

6 th meeting of the Expert Group on Disaster-related Statistics in Asia and the Pacific
Progressing Disaster-related Statistics for SDGs 1, 11, and 13

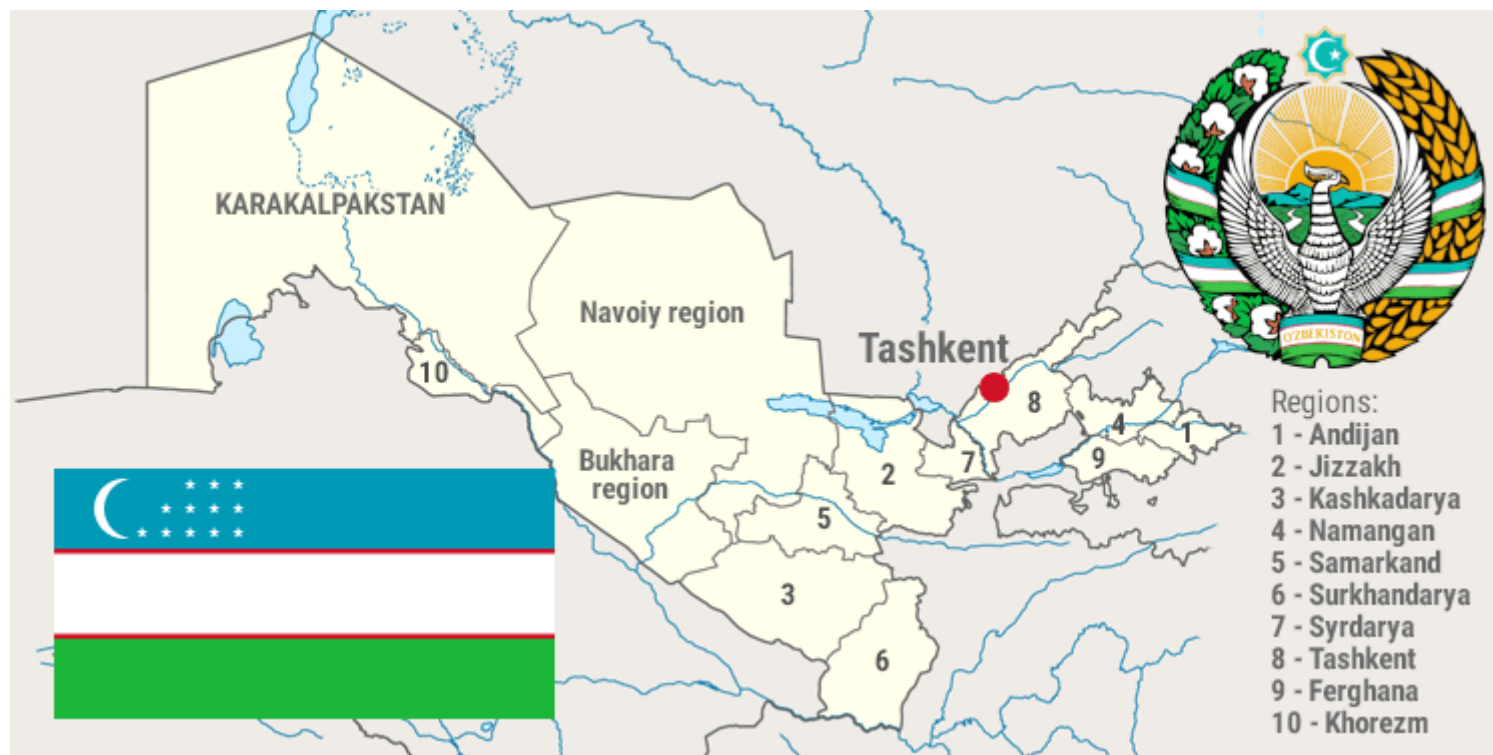
CREATING A «GREEN BELT» FAVORABLE ECOSYSTEM
AROUND BIG CITIES USING ADVANCED
TECHNOLOGIES AND METHODS
(on the example of the capital of Uzbekistan - Tashkent)

April 23rd -25th Bangkok, Thailand



United Nations Economic and
Social Commission for Asia
and the Pacific





The Republic of Uzbekistan is located in the central part of Central Asia between Amu Darya and Syr Darya rivers. There are Turan Lowland in the northwest, and Tien-Shan and Pamir-Alay mountain ridges in the southeast of the territory. Kyzyl Kum Desert is in the North Area: total 448.900 km²: land: 425.400 km², water: 22,000 km². Capital – Tashkent city

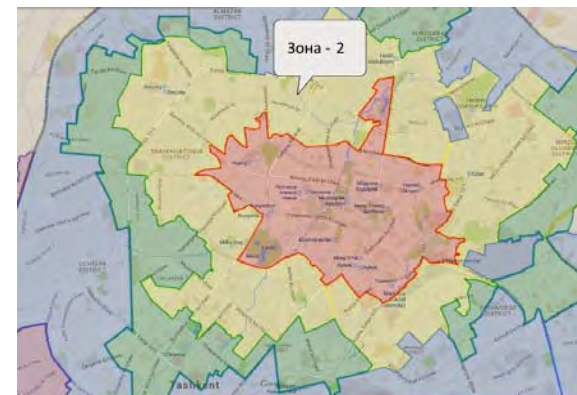
Uzbekistan borders with Turkmenistan, Kazakhstan, Kyrgyzstan Tajikistan and Afghanistan in the South.

Administrative and Territorial Structure: Autonomous Republic of Karakalpakstan, 12 regions, 226 cities and districts. Population: more than 33 million people. Uzbekistan is multination country. State language is Uzbek.

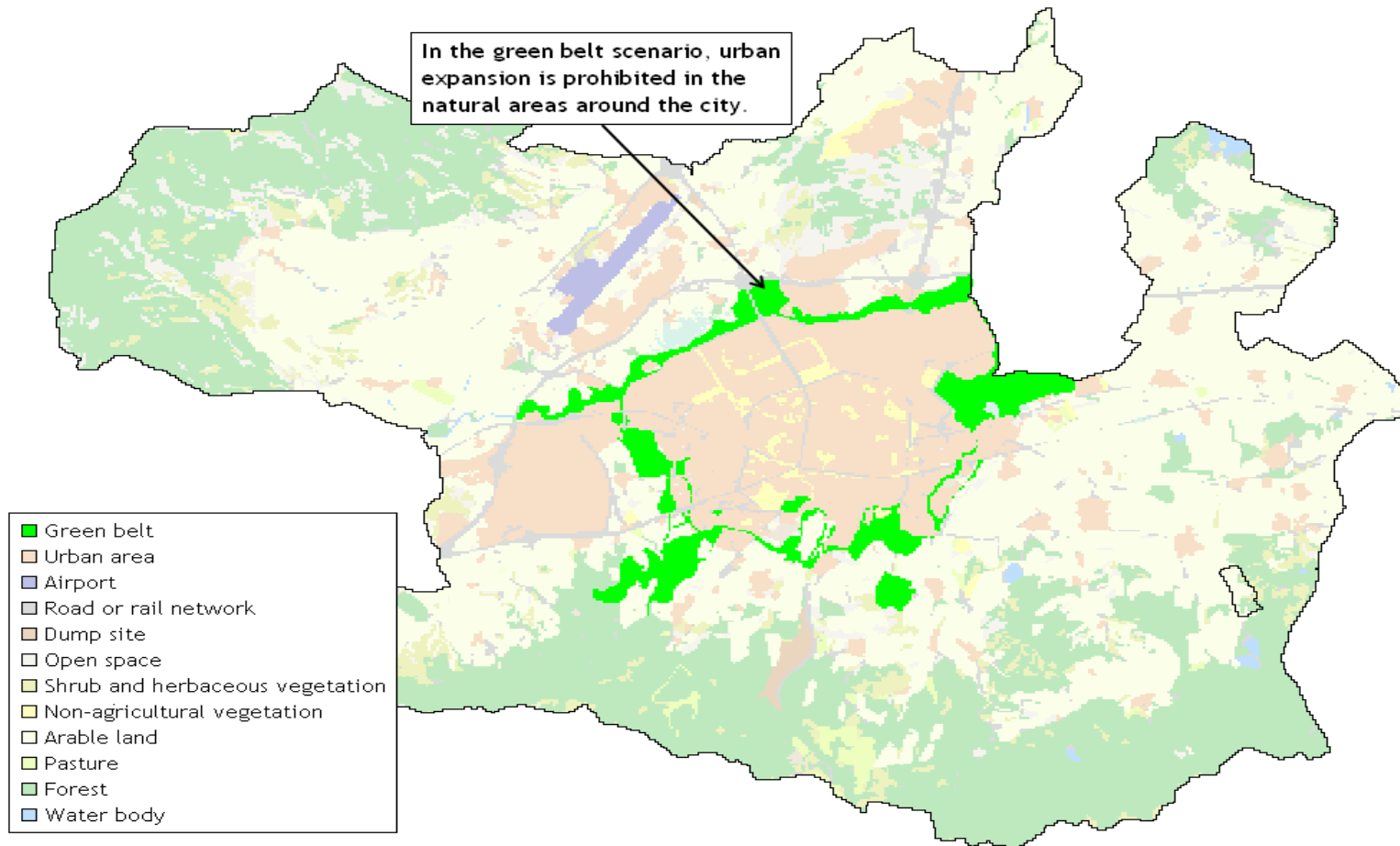
Historical background:

According to the State Committee on Land Resources, Geodesy, Cartography and the State Cadastre, the territory of the capital Uzbekistan, Tashkent (within the Tashkent ring road) is 334.8 square meters. km Approximately 35% of the city (over 15.2 thousand hectares) is covered by the «Green zone», that is, the zone of large plantations of trees and shrubs. Tashkent has 18 large-scale park areas. It is estimated that each citizen has 68.4 square meters of greenery.

However, according to the UN, up to 700 thousand tons of harmful salts are annually removed from the dried bottom of the Aral Sea within a radius of more than 1 thousand km, of which more than 500 kg are deposited on each hectare of soil in the Amudarya delta. In Karakalpakstan, there are 938 cases of skin diseases per 10 thousand people, which is two times more than in the whole of Uzbekistan. The Aral crisis caused not only medical, but also social, economic, domestic problems, the solution of which requires enormous costs. Consequences of urbanization - In Uzbekistan, including its capital, frequent dust storms are observed, in particular, from the Aral Sea region. Conducting intensive construction work and the urbanization of the countryside around Tashkent also exacerbate existing environmental problems.



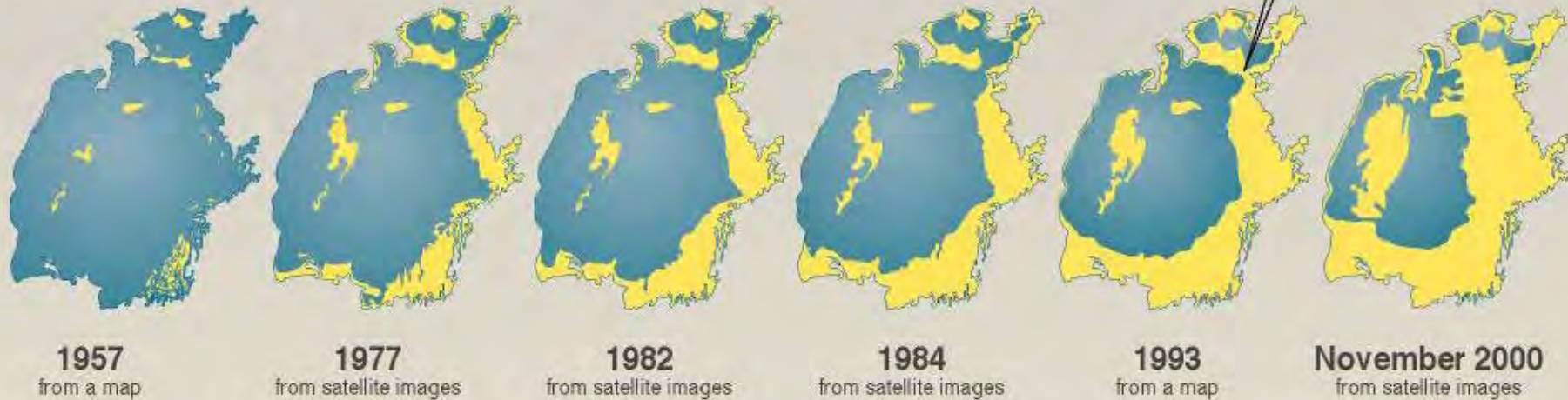
The Green Belt connects National Parks, Nature Parks, Biosphere Reserves and transboundary protected areas as well as non-protected areas along or across borders and it supports regional development initiatives based on nature conservation. The objectives range from the local to the global level. The Green Belt is an initiative that is tailored to fit the current ecological situation and the development taking place now, focusing on some Uzbekistan's most impressive and fragile landscapes.



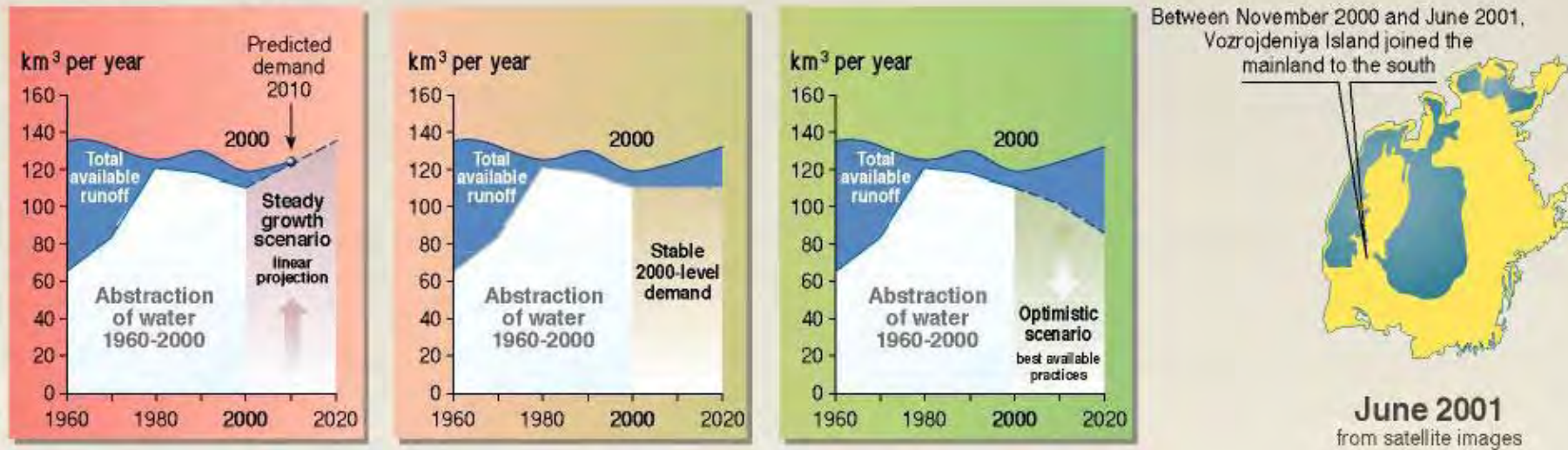
Will the Aral Sea Disappear Forever?

The last 40 Years and Alternative Future Scenarios

What has happened...



What could happen...



RESULTING ARAL SEA TRAGEDY



- The Aral Sea is now less than 10% of its former size (26,000 sq. miles to under 2,500 sq. miles).
- The Northern portion has been stabilized, but the Southern part is almost gone except a small strip in the west.
- Summers are extremely hot and dry, and winters are longer and colder, making agriculture more difficult.
- The combination of salination of the land, overuse of fertilizers, and testing of chemical weapons have left the land and water polluted and dangerous.



This satellite image has been annotated to show what has happened to the lake!

Consequences



- In one word – Cotton
- The sea became saltier due to evaporation.
- During the Soviet era Uzbekistan was designated as a major cotton growing region of the USSR. Cotton is known as «white gold» & is highly profitable to grow.
- As the sea shrank the remaining salt was concentrated in less water
- The wetlands of the river deltas dried out, drastically affecting the wildlife of the area.
- Large areas of the former Aral Sea were reduced to barren lifeless salt plains.
- The fish numbers & the birds which fed on them declined rapidly.

THE USE OF ADVANCED TECHNOLOGIES AND METHODS TO CREATE A «GREEN BELT» AROUND TASHKENT

In addition, given the intensive growth of industry including mining and processing, within a radius of 100 km. from Tashkent, which include the industrial centers of AGMK, BMK, BMK and the Angren coal mine, the need to apply preventive environmental measures, including, as was said, not only around Tashkent, but also around the mentioned centers, becomes obvious.

Groundwater, salinity, constant winds with dust worsened the situation. It should be improved if the cities are protected by a forest belt. The peculiarity of forests is that they have a protective, water protection, sanitary and hygienic and climate-regulating significance. They protect agricultural and other lands from water and wind erosion, prevent the formation of mudflows, fix sands.

It is the forests that are the main natural regulators that support and restore living conditions. They absorb and bind most of the carbon dioxide entering the atmosphere, replenish oxygen reserves, accumulate and purify water, regulate its entry into rivers, protect us from radiation dust and other industrial pollutants. The forests of Uzbekistan, in addition, serve as a recreation area and help to partially solve the food problems of the population.



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In Tashkent there are more than 220 types of trees and shrubs. The most common species are juniper, poplar, oak, kairagach, chestnut, catalpa, chinara, ash, maples, sophora, and others. In parks and squares of the city, a large number of representatives of exotic flora imported from other countries - Norway maple, tulip tree, large-magnolia magnolia , paper tree, ginkgo, pine, linden, boxwood, cypress, etc. are available.

In this regard, the protection and improvement of the ecological situation is one of the priorities in the Republic of Uzbekistan. In particular, an inventory of all trees is actively carried out in Tashkent, it is planned to adopt a plan for planting trees for the next 2-5-10 years and to create nurseries (plantations) for it, as well as to improve the health of sick and severely weakened trees.



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The concept of creating a «Green belt» around the city of Tashkent

The landscaping scheme suggests areas for landscaping located in the suburban area, inside the urban area and within the residential area. Recommendations will be developed for each of the components of landscaping structures. This scheme provides development of a landscaping structure by territorial affiliation:

- Landscaping suburban area;
- Gardening urban area;
- Landscaping within a residential area;
- Gardening entry highways.

For each of the components of the landscaping structures, the development and development areas are defined, including: recreational, forest park, forest protection, sanitary protection, environmental and water protection zone.

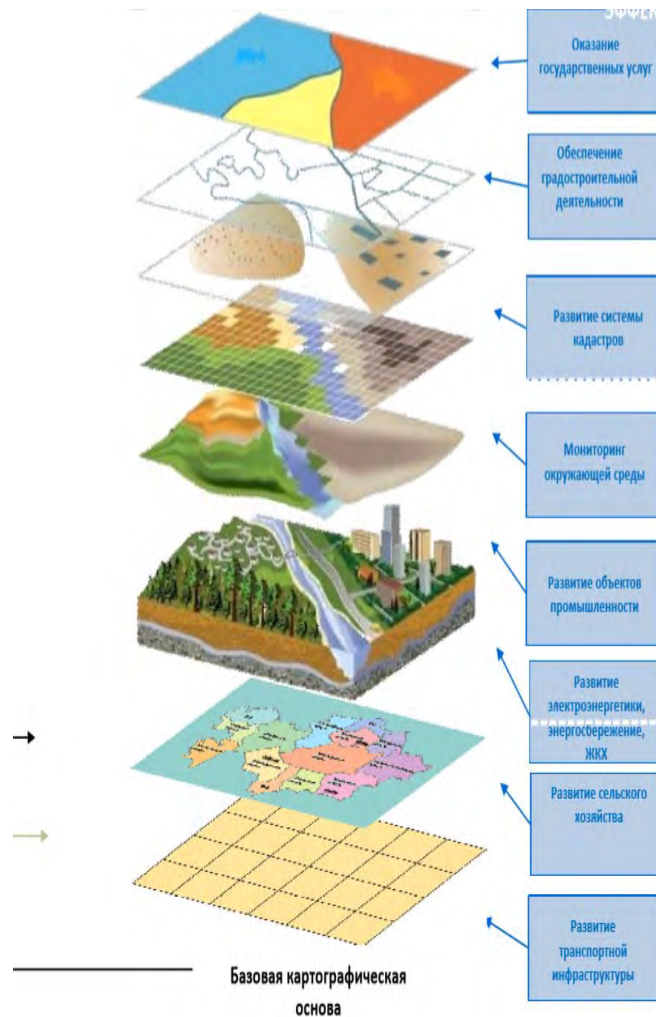
The main task of landscaping and development of the suburban area around Tashkent is to combine an artificial forest green belt with natural parks and create a single green ecosystem. As a result, the territory of the “green corridor” was determined.

For comparison, the area of green areas in different cities of the world (according to the site "Landscape Design") is as following:

1. Berlin, green spaces of all kinds - 30%; 2. Moscow - 31%; 3. Kiev - 16%; 4. Stockholm - 30%; 5. Paris - 10%.



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Tasks:

- Development of the Concept of creating a «Green belt» around the city of Tashkent;
- Creating a favorable ecosystem in the city based on the development of a set of measures ensuring the creation of optimal conditions for the reproduction of atmospheric air, surface and groundwater, improvement of soil cover, vegetation and wildlife, as well as ensuring the sanitary and recreational and landscape-aesthetic value of the surrounding areas. Preservation of the natural landscape
- To improve living conditions in large industrial cities and environmental indicators by the formation of an optimal continuous differentiated system of green space, originating in suburban forests and penetrating deep into urban areas.
- Improving the sanitary and hygienic and environmental efficiency of greenery.
- The widespread introduction of a single rational architectural and planning solution for the territory of the city and suburb, taking into account landscape zoning and the degree of development of the natural landscape.

THE USE OF ADVANCED TECHNOLOGIES AND METHODS TO CREATE A «GREEN BELT» AROUND TASHKENT

✓ Foreign experience (Republic of Korea)

- South Korea is recognized as a leader in the development of so-called "green technologies". The Republic of Korea became the first country in the world to choose nature conservation as the central strategy for national development.
- The Korean Green Growth Strategy covers a wide range of areas, including new and renewable sources of energy, waste management, transportation, fresh water treatment, and greening.
- According to the information service, the United Nations Environment Program, UNEP intends to transfer to other countries the environmental experience of South Korea, including to help overcome the global economic crisis, the transition to a green economy and identify new directions for development.
- The strategy of "green growth" in South Korea provides for reforms in the economy, including the creation of favorable conditions for business participation in the development of environmental projects.



THE USE OF ADVANCED TECHNOLOGIES AND METHODS TO CREATE A «GREEN BELT» AROUND TASHKENT

Project activities:

- The study of the features and analysis of the project area: the state of land use of the area / territory. The ability to filter it. Permeability of the structure. The status of vegetation, animals, flora and fauna, bird species, their habitat
- Conducting meetings and attracting experts from foreign countries (forming expert groups);
- Analysis and study of advanced foreign experience in planning and management of forest park zones;
- The study of plant species suitable for planting mainly by those tree species that protect against pollution. (The main species are pine, spruce, juniper, thuja, oak, linden);
- The study and analysis of the soil, its features and other data;

Development of three land use plans:

- Protection of underground resources, protection of the ecosystem, the preservation of the natural landscape? Creating a system of topographic maps of the area. Topography of the area. Ecosystem protection map

Making recommendations:

- to improve the soil of the project area;
- plant species suitable for planting resistant to adverse effects and durable (taking into account the dryness of the climate - not moisture-loving and so on.
- the optimal ratio of the areas of urban and suburban massifs, at which the best cleaning of the city's air basin is achieved;
- Landscape Protection Planning

THE USE OF ADVANCED TECHNOLOGIES AND METHODS TO CREATE A «GREEN BELT» AROUND TASHKENT

Project results:

- Clean, healthy air of forest parks, enriched with oxygen, ozone, phytoncides, with the help of favorable air currents moves over the central regions, renewing the air basin of the city, improving its condition (the content of harmful suspended and gaseous impurities decreases in the air, natural dustiness and as a result increases transparency of the atmosphere), aeration and temperature regimes are regulated, the intensity of the “heat island” due to human activities decreases.
- Additional planting will contribute to the effective improvement of the environment, to be resistant to adverse effects and durable.
- The average concentration of dioxide in air (SO_2) is reduced to an acceptable level.
- The optimal ratio of the areas of intracity and suburban massifs has been developed, at which the best cleaning of the city’s air basin is achieved.





Thank You!

