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# Conservation and Sustainable Management of Key Globally Important Ecosystems of the Republic of Kazakhstan for Multiple Benefits

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22 June 2018, Astana



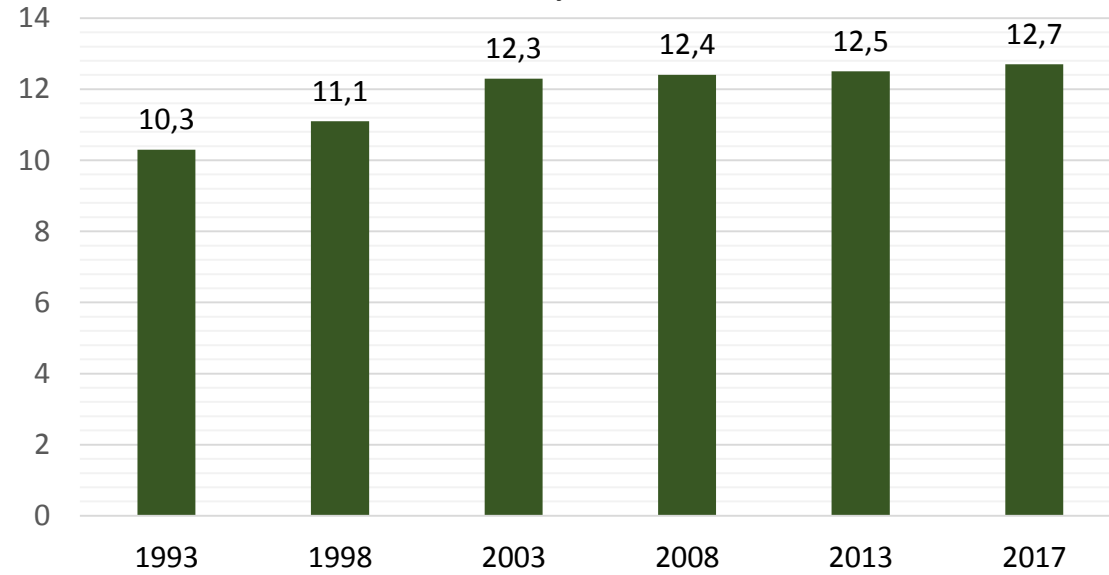
# STATE OF FORESTS IN KAZAKHSTAN: GENERAL INFORMATION



## Map of forest ecosystems of Kazakhstan



## Woodland dynamics in Kazakhstan for 1993-2017, mln. ha

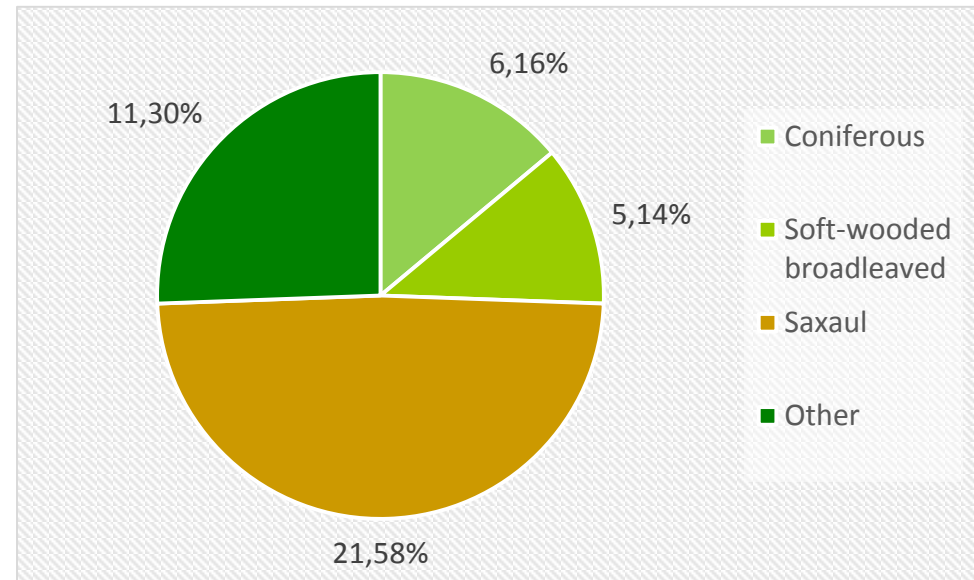
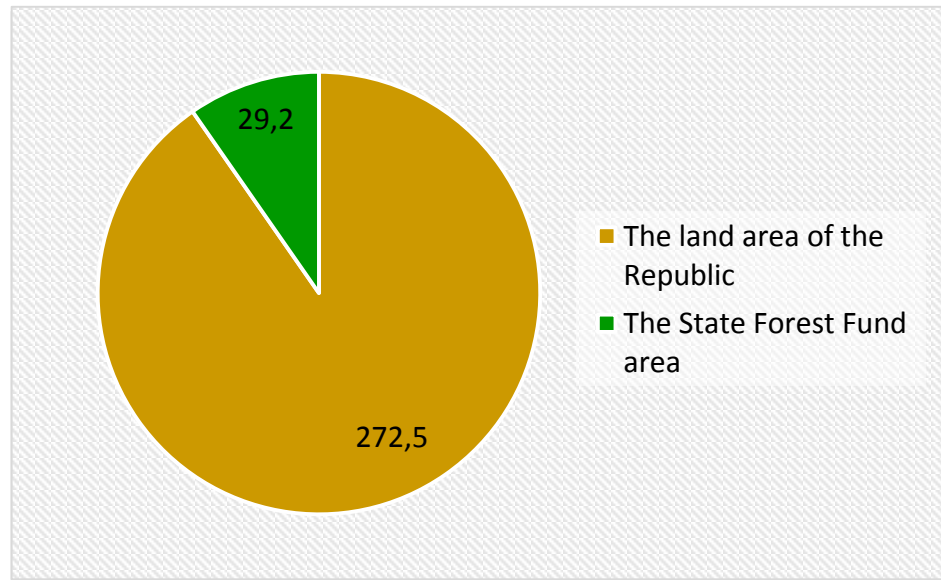


The total area of the country – **272,5 mln. ha**

State-owned forest resources (State Forest Fund) – **29,2 mln.ha or 10,71%**

Forest cover – **12,9 mln.ha or 4,6%**

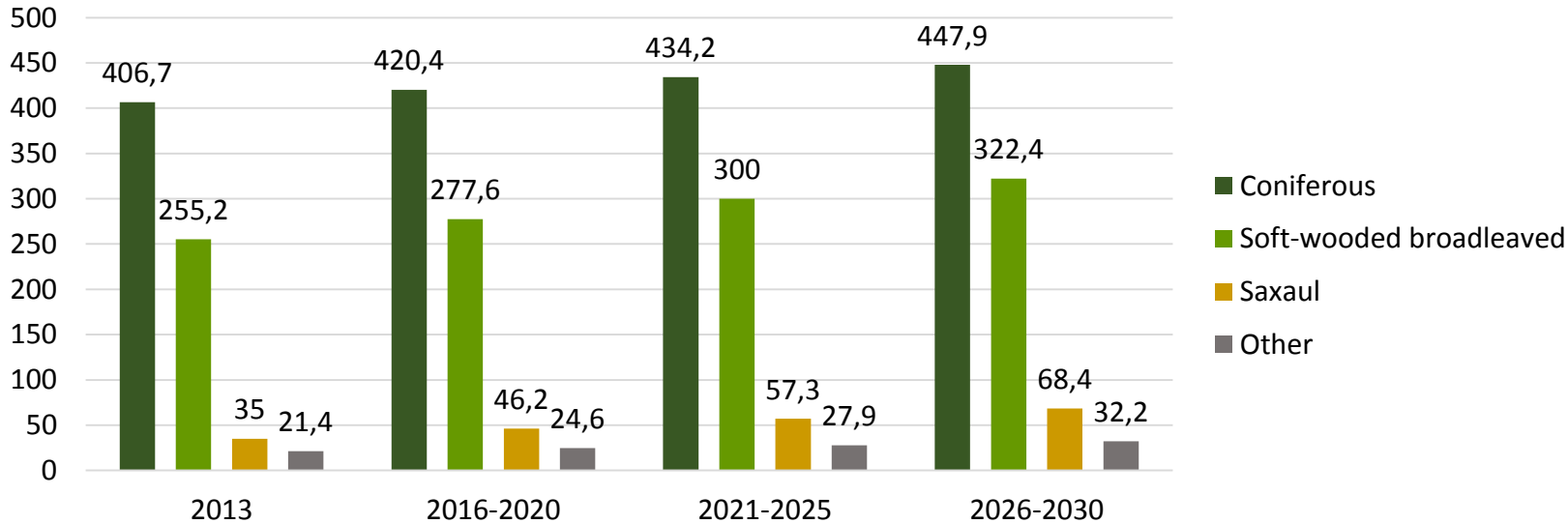
Forests and forest steppes in PAs (legal entities) – **4,04%**





## GLOBAL ASPECTS OF FOREST CONSERVATION IN KAZAKHSTAN

The potential of carbon sequestration by forest and grassland ecosystems of Kazakhstan, tons of CO<sub>2</sub>-eq.



**51,4%** - the proportion of carbon sequestered by young stands and middle-aged stands

**50,5 mln.t CO<sub>2</sub>-eq** – increase of carbon sequestration during every five-year period until 2030

**5%** reforestation will allow the carbon to be sequestered by forested by **2,9 mln.t CO<sub>2</sub>-eq** annually

**0,5 mln.t CO<sub>2</sub>-eq** per year additionally from reforestation after final felling in mature and old-growth forests

**More than 9 billion tons** of carbon are stored by forest and grassland ecosystems of Kazakhstan that compensate for about **6%** of total anthropogenic emissions

**More than 2,5 million** people live in forest areas and use benefits from forests



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The goal of Kazakhstan under the Paris Agreement – **reduction** of greenhouse gases **by 15%** of the 1990 level.

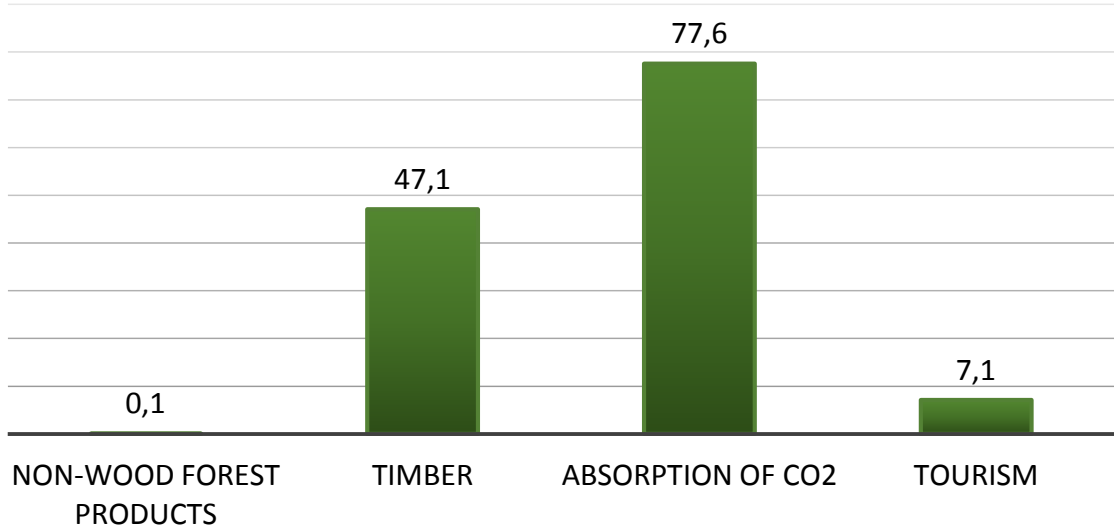


**Reforestation** of the country and **sustainable management** of forest and grassland ecosystems will allow **to cover 76% of greenhouse gases** of the 1990 level.

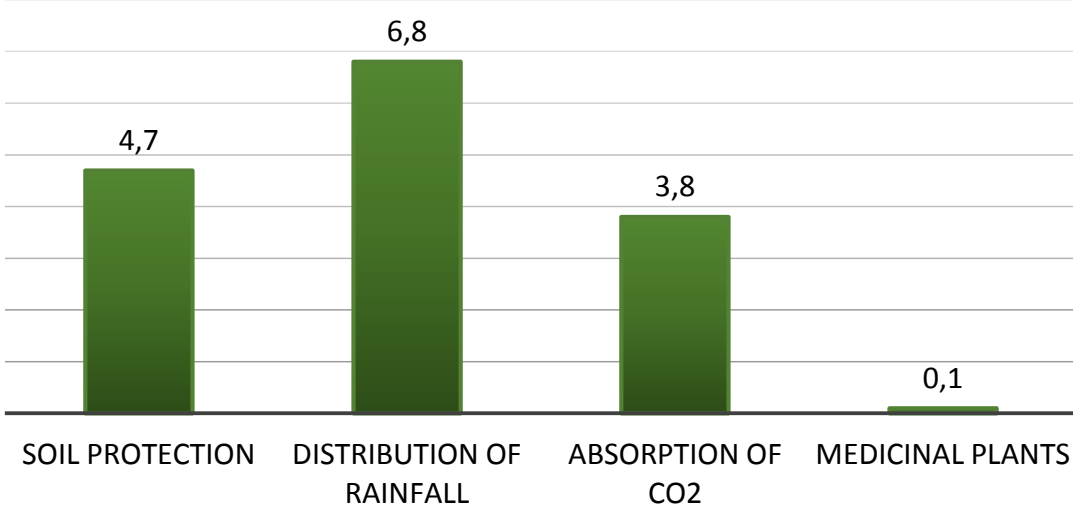
# THE ECONOMIC VALUE OF FOREST ECOYSTEMS OF KAZAKHSTAN



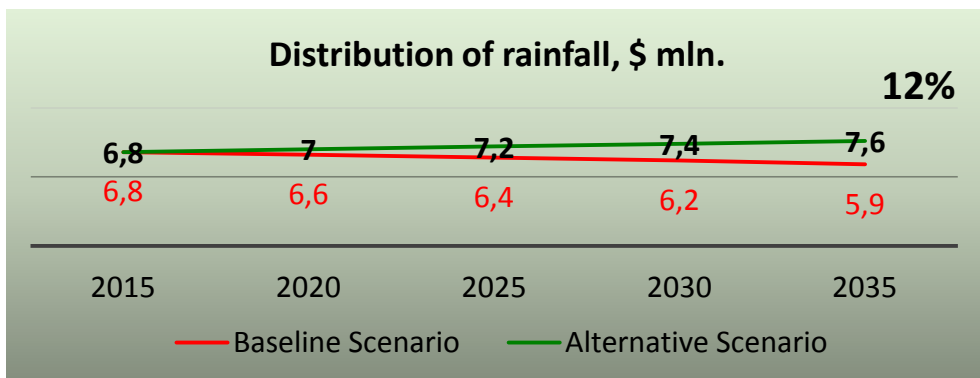
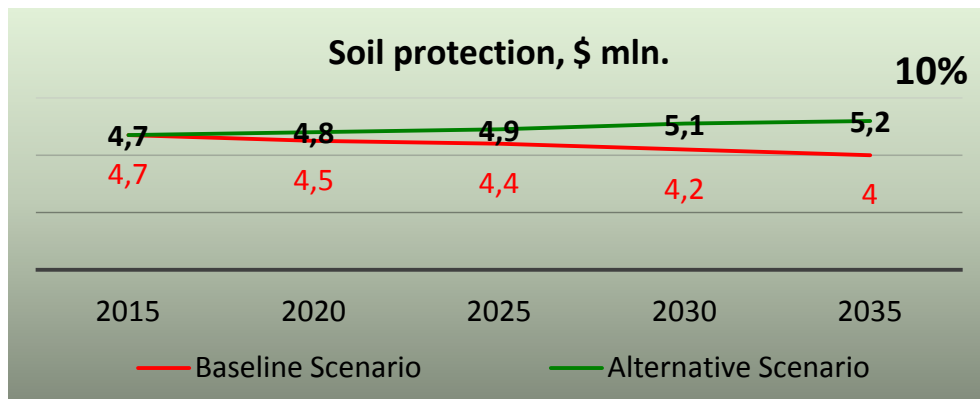
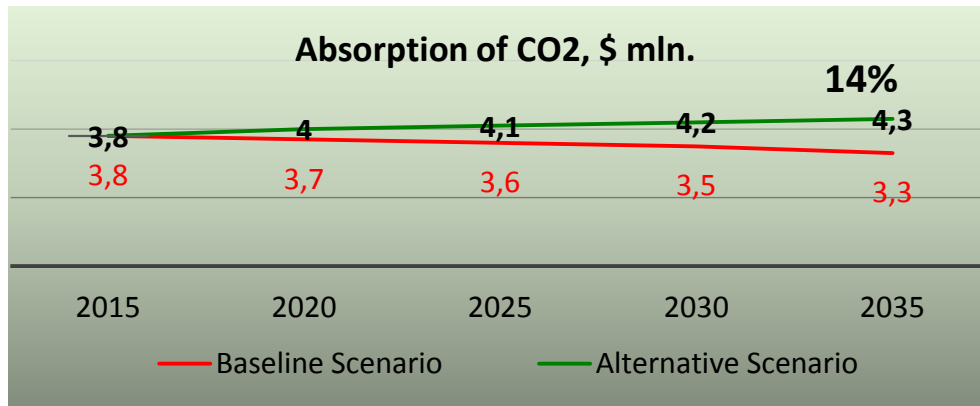
The economic value of forests in Karkaraly National Park, 2012, **over \$131 million.**



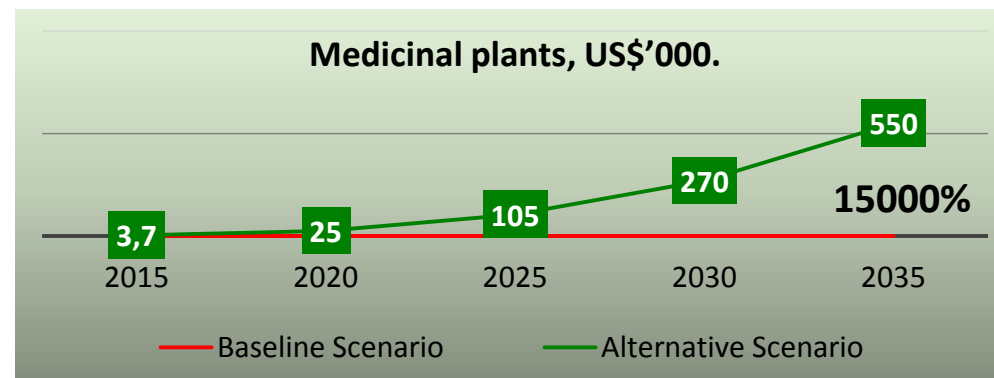
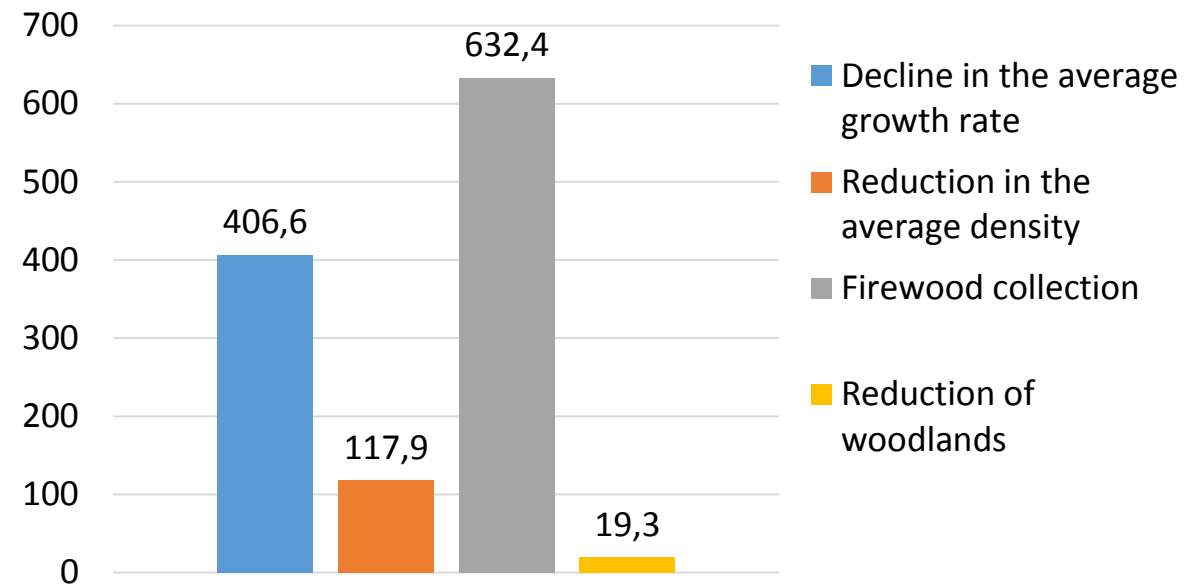
The economic value of forests in Ile-Balkhash Reserve, 2017, **over \$15 million.**



# Economic valuation of ecosystem services in Ile-Balkhash Reserve's forests



## The annual loss from forest degradation prior to the establishment of Ile-Balkhash Reserve, US\$'000



# ECOSYSTEM SERVICES IN THE RK FOREST CODE

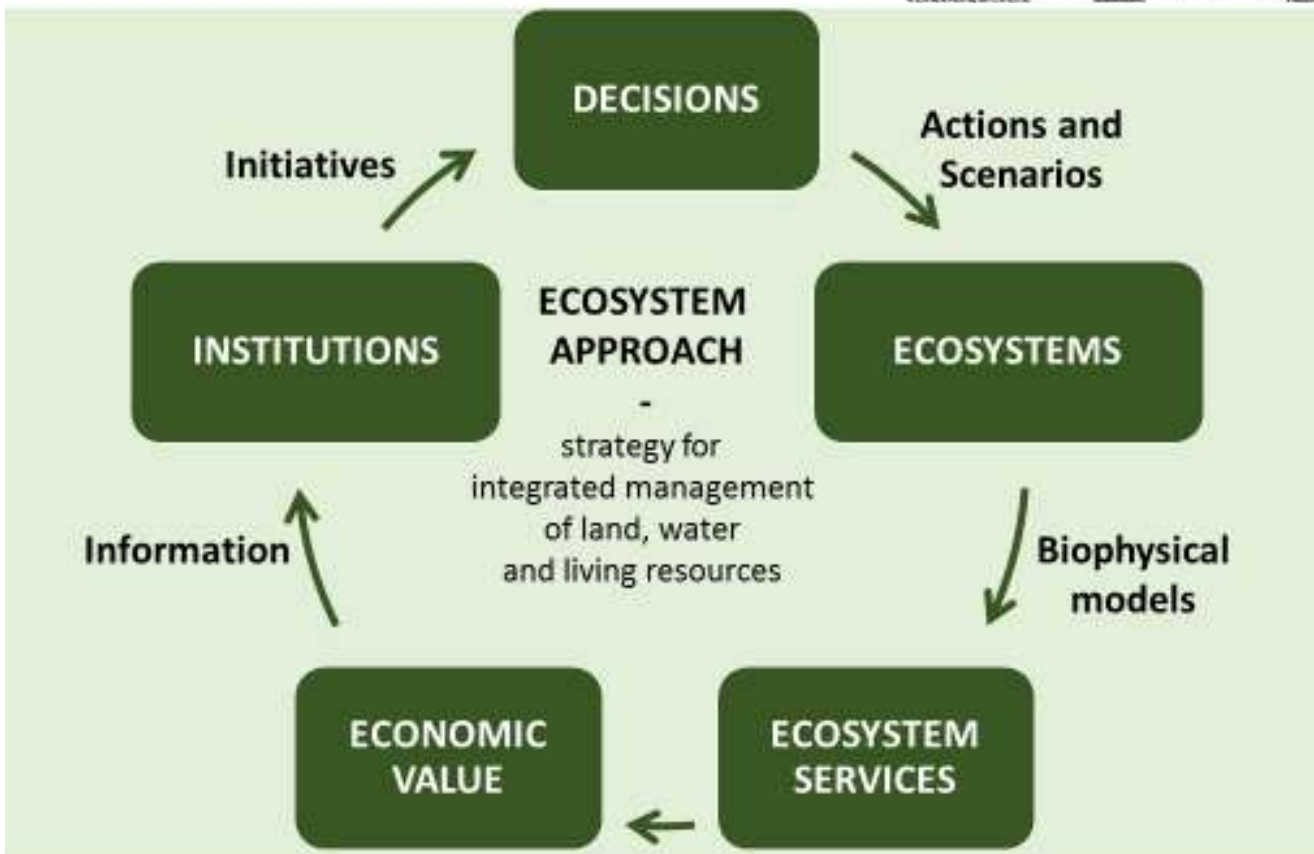


Convention on Biological Diversity

Закон Республики Казахстан  
О внесении изменений и дополнений в некоторые  
законодательные акты Республики Казахстан по вопросам  
растительного и животного мира



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**Amendments to certain legislative acts of the RK concerning flora and fauna officially gazette**

“Forest ecological system services (hereinafter referred to as forest ecosystem services) are benefits derived from the use of forests, their functions, including useful properties by individuals and entities performing activities within the state forest estate land and its surrounds”

**Sources for funding expenditures for forest management in state-owned forest land**

...  
5) “donations, voluntary contributions of individuals and entities, including for forest ecosystem services”

## A UNDP-SUPPORTED PILOT PROJECT ON REHABILITATION OF ASIATIC POPLARS (*Populus pruinosa* Schrenk)



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- ✓ **An inventory of Asiatic poplars on 3084 ha** conducted (Kurtinskoye forestry entity), the space covered by poplars identified according to species *Populus pruinosa* and *Populus diversifolia*;
- ✓ **A forest genetic reserve on 5,9 ha** selected and attested, seeds collected;
- ✓ On **6,0 ha** (Sulutorangy site), **conditions created for natural regeneration of poplars through fencing**. 600 head of livestock moved to the distant rangeland where conditions created for a herder to live and livestock to keep;
- ✓ **500 *Populus pruinosa* and *Populus diversifolia* seedlings grown in a laboratory for the first time**, planted in 3 sites: Sulutorangy, Lavar and Kaskelen;
- ✓ **The survival rate** of seedlings within Lavar site is **72 %**, the average height of seedlings is 110 cm;
- ✓ **Guidelines on containerized Asiatic poplar growing** and a prospect helping to define the species of poplars developed;
- ✓ The National Forest Breeding Center **continues its works** to grow poplars from seeds grown **in the biotechnology laboratory of microclonal propagation**, to create clone bank within the seed-trial ground Lavar



## A UNDP-SUPPORTED PILOT PROJECT ON ARAL FOREST NURSERY ESTABLISHMENT



A framework created for continued planting of saxaul shrubs on the dry Aral Seabed (2,500 ha annually) and other hardwood species to establish protective green belts around settlements



**Renewables introduced** to electrify the office of the forest nursery and secure water supply for irrigation (a wind-solar generator, **5 kW capacity** installed)

The sustainable water supply system created: 3 km of Sholak Aryk water canal cleaned, the drip irrigation system introduced and **water consumption** in the forest nursery reduced 2,5 times: **from 2000 cub.m to 800 cub.m per season**



The reconstruction of the canal provided local residents and farms of Akbai village in dry and hot climate conditions with **permanent access to open water sources and irrigation water**. 10 families from Akbai village can already grow vegetable and gourd crops along the 15 km canal



About **20** permanent **jobs** created **for rural women**



The application of the drip irrigation system **improved the survival rate** of forest crop seedlings (**maple, thuya, elm, ash, poplar, willow, apricot and apple**) grown in the nursery **from 30% to 80-90%**



**4 school forestry units** established in the schools of Aral district, with the total number of 79 people



## A PILOT PROJECT ON SAND STABILISATION USING HARDY-SHRUB SPECIES



UN  
DP

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- ✓ Parcels of 3 ha selected
- ✓ Works conducted to fence the land parcels
- ✓ Works conducted to lay reed mats within the selected sites
- ✓ Seedlings and saplings of drought-resilient species (**saxaul, oleaster, calligonum, elm**) in a quantity of about 40 000 plants planted during environmental campaigns, the survival rate of saplings is **50-60%**
- ✓ Living conditions improved for **5 000 people of 2 target villages** (Aralkum and Bakbakty villages)



# The GEF-UNDP project “Conservation and Sustainable Management of Key Globally Important Ecosystems of the Republic of Kazakhstan for Multiple Benefits”



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The project **objective** is to improve conservation status and management of key forest and associated grassland, riparian and arid ecosystems important for the conservation of biodiversity, land resources and provision of livelihoods for local communities.

**Implementation area:** Almaty, East Kazakhstan, South Kazakhstan and Zhambyl regions

#### **Institutional focus:**

- 12 existing PAs
- 10 new PAs
- 10 forestry entities
- 12 rural areas, 4 villages and 6 districts

**Implementation period:** 2018-2023

#### **Implementing partner:**

The Forestry and Wildlife Committee of the Ministry of Agriculture of the Republic of Kazakhstan



Outcome 1. Prevention of loss of conservation important forest and associated non-forest ecosystems and their biodiversity within the PA network of Kazakhstan



Outcome 2. Improved management of protected conservation important forests, through HCVF-specific management measures in PA forests with the total area of 1 899 134 ha



Outcome 3. Improved management of high conservation value forests within ecological and economic landscapes with direct community benefits



Outcome 4. Integrated economic and environmental valuation of ecosystem services and SFM criteria and indicators embedded in decision making



Outcome 5. Increased capacities of Kazakhstan to monitor its wildlife, ensure law enforcement and share knowledge



**THANK YOU FOR YOUR ATTEN**



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