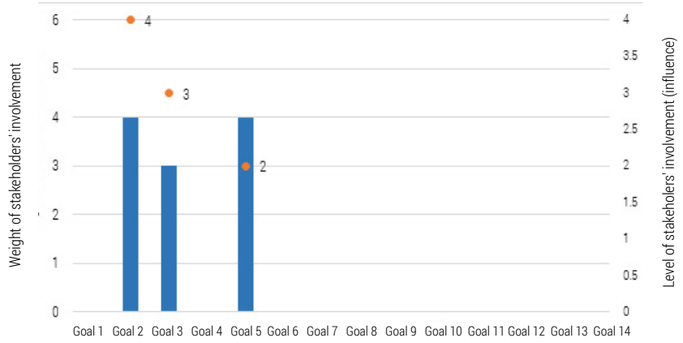
FIGURE 17. INVOLVEMENT OF DIFFERENT MINISTRIES FOR IMPLEMENTATION OF THE NBP, BY EACH GOAL



It is evident that partnership, cooperation and involvement of Ministries and their respective departments and agencies are critical to implementation of the NBP, in fields of reducing threats, drivers and impacts to biodiversity.

Three government implementing agencies (Figure 18) will play major roles in the implementation of 3 goals of the program (Figure 18).

FIGURE 18. WEIGHT AND LEVEL OF INVOLVEMENT OF GOVERNMENT AGENCIES IN IMPLEMENTATION OF EACH GOALS OF THE NBP



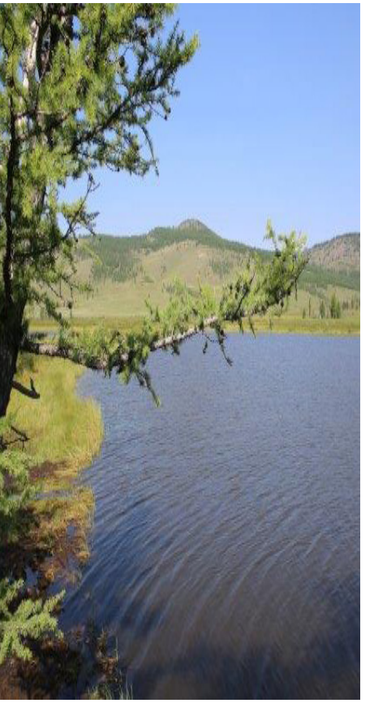
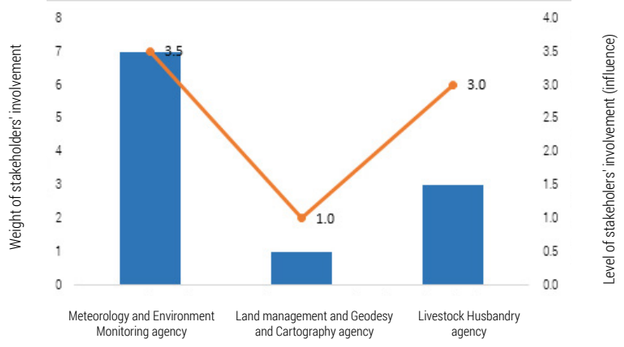
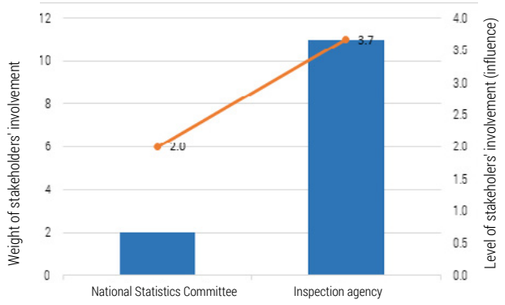


FIGURE 19. GOVERNMENT IMPLEMENTING AGENCIES' WEIGHT AND LEVEL OF INVOLVEMENT IN IMPLEMENTATION OF THE NBP



Particular agencies of the government and their involvement for the program are shown in Figure 20. For instance, the State Specialized Inspection Agency appears to be involved in the implementation of 3 different goals as part of their environmental sector responsibilities, while having high rate of weight and level compare to others. While the National Statistics Committee is involved in only the implementation of a single goal of the program, its involvement rate is not low.

FIGURE 20. PARTICULAR GOVERNMENT AGENCIES' WEIGHT AND LEVEL OF INVOLVEMENT IN IMPLEMENTATION OF THE NBP

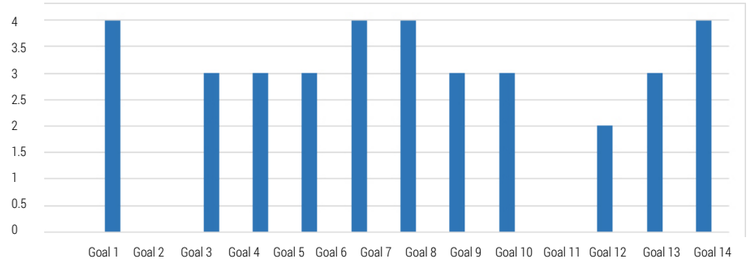


4.3.2. DEPARTMENT OF ENVIRONMENT AND TOURISM OF PROVINCE AND CITY GOVERNOR ADMINISTRATIONS

Since the department of environment and tourism of various provinces and cities is a key organization that implements environmental policies on the ground, their involvement, particularly level of involvement, has been highly rated (Figure 7).

The department of environment and tourism of provinces and cities will be involved in implementation of 11 goals of the national program (Figure 21). Their responsibilities may include, but are not limited to, organizing environmental protection activities on the ground, initiating necessary policy regulatory activities at local level and securing financing of the program implementation at local level.

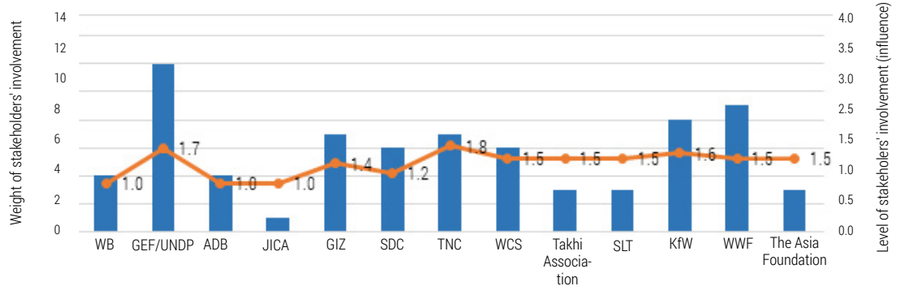
FIGURE 21. DEPARTMENT OF ENVIRONMENT AND TOURISM OF PROVINCES AND CITIES, AND THEIR WEIGHT AND LEVEL OF INVOLVEMENT IN IMPLEMENTATION OF THE NBP



4.3.3. BI AND MULTILATERAL ORGANIZATIONS, AND INTERNATIONAL NGOS

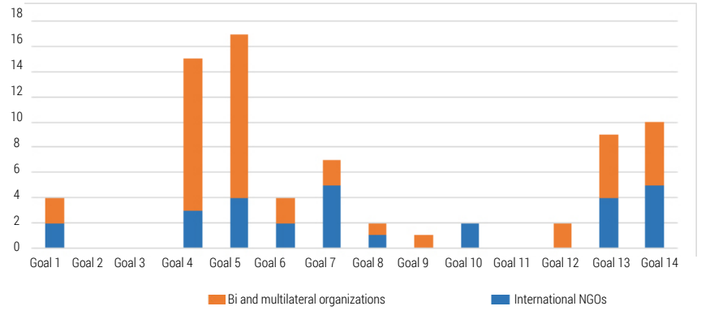
It can be seen from Figure 12, which shows the level of involvement of the program stakeholders, weight and level of involvement of bilateral and multilateral organizations, and international NGOs for the implementation of the national program is right after government agencies and local organizations. Weight and level of involvement of bilateral and multilateral organizations, and international NGOs are ranked based on their operation, vision and mission (Figure 22).

FIGURE 22. WEIGHT AND LEVEL OF INVOLVEMENT OF BILATERAL AND MULTILATERAL ORGANIZATIONS, AND INTERNATIONAL NGOS IN IMPLEMENTATION OF THE NBP



While bilateral and multilateral organizations and international NGOs will be involved in the implementation of 11 goals of the national program, their involvement will be particularly high for goals number 4, 5, 13 and 14 (Figure 23).

FIGURE 23. WEIGHT AND LEVEL OF INVOLVEMENT OF BILATERAL AND MULTILATERAL ORGANIZATIONS, AND INTERNATIONAL NGOS IN IMPLEMENTATION OF THE NBP



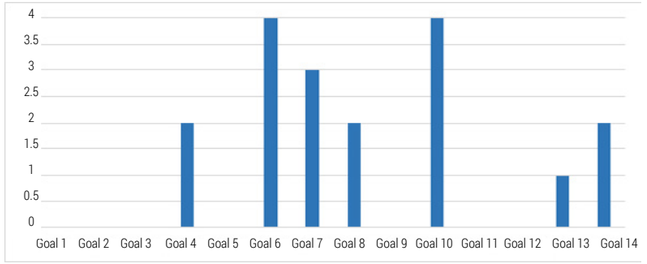
4.3.4. MEDIA AGENCIES

While media that is represented by the Press Institute has a low weight of involvement, its level or influence is high (Figure 7). This is perhaps because providing the public and stakeholders with reliable sources of information and improving their understanding is critical for the national program implementation since it enables improvement efforts to protect the environment.

4.3.5. PRIVATE SECTOR

The level of involvement of the private sector for implementation of the NBP appears high (Figure 7). The private sector appears to be highly involved in implementation of 7 different national program goals (Figure 24).

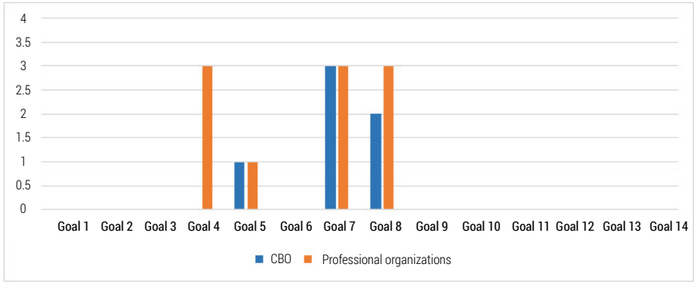
FIGURE 24. WEIGHT AND LEVEL OF INVOLVEMENT OF PRIVATE SECTOR IN IMPLEMENTATION OF THE NBP



4.3.5. COMMUNITY INITIATIVES (COMMUNITY-BASED ORGANIZATION - CBO) AND PROFESSIONAL ORGANIZATIONS

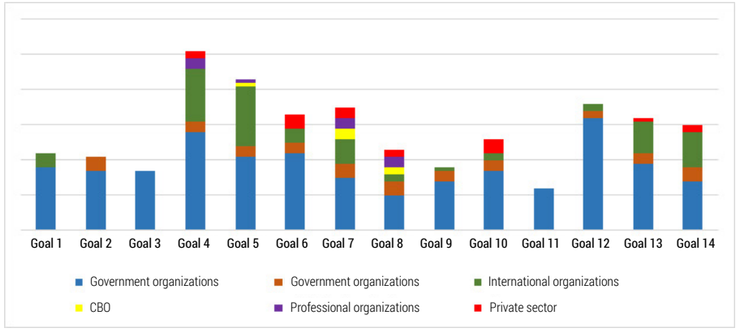
Ranking of stakeholders of the national program shows that while community initiatives will be involved in implementation of three national program goals, professional organizations will be involved in four goals with high weight and level of involvement (Figure 25). They will mostly be involved in goals of forest and hunting management, rare and endangered species' conservation.

FIGURE 25. WEIGHT AND LEVEL OF INVOLVEMENT OF COMMUNITY-BASED ORGANIZATIONS AND PROFESSIONAL ORGANIZATIONS IN IMPLEMENTATION OF THE NBP



The following figure displays the NBP actors by their responsibilities and involvements along with their participation in each classified goals (Figure 26).

FIGURE 26. KEY ACTORS OF THE NBP



As shown in the above figure, implementation of goals 3 and 11 only requires government organizations, without much involvement from rest of the group.

- **GOAL 3:** Create a legal environment for the protection, sustainable use, and fair and equitable sharing of benefits arising from widely used and economically significant genetic resources, and to implement sustainable use, and protection from genetic erosion and depletion.
- **GOAL 11:** The biodiversity related indicators are reflected in the national accounting system to monitor the implementation project and programmes of relevant sectors.

On the other hand, goals 4, 5, 6, 7, 12 and 13 appear to have a diverse range of stakeholders with high levels and weights of involvement. These are:

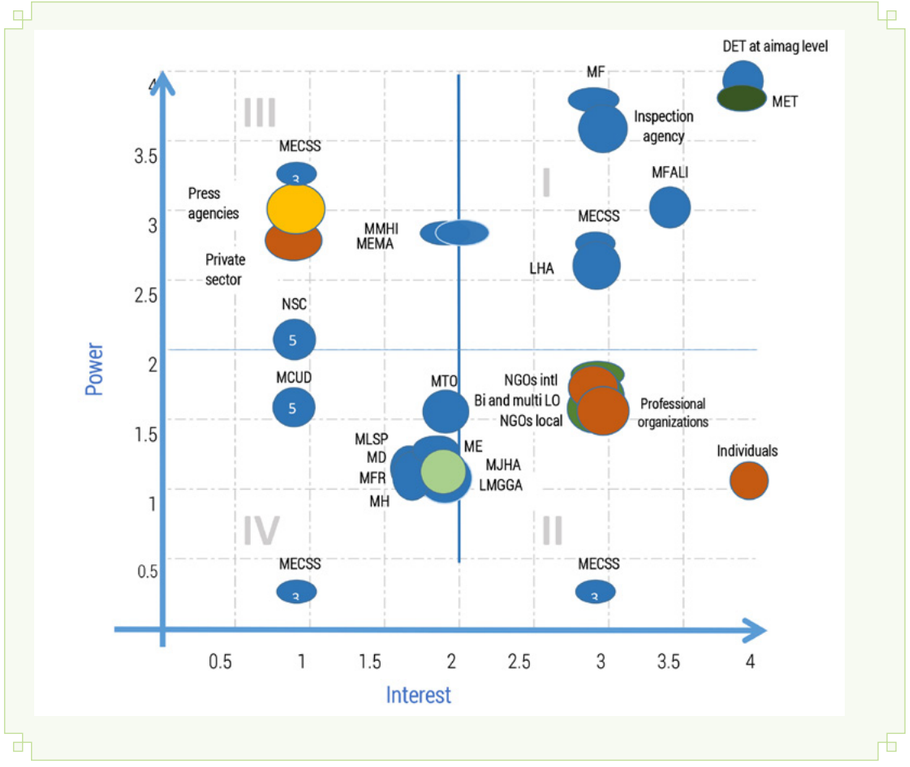
- **GOAL 4:** The national programs on conservation of rare and endangered animal and plant species is fully implemented.
- **GOAL 5:** At least 30% of representatives from each main ecosystem and all patch and vulnerable to climate change ecosystems are included in the National Protected Area network and their management is ensured.
- **GOAL 6:** Protect soil and water resources from chemical and nutrient pollution.
- **GOAL 7:** Increase total forest cover to 9% by 2025 through the improvement of forest management and protect its biodiversity.
- **GOAL 12:** Create a legal environment where subsidies or financial assistance are prohibited for use in agriculture, mineral resource, infrastructure, energy, light industry, food manufacturing, and service industry projects and actions deemed to be harmful to or potentially harmful to biological diversity in accordance with environmental strategy evaluations.
- **GOAL 13:** Taking into account the value and importance of pasture, water resources, and forest ecosystem services, develop and implement a framework for sustainable use and conservation of natural resources in which social and economic benefits of these resources are appropriately protected.

Participation weight of other goals of the program is average and their implementation requires actors' involvement as well.

4.4. RANKING KEY ACTORS OF THE NBP IMPLEMENTATION

Being required to be an actor for biodiversity conservation is one thing and having willingness to participate is important. Therefore, the average level of involvement was produced by integrating four different directions of ranking of actors as per BIOFIN guideline in order to prepare new ranking that shows average involvement with their participation interest levels (Figure 27). Actors' interest of involvement has estimated based on consultant's personal experiences.

FIGURE 27. KEY ACTORS OF THE NBP



The above figure shows actors in the NBP on four different levels based on the ranking. These are:

Level I	key actors have largest influence, involvement and interest in the implementation of the NBP, and these key actors are province, soum, city and district government administrations, departments of environment and tourism as well as the Ministry of Environment and Tourism. Along with these, Ministry of Finance, MECSS, MFALI and their respective agencies and departments, and State Specialized Inspection Agency will play an important role in implementation of the program.
Level II	key actors have medium level of involvement, but high level of interest in implementation of the program. In order to improve involvement of actors in this level, their capability needs to be improved. However, improving capability contains two different sides. For instance, actors such as international NGOs, bi and multilateral organizations, who are in this level, while they will be one of key financers who will support implementation of the national program, their operation and protection activities need to be directed by the government and reflect circumstances and characters that are specific to Mongolia. For local NGOs, community initiatives, professional organizations and individuals, their involvement and influence to implementation of the national program can be improved by enhancing their understanding of governance and improving their financial capabilities.
Level III	key actors such as private entities and the media agencies, have a large influence on the implementation of the program, they have low interest. Therefore, in order to increase their involvement for and interest in the program, a targeted and wide range of promotions shall be made along with application of economic and non-economic encouragements. MMHI and Information and Research Institute of Meteorology, Hydrology and Environment are placed in transition area between levels III to IV. Such placement shows a high level of influence and involvement for implementation of the national program, but a medium level of interest. This perhaps could be explained by mandatory interest of organizations to the program due to their regulatory responsibilities, but no clear and direct benefit to them from the program implementation.
Level IV	key actors such as other ministries of the government, and to increase their involvement in the program, information that is being provided to them needs to be improved and activities that are directed at improving their interest for the program should be encouraged.

V. THE BIODIVERSITY FINANCE LANDSCAPE

5.I. THE BIODIVERSITY FINANCE LANDSCAPE

National and local budget allocations are important to fund the activities for biodiversity conservation and sustainable use. Therefore, the national and local budgeting processes are explained below. Hence, the national and local budgeting process is explained in this chapter.

Planning and expenditure reporting of national and local public budgets are regulated mainly by Fiscal Stability Law and Budget Law .The Fiscal Stability Law sets forth the principles and requirements for ensuring the stability of consolidated budget, identifies the scope and rights of parties for implementation and oversight, and reflects regulations in relation to diversification of economy as well as building up financial accumulations. The law also sets related regulations and deadlines for developing, approving and overseeing the medium-term statement and annual budget. The following definitions, derived from the terminology section of the law, are explicitly relates to budgeting and reporting:

a. **"special fiscal requirement"** refers to prudential level, ratios and limitations set forth by this law, which shall be followed in formulation of short, medium- and long-term fiscal policies and medium-term fiscal framework and ensuring fiscal stability (Clause 4.1.1);
b. **"medium term"** refers to a period of three fiscal years that includes the next year and two subsequent and consecutive years (Clause 4.1.9);
c. **"medium term fiscal framework"** refers to a fiscal policy document based on an update of macroeconomic outlook and expected actual of the budget execution of the particular fiscal year and macroeconomic and fiscal projections for the medium term (4.1.10);

The Fiscal Stability Law requires agencies and institutions financed from the public budget to determine the fiscal policy within the overall medium-term fiscal framework and propose their annual budget within the limits set forth by budget approved in conjunction with the fiscal framework.

The Budget Law aims at regulating the relations connection with budget principles, systems, structures, compositions and classifications, regulating authorities, roles and responsibilities of public institutions that participate in the budget process, and budget preparation, budget approval, spending, accounting, reporting and auditing.

The budget law sets below stages and its deadlines for budget planning, submission and approval:

a. Medium term fiscal framework: Shall be developed, submitted and approved within following timeframe annually

b. Limitation of annual budget: The annual budget proposal of a budgetary general manager shall be based Medium term strategy and fiscal framework, and should be developed, submitted and approved within following timeframe annually

c. Annual budget: Shall be developed within approved limitation, submitted and approved within following timeframe annually

15. Provincial and district parliament

c. Annual budget:

A Budgetary direct manager submits its proposal to the respective Budgetary centralized manager within 25 July

A Budgetary centralized manager submits its proposal to the respective Budgetary general manager within 1 August

A Budgetary general manager submits its proposal to MoF within 15 August

MoF consolidates and submits to the Government within 15 September

The Government submits a proposal to the State Great Khural within 1 October

Discussed and approved by the State Great Khural within 15 November

State central auditing office submits appraisal report of the budget proposal to the State Great Khural within 15 October

Aimag and capital city governors shall submit the budget proposals of the relevant level to the respective Citizen's Representative Khural[15] (provincial parliament) by the 25 November of each year followed by Citizen's Representative Khurals approve the budget proposal no later than 5 December while the soum and district governors shall submit the budget proposal of the relevant level to the respective Citizen's Representative Khural (district parliament) by 10 December followed by the Citizen's Representative Khural approve the proposed budget before 20 December.

Further on, aimag and capital city governor shall submit their approved budgets to Ministry of Finance no later than 31 December. As evidenced by the aforementioned regulations, financial stakeholders for NBP, starting from the primary level budget governors, are required to define their budget needs by at least three years, then reflect their budgetary needs in the medium-term fiscal framework, annual budget limits and annual budget proposals of central and general budget managers.

5.2. BIODIVERSITY FINANCING SOURCES STATED IN THE POLICY DOCUMENTS

As part of the policy documents, the type and source of financing for the implementation are approved. It can be used to identify the type of biodiversity financing mechanisms as well as the pertinent stakeholders. Financing in the environmental sector is identified with restricted scope, and often limited by the state budget, international donors' investments and the natural resources use fee.

A total of 16 key environmental laws and regulations, their financing sources and options have been analyzed to identify potential stakeholders for biodiversity financing. According to these laws, biodiversity financing is channeled from funding sources and economic incentives. Table 7 shows the legal requirement of minimum percentage of funding for the implementation of the policy documents. It can be observed that policy implementation activities are mostly funded by state and local budgets as well as the revenue from natural resources use fee, while environmental damage compensation plays a large part in economic incentives. Analyses conducted on 20 environmental national programs shows that the total budget of the programs can be sourced from state and local budgets, individual and organization donationsь grants, and the revenue from natural resources users fee (Table 7).

TABLE 7. FINANCIAL SOURCES SPECIFIED IN ENVIRONMENTAL REGULATIONS AND POLICY DOCUMENTS

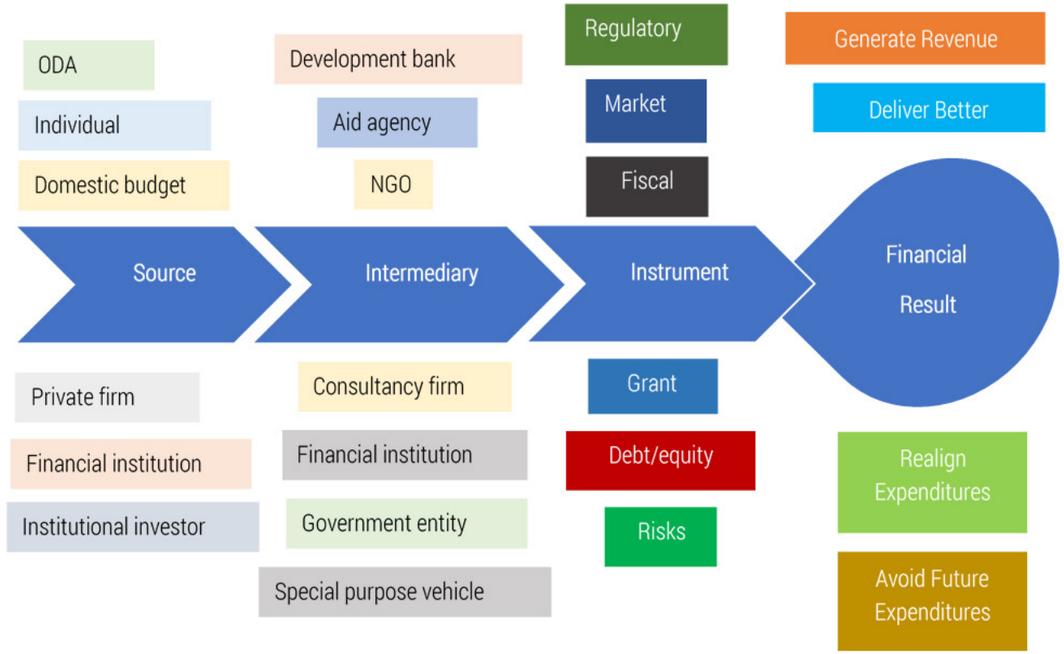
As stated in the environmental laws	As stated in the national programme
1. **Financial source** a. State budget (37%) b. Local budget (25%) c. Natural resources use fee (43%) d. Profit from tourism and other services (18%) e. Donations and grants (19%) f. Owner capital (19%) g. Other (12%) 2. **Economic incentives** a. Innovative technology encouragement mechanism (26%) b. Providing ecological education (6%) c. Receive information and compensate (12%) d. Damage compensation (93%)	• State budget (80%) • Local budget (50%) • Natural resources use fee (15%) • Profit from tourism and other services (20%) • Donations and grants (45%) • Environmental protection fund (75%) • Owner asset (45%) • Other (40%)

It is interesting to note that one of the funding sources for national programme is "Environment and Climate Fund" (ECF). However, this research aimed to analyze and identify the current financial sources according to the respective laws and regulations. ECF contribution to the biodiversity finance landscape can vary, as the ECF revenue can be channeled from both the state or other sources, and it can serve as budget generator as well as transmitter. This analysis on the national programme did not include the National Biodiversity Programme, as the funding sources, expenditure, trends and financial gaps of NBP are analyzed as part of BIOFIN next step, e.g. Biodiversity expenditure review and Biodiversity finance needs assessment.

5.3. MAPPING OF THE EXISTING FINANCE SOLUTIONS

The financing solution and financing mechanism (instrument used for managing money/cash flow) are two different concepts. The financing mechanism refers to instruments such as tax, subsidy and investment, whereas the financing solution refers to as a comprehensive process to create a result through flow of financing sources from one to another using whatever mechanism . This comprehensive process is shown below.

FIGURE 28. FINANCING SOLUTIONS



There are only a few finance solutions presently existing in Mongolia. Each of the finance solutions are briefly discussed below.

TABLE 8. FINANCIAL SOLUTIONS

CURRENTLY IN FORCE	POTENTIAL FOR IMPLEMENTATION
• Natural resource use fee; • Polluter pays principle (example. Water and air pollution); • SPA fee; • Biodiversity Offset; • Environmental crimes • Environment funds; • Guarantee of environmental responsibility • Clean Development Mechanism (CDM).	• Access and benefits sharing of genetic resources • REDD+ • Compensation for environmental and natural resources damages in SPA • SPA owner assets • Impact investment • Results-based budgeting • SDG budgetting • Crowd-funding

5.3.1. NATURAL RESOURCE USE FEE

Natural resources can be divided into renewable and non-renewable, and any natural resource use fee shall be paid in accordance with the respective laws of Mongolia. The renewable natural resources include water, plants, wildlife, land and forest, whereas non-renewable natural resources are the mineral resources.

The natural resources use fee and natural resources use license fee are two separate aspects; although they tend to be used under the same term "fee". The Mongolian law on State Stamp Duties regulates the natural resources use license fee, and here, fee is a state agency charge for providing services specified by the law to both individuals and entities. The natural resources use fee on the other hand is a monetary charge from the state to individuals and entities for letting them use common resources or natural resources of Mongolia. While the Mongolian Law on Natural resource use fee (2012) regulates the use fee for natural plants, water, forest and wildlife resources and land, while the subsoil resources use fee is regulated by the Law on Land use fee (1997) as well as Law on Minerals (2006). The Mongolian Law on State Budget regulates whether the natural resources fee is allocated to state or local budget. The Law on Budget was adopted in December 2011 and amended in 2015 and 2016. According to this law, the total public budget consists of the state budget, local budgets, the social insurance fund, the pension reserve fund, and the human development fund (Clause 21.1). The local budget consists of the capital city, aimag, district and soum budgets (Clause 21.2).

The revenue generated since the Law on Natural Resource Use Fee (2012) passed is shown in Table 9. During 2012-2018, an average of 691,478,073,010 MNT per annum revenue was generated from renewable and non-renewable resource use fee, of which 10% of the revenue was generated from renewable natural resources.[17]

16. https://www.legalinfo.mn/law/details/515
17. Law on the State Budget, https://www.legalinfo.mn/law/details/12254

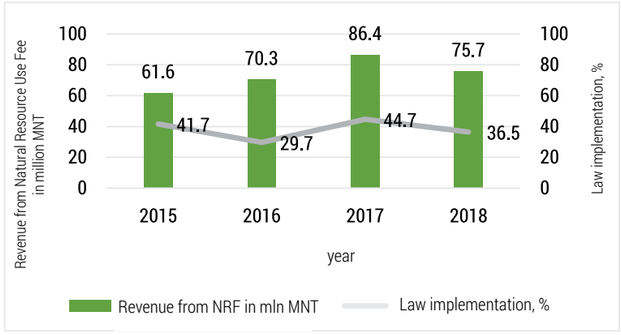
TABLE 9. REVENUE GENERATED FROM NATURAL RESOURCE USE FEE

Types of fees	2012 он	2013 он	2014 он	2015 он	2016 он	2017 он	2018 он
Hunting fee	460,054	555,621	1,016,375	2,414,726	3,288,770	5,099,840	6,015,190
Mineral resource use fee	320,856,482	292,235,621	403,115,655	462,800,112	238,629,915	530,541,074	688,662,771
Natural plant use fee	42,679	34,211	620,594	2,739,107	4,356,408	5,512,204	501,812
Land fee	15,091,145	16,717,783	16,378,691	17,129,631	17,196,035	19,248,006	19,744,856
Progressive mineral resource use fee	196,815,677	213,664,105	214,068,307	131,979,634	28,472,431	292,167,561	358,056,097
Forest use fee/Timber fee	2,814,107	2,928,295	2,976,952	3,635,746	4,499,714	9,956,550	4,031,403
Common minerals use fee	4,546,312	5,129,805	4,432,608	4,535,742	1,734,736	2,458,070	3,598,431
Water and mineral/spring water use fee	12,056,805	39,088,848	1,772,603	886,463	1,308,466	1,111,773	854,783
Water use fee	-	159,600	32,594,406	34,928,608	39,587,413	46,649,932	45,839,159
Special license fee for mineral exploration and mining	14,050,780.71	9,683.20	-	-	-	-	-

Source: General department of taxation, http://www.mta.mn/page/file

The importance of the Law on Natural Resource Use Fee is that the percentage and extent of fees for using different types of natural resources shall be used for environmental protection and restoration. The revenue generated from natural resource use fee tended to increase over the years (Figure 29) and in accordance with the law minimum 15-80% of revenue generated from the fee should be used for environmental protection and restoration of the natural resources. However, the law implementation has been unsatisfactory at 41.7-36.5% during 2015-2018 according to MET (Figure 29).

FIGURE 29. IMPLEMENTATION OF THE LAW ON NATURAL RESOURCES USE FEE (2012)



Source: MET, 2019

As per the Law on Taxation and Law on Budget, these fees are collected in sub-national (province or capital city, and soum or district) budgets, and the Citizen's Representative Khurals and local governors have the right to spend these revenues. Unfortunately, local governors or Citizen's Representative Khurals tend to inappropriately exercise these rights. They either tend to spend it on activities other than environmental protection and rehabilitation or do not spend the regulated percentage of fees. Therefore, the fee collection and re-distribution mechanism needs to be improved.

It shows that the Ministry of Environment and Tourism needs to have designated department or personnel that can monitor the implementation of the law, increase funding for biodiversity conservation and ensure effective and appropriate spending of the allocated budget. Doing so will create ownership and responsibility on the issue. In general, there is a need to improve implementation of the law by establishing an effective mechanism for natural resources use control and monitoring.

The non-recoverable natural resource use fee generates revenue for state and local budgets. The common minerals (sand, gravel, brick clay) use fee generates revenue for local budget whereas the fees for use of coal, copper and gold generates revenue for the state budget. Over the years the revenue from mineral resources have been increasing. For instance, the revenue in 2008 was increased by 4.5 times in 2015. The highest increase was observed in 2011 when the GDP growth rate reached 17%.

According to the Law on Budget, 5 percent of the mineral resources use fee (approximately 20 billion tugrik per year) and 30 percent of oil resources use fee are re-distributed from state budget to soum development fund through the integrated local development fund. Parts of the local development fund budget can be spent on soum environmental conservation activities and initiatives to improve pasture management . In the future, local development fund planning and spending should be tied with sustainable development policies of soums and provinces. Short, mid and long-term sustainable development plans at the sub-national level (soums and provinces) should be developed

in accordance with Mongolia's Sustainable Development Vision – 2030, and a mechanism that ensures their implementation regardless of election results should put in place.

5.3.2. Polluter pays principle

The polluter pays principle has been embodied in the legislation on environmental protection and restoration. For instance, the Law on Air (2012, amended version), Law on Air pollution tax (2010), Law on Water pollution (2012) and Law on Waste (2017) regulate relations concerning the fees to be imposed for polluter individuals, enterprises and organizations and transfer of fees to the budget.

TABLE 10. REVENUE GENERATED FROM AIR POLLUTION TAX, WATER POLLUTION AND WASTE COLLECTION FEES

Types of Taxes and Fees	2012	2013 он	2014 он	2015 он	2016 он	2017 он	2018 он
Air pollution tax for vehicles	1,377,127.85	1,255,463.11	1,592,308.49	1,410,741.67	1,574,439.5	1,571,430	1,752,252.50
Air pollution tax for coal miners	22,452,771.76	23,473,968.73	30,715,414.51	12,188,181.32	17,696,310.2	34,790,082.9	40,105,418.20
Air pollution tax for stationed large sources	25,108.99	9,141.60	9,641.40	110.00	-		
Air pollution tax for special license holders	6,685.87	6,374.66	4,200.00	8,280.19	-		
Water pollution fee	-	4,213.27	9.50	-	1,029.3	1,157	103.6
Waste collection fee	1,524.80	11,399,045.53	14,413,286.65	15,852,583.49	15,794,589.6	18,232,878	18,802,155.90
Air pollution tax for producers and importers of organic solvents					9,810.8	12,314	11,288.70

Source: General Department of Taxation, http://www.mta.mn/page/file

18. Mongolian Law on the State Budget, 60.3.1.
19. CS.Enkhbold, 2018, Offset Consulting LLC

5.3.3. BIODIVERSITY OFFSET

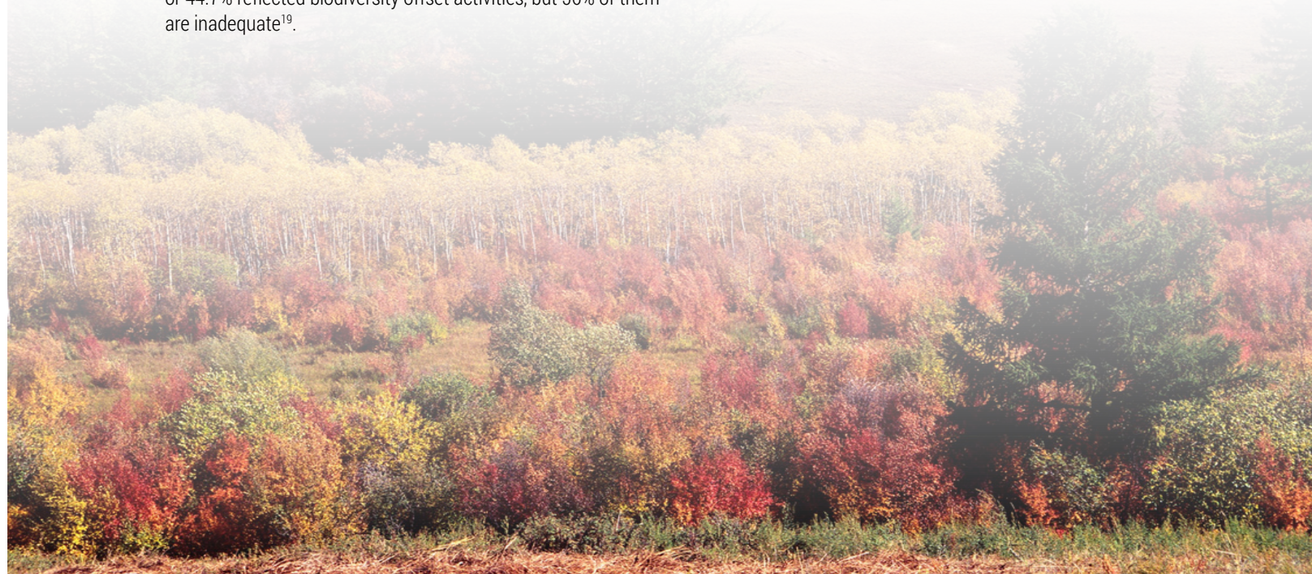
The biodiversity offset has been initiated by environmental protection agencies to balance the residual impact of projects, which could cause potential adverse impacts on biodiversity even though project implementer had taken step-by step actions to avoid from and reduce possible adverse impacts and also restoration measures.

The biodiversity offsetting measure is voluntary in majority of countries, but it is mandatory in Mongolia according to the amendment of the Law on Environmental Impact Assessment (2012). As per the law biodiversity offsetting is mandatory for petroleum, mining, radioactive mineral projects (8.4.6) and other projects, which had to conduct detailed environmental impact assessment and develop environmental management plans incorporating biodiversity offset activities (9.6). During 2014-2018, a total of 399 detailed environmental impact assessment was conducted for 429 special licenses of 312 entities. Out of the total detailed environmental impact assessments only 132 or 44.7% reflected biodiversity offset activities, but 56% of them are inadequate[19].

5.3.4. ENVIRONMENTAL CRIMES:

Individuals, enterprises and orgnizations shall be liable for damages caused to the environment and natural resources by breaching of the the law and the accused shall pay the compensation for damages. The compensation paid shall be transferred to the ECF in accordance with the Law on Government special funds.

Furthermore, the income generated by selling the weapon, vehicle, cart and equipment used for environmental crimes and breach of the law as well as the income from selling of illegally harvested natural resources shall be considered as an income of the ECF according to the law. No information or report was found on how much income generated per annum from environmental crimes; although it seems that the compensation paid for environmental crimes is reflected in the tax report under other incomes. In 2018, a total of 11,408,575,600 MNT revenue was generated as other income. However, it is not possible to estimate exactly how much of this other income is related to compensation for environmental crimes.



5.3.5. ENVIRONMENTAL RISK INSURANCE

The environmental risk insurance (natural disaster, responsibility for environmental pollution caused due to accident and financial risks) system does not exist in Mongolia per se. Nevertheless, according to the Law on Environmental Impact Assessment, mineral resource exploration and mining license holders or any project implementer, which required detailed environmental impact assessment, should place guarantee funds in the special account of the sub-national treasury, for the implementation of measures reflected in their environmental management plan.

5.3.6. ENVIRONMENTAL FUNDS

Environmental fund is an independent legal entity, or a financing mechanism established to raise sustainable financing/ funds for environmental protection. In general, environmental funds are established considering the needs and specific objectives to be achieved at the country or regional level. The first Environmental Fund in Mongolia was established in 1997 as Conservation Trust Fund. However, it was dissolved in 2004 without taking any measures. ECF (previously Nature conservation fund) was established in 1998 by the government resolution, thus it is a state-owned fund regulated by the Law on Government Special Funds. According to the Law on Government Special Funds[20] the fund revenue comprises from the following funding sources:

- Funding from the state budget;
- Foreign country, international and domestic organization grants and individual donations;
- Government loan from foreign country and international organizations;
- License fee for ecotourism services in protected areas;
- Monetary assets as stated in article 4.2 of the Mongolian law on Spending particular percentage of natural resources use fee for environmental protection and rehabilitation ;
- Water pollution fee;
- Environmental damage compensation paid by individuals and entities;
- Sell profits from tools, vehicles and equipment that used for environmental crime; and
- Revenue from the sells of illegally prepared natural resources.

5.3.7. PROTECTED AREA FEES

According to the Article 6.2 of the Law on Special protected areas (1994) the funding for the protection of special protected areas may be obtained from the following sources:

- State and local government budget;
- Income from tourism and other activities and services;
- Donations and aid from citizens and economic entities;
- Income from compensation for damage caused in violation of the Law on Special Protected Areas and other relevant regulations.

SPA entrance fee and other related service fees are collected in the state budget. The number of tourists is increasing as tourism sector develops (Figure 30). Consequently, the revenue generated from SPA entrance fee has increased reaching 360 million MNT in 2018 (MET, 2019). However, due to the lack of legal environment, the revenue is not redistributed to the SPAs, and not spent on proper use. Moreover, there is a negative tendency to reflect the revenue in the following year's income as the state budget increases (Batjargal Z, Shiirevdamba Ts. 2016).

20. Law on Government special funds, 2006, Article 12
21. This law was annulled after the approval of the Law on Natural resources use fee. Article 13.1 of the law on natural resources use fee supposed to contain changes that state "monetary asset", however, it was not included.

5.3.8. CLEAN DEVELOPMENT MECHANISM

Mongolia joined Kyoto protocol in 1999 and several projects were implemented since the establishment of National Bureau of Clean Development Mechanism (CDM) under the MET in 2004. Within the framework of CDM, programs in the area of renovation of small and medium scale steam heating stove, replacing engines of factories, fuel improvement, improving waste management, introduction of biofuel, use of wind, hydro and solar energies, improving CHP management and reducing CO2 emission caused by the agriculture sector have been implemented. As of 2018 credit equivalent to 18310 tons of CO2 emission was reported.

5.3.9. ACCESS AND BENEFIT SHARING OF GENETIC RESOURCES

MONGOLIA BECAME A PARTY TO THE NAGOYA PROTOCOL on "Access to Genetic Resources and the Fair and Equitable Sharing of Benefits" in 2014 and the Law on Genetic resources is under development, which shall fulfill the national commitment under this protocol. As per the Law on Legislation, the concept of the Law on Genetic Resources was approved, and the draft law is currently under the discussion among relevant stakeholders and the general public. This law will regulate relations concerning the equal sharing of monetary and non-monetary benefits arising from the utilization of genetic resources for agriculture, health and biotechnology sectors. The preliminary estimate suggests that the potential monetary benefit of Mongolia from the utilization of genetic resources is 2.5 trillion MNT[24].

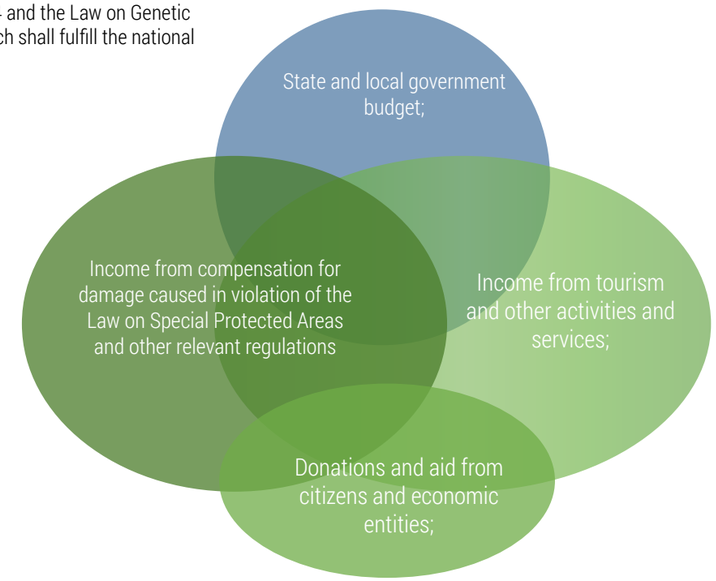
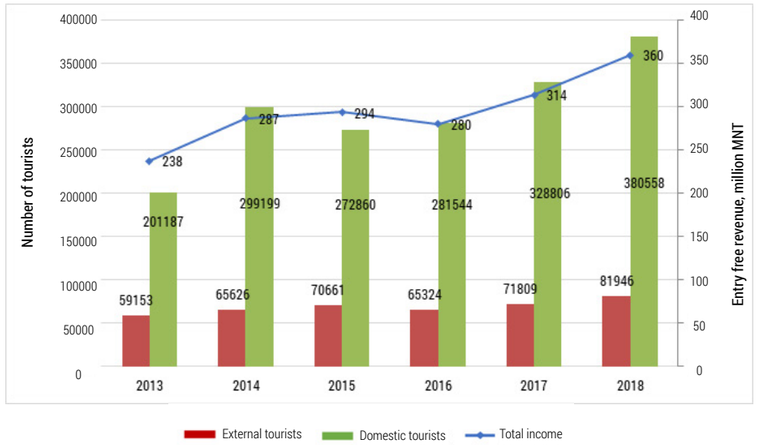


FIGURE 30. NUMBER OF TOURISTS IN SPAS AND SPA ENTRY FEE



Source: MET, 2019

5.3.10. REDD+ PROGRAMME

By implementing REDD+ program for reducing emissions from deforestation and forest degradation, several positive outcomes, including reduction of negative impacts on biodiversity, reduction of related future expenditures, protection of forest reserves, livelihood support for climate change adaptation. The readiness of Mongolia REDD+ program has been ensured as of 2018. The financing of REDD+ program will comprise from state budget, private sector and donor funding. The financing of nationwide comprehensive REDD+ program will consist from "Results-based Incentive" and is the funding is expected to come from developed countries through Green climate fund [25] .

5.3.11. MISCELLANEOUS FINANCE SOLUTIONS

The possibility of using several other financing solutions for increasing additional financing sources needs to be studied further in detail for Mongolia. For example, ecosystem service fee, compensation for damages caused to SPA environment and natural resources, impact investment, results-based budgeting, SDG budgeting and crowd-funding.

The assessment of existing as well as potential finance solutions exhibit that there is a close correlation between the finance mechanism implementation and biodiversity management institutes. Hence, in order to establish the most appropriate institutional framework for biodiversity conservation, the financing mechanism should be considered consistently.

.

22. Environment and Climate Change Fund (2018) Implementation of the joint credit mechanism in Mongolia http://www.jcm-mongolia.com/?page_id=11914
23. UNDP (2018) Report of the "Strenghtening human, legal and institutional capacity for Nagoy protocol implementation" project
24. UNDP (2018) UN-REDD National program, report www.reddplus.mn

VI. CONCLUSIONS

BIOFIN aims at providing methodological framework, facilitating the identification, development and implementation of optimal and evidence-based finance plans and solutions. Primary goal of PIR report is to analyze the policy and institutional architecture for biodiversity finance and existing finance solutions.

Main conclusions from PIR report are listed below:

1. Legal framework on environmental policy is well established; however, the implementation of it is not enough in practice. This could be attributed to the lack of control and monitoring of natural resources use at the Ministry of Environment and Tourism. Therefore, there is a need to establish designated department or a specialist to monitor the implementation of the Law on Natural Resources Use Fee, to increase the biodiversity financing and control the effective expenditure of the budget. In other words, there is a need to improve implementation of laws and regulations by establishing appropriate control and monitoring system of natural resources use fee.
2. Analysis of the biodiversity financing landscape shows that the financial resources as per the current legal framework should be funded by the state and local budget, donor funds, and natural resources use fee. It can be concluded that payers, collectors and spenders of natural resources use fee are all stakeholders to biodiversity financing, in which case, individuals and legal entities are mostly payers, and state organizations, province and soum governors and Citizen's Representative Khurals are spenders/managers. Additionally, donations appear to be one of key sources of the funds, hence international NGOs and bilateral organizations that implement various projects and programs in Mongolia, and private entities as well as individuals who often provide grants and aids will become stakeholders to biodiversity financing as well.
3. Cooperation and partnership among Government Ministries as well as their respective agencies and departments are critical for the implementation of the NBP, especially in the area of reducing environmental impacts (or ecological footprints) of particular sector on biodiversity. In other words, there is a need to study and analyze the sectoral impacts on biodiversity, and the appropriate conservation policies and actions should be incorporated to the respective sectoral policies, as biodiversity conservation activities and ensuring inter-sectoral cooperation is not only the duty of Ministry of Environment and Tourism, but of other ministries as well.
4. Considering the current economic and financial situation in Mongolia, key measures to successfully conserve and sustain biodiversity are: right policy and proactive measures; appropriate options for institutional and management framework; community participation based on citizens' initiatives; and private sector involvement based on the right balance of profitability and social responsibility.

Based on the conclusions above, following recommendations are developed:

1. Biodiversity should be understood and as an "umbrella" concept, or a term used for an integrated ecosystem, rather than being considered as one branch of environmental issues; thus, the environmental management sectoral mindset should be changed.
2. To estimate the biodiversity financing, the uniqueness of the intact biodiversity of Mongolia should be taken into consideration, as it differs from other similar countries.
3. To be considerate and aware of anthropogenic activities that claim to protect flora and fauna, which either have negative or positive effects on biodiversity (e.g. combating with field mouse and forest insects), and to treat them accordingly. Similarly, issues regarding invasive species' and genetic resource benefits should consider and be adjusted to the Mongolia specific features.
4. To examine the weakness and strengths of current policy implementation, governance structure and management in Mongolia, experiences from other similar countries could be considered and effective use of CBD official information should be ensured (CBD 2016 a,b).
5. To compare and contrast results and recommendations of studies on improving governance and establishing financial sources, international best practices should be studied/explored and a model that is Mongolia specific should be developed.
6. To ensure successful implementation of the NBP, following management actions need to be implemented depending on involvement level of stakeholders. Doing so will enable increase in involvement of stakeholders.

- Level I stakeholders: improve cooperation of horizontal organizations and encourage a mechanism that assess results based on participation.
- Level II stakeholders: build their capacity to a level that they can operationalize their interests in biodiversity conservation.
- Level III stakeholders: establish incentives to increase their interest in biodiversity conservation, so their full capacity and influence is utilized.
- Level IV stakeholders: explore their hidden capacity and establish incentives to increase their interest in biodiversity conservation.

7. Carry out in-depth study on the finance solutions that are presently in place as well as the finance solutions that might have a potential in Mongolia. Moreover, negative subsidies should be studied in detail, as there could be an opportunity to avoid future biodiversity expenses through reducing or removing such subsidies.

Level I stakeholders: improve cooperation of horizontal organizations and encourage a mechanism that assess results based on participation.

Level II stakeholders: build their capacity to a level that they can operationalize their interests in biodiversity conservation.

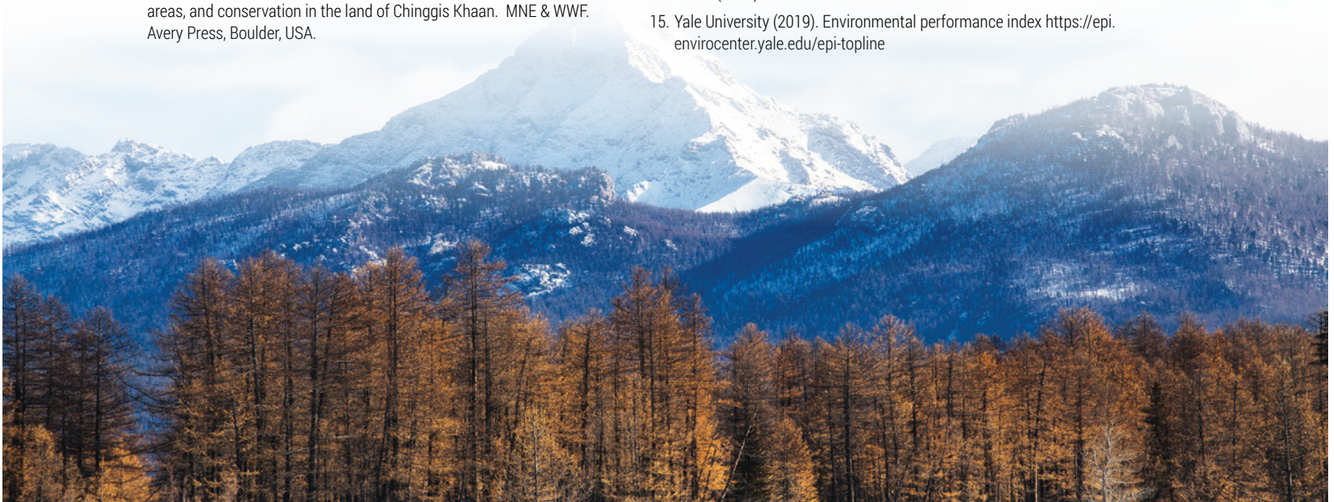
Level III stakeholders: establish incentives to increase their interest in biodiversity conservation, so their full capacity and influence is utilized.

Level IV stakeholders: explore their hidden capacity and establish incentives to increase their interest in biodiversity conservation.

REFERENCES

(IN ENGLISH)

1. Batjargal Z. (2011). The emerging challenges for Mongolia associated with tripled stress due to the global warming, globalization and possible "resource curse". Ppresentation at the International Conference on science and technology for sustainability 2011. Kyoto, Japan.
2. Batjargal Z., (1998). Sustainable Development, the Mongolian Experience, chapter in book: Akiner, S et al (ed), Sustainable Development in Central Asia, Curzon Press, Great Britain.
3. Batjargal Z., Bridgewater P., Di Castri F., Hammer M., Henne G., Kabwaza M., Maltby E., Martin R., Mauro F., Prins H.,Ruggiero M., Schei P., Seyani H., Vogel J., Vokhiwa Z. (1998). Report of the Workshop on the Ecosystem Approach, Lilongwe. Malawi. Convention on Biological Diversity (UNEP/CBD/COP/4/Inf.9).
4. Batjargal Z, Enkhjargal B. (2012). Interference Impact of Global Warming and Globalization on the Society and Ecosystem in Mongolia. In brochure: "The Mongolian Ecosystem Network, Environmnetal issues under climate and social changes", edited by Yamamura N., Fujita A., Maekawa A., Springer. Tokyo, Heidelberg, New York, Dordrecht, London. pp.295-313
5. Batjargal Z., Shiirevdamba Ts., Myagmarsuren D., Batbold D., Tsanjid Ch., Finch C. (1999). Mongolia's wild heritage. Biological diversity, protected areas, and conservation in the land of Chinggis Khaan. MNE & WWF. Avery Press, Boulder, USA.
6. CBD (2016a). The Financial Mechanism. Document submitted by the CBD WGI to the CBD COP13. Cancun, Mexico, 4-17 December 2016
7. CBD (2016b). Resource Mobilization. Document submitted by the CBD WGI to the CBD COP13. Cancun, Mexico, 4-17 December 2016
8. IFAD-GEF project Mongolia (2010). Mongolia Livestock Sector Adaptation Project.
9. Markandya, A. (2010). Financing Public Environmental Expenditures in Mongolia. Mongolia Discussion Papers, East Asia and Pacific Sustainable Development Department. Washington, D.C. World Bank.
10. MEGD (2014). Mongolia's Second Assessment Report on Climate Change, Ulaanbaatar
11. The Conservation Measures Partnership (2013). Open Standards for the Practice of Conservation, www.conservationmeasures.org
12. The World bank (2004). Mongolia Forestry sector review. Ulaanbaatar.
13. UNDP (2014). The BIOFIN Workbook: A Tool to Mobilize Financial resources for Biodiversity and Development. New York.UNDP (2016). The BIOFIN Workbook: Mobilizing Resources for Biodiversity and Sustainable Development. New York.
14. UNDP (2018). The BIOFIN Workbook: Finance for Finance. New York.
15. Yale University (2019). Environmental performance index https://epi.envirocenter.yale.edu/epi-topline



REFERENCES

(IN MONGOLIAN)

1. Байгаль орчин уур амьсгалын сан (2018) Монгол Улс дах хамтарсан кредит олгох механизмын хэрэгжилт http://www.jcm-mongolia.com/?page_id=11914
2. Байгалийн нөөц ашигласны төлбөрийн тухай хууль (2012)
3. Батжаргал, З. Шийрэвдамба, Ц. (2016). Монгол улсын тусгай хамгаалалттай газар нутгийн сүлжээг өргөтгөх боломж. Улаанбаатар хот.
4. БОМТ (2013). Монгол орны цөлжилтийн атлас. Улаанбаатар хот
5. Дэлхийн Банк (2014), Хөдөө аж ахуйн салбарын татаасын судалгаа
6. Засгийн газрын тусгай сангийн тухай хууль (2006)
7. Монгол Банк (2014). Монгол Банкны худалдан авсан алт https://www.mongolbank.mn/dblistgoldbom.aspx?vYear1=2017&vYear2=2018&vMonth1=01&vMonth2=12
8. Монгол Улсын Байгаль орчин, ногоон хөгжлийн яам (2012). Байгаль орчны хуулийн эмхэтгэл. Улаанбаатар хот.
9. Монгол Улсын Засгийн газар (2015). Биологийн олон янз байдлын үндэсний хөтөлбөр (2016-2025). Улаанбаатар хот.
10. Монгол Улсын Засгийн газар (2010). Боловсрол үндэсний хөтөлбөр (2010-2021).
11. Монгол улсын Засгийн газар (1996). Монголын биологийн төрөл зүйлийг хамгаалах үйл ажиллагааны үндэсний хөтөлбөр. Улаанбаатар хот.
12. Монгол улсын Засгийн газар (2000). Уур амьсгалын өөрчлөлтийн үндэсний хөтөлбөр. Улаанбаатар хот.
13. Монгол Улсын Засгийн газар (2011). Монгол Улсын уур амьсгалын өөрчлөлтийн үндэсний хөтөлбөр. Улаанбаатар хот.
14. Монгол Улсын Засгийн газар (2005). Ногоон хэрэм үндэсний хөтөлбөр. Улаанбаатар хот.
15. Монгол Улсын Засгийн газар (2011). Нэн ховор, ховор амьтдыг хамгаалах үндэсний хөтөлбөр. Улаанбаатар хот.
16. Монгол улсын Засгийн газар (2010). Цөлжилттэй тэмцэх үндэсний хөтөлбөр. Улаанбаатар хот.
17. Монгол Улсын Эдийн засгийн хөгжлийн яам (2012). Эдийн засгийн гол салбаруудыг ногоон эдийн засагт шилжүүлэх боломж, үндэслэлийн судалгаа. ТЭЗҮС. Улаанбаатар хот.
18. Монгол Улсын Их хурал (2010). Монгол мал Үндэсний хөтөлбөр. Улаанбаатар хот.
19. Монгол Улсын Их хурал (2010). Монгол Улсын үндэсний аюулгүй байдлын үзэл баримтлал. Улаанбаатар хот.
20. Монгол Улсын Их хурал (2014). Ногоон хөгжлийн бодлого. Улаанбаатар хот.
21. Монгол Улсын Их хурал (2016). Тогтвортой хөгжлийн үзэл баримтлал - 2030. Улаанбаатар хот.
22. Монгол Улсын Их хурал (2014). Төрөөс эрдэс баялгийн салбарт баримтлах бодлого (2014-2025). Улаанбаатар хот.
23. Монгол Улсын Их хурал (1998). Тусгай хамгаалалттай газар нутгийн үндэсний хөтөлбөр. Улаанбаатар хот.
24. Монгол Улсын Их хурал (2010). Ус үндэсний хөтөлбөр. Улаанбаатар хот.
25. НҮБ-ын Хөгжлийн Хөтөлбөр (2015) Монгол Улсын тусгай хамгаалалттай газар нутгийн экосистемийн үйлчилгээний салбарын хөгжилд оруулж буй хувь нэмэр буюу эдийн засгийн үнэ цэнэ. Улаанбаатар хот.
26. НҮБ-ын Хөгжлийн Хөтөлбөр (2018) UN-REDD Үндэсний хөтөлбөрийн тайлан www.reddplus.mn
27. НҮБ-ын Хөгжлийн Хөтөлбөр (2018) Нагоягийн протоколыг хэрэгжүүлэх хүний нөөц, эрх зүйн орчин, байгууллагын чадавхийг бэхжүүлэх төслийн тайлан
28. Төсвийн тухай хууль (2011)
29. Төсвийн тогтвортой байдлын тухай хууль (2010)
30. Хүнс хөдөө аж ахуйн яам (2018). http://mofa.gov.mn/exp/blog/43/92
31. Улсын тусгай хамгаалалттай газар нутгийн нэгдсэн сан (2019) https://eic.mn/spa/
32. Улсын тэмдэгтийн хураамжийн тухай хууль (2010)
33. Үндэсний статистикийн газар (2013). Монгол Улсын статистикийн эмхэтгэл. Улаанбаатар хот.
34. Үндэсний статистикийн газар (2015). Монгол Улсын статистикийн эмхэтгэл. Улаанбаатар хот.
35. Үндэсний статистикийн газар (2019). Тогтвортой хөгжлийн зорилго http://sdg.1212.mn/Home/SDV_indicator
36. С.Энхболд (2018) Оффсет Консалтинг ХХК
37. Энди Томсон (2012). Монгол орны тусгай хамгаалалттай газар нутгуудын санхүүгийн тогтвортой байдлыг хангах зарим хувилбар. НҮБХХ. Улаанбаатар.