

Ecological situation in Republic of Kazakhstan



Ecological problem in RK

ARAL SEA

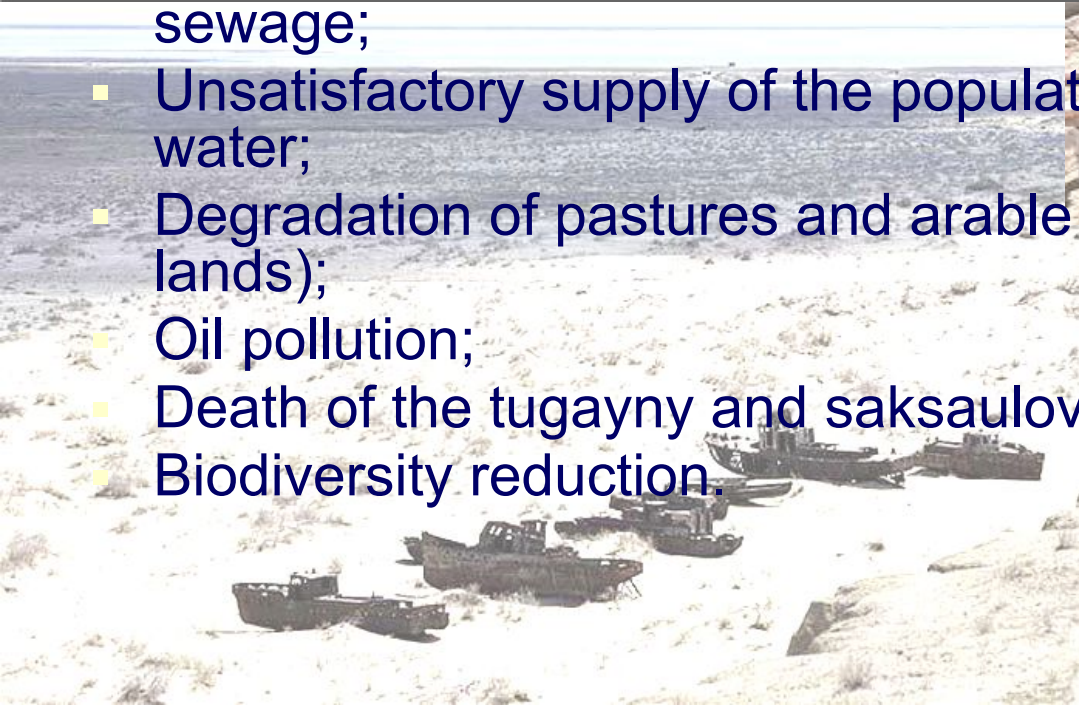


SEMIPALATINSK TEST POLIGON

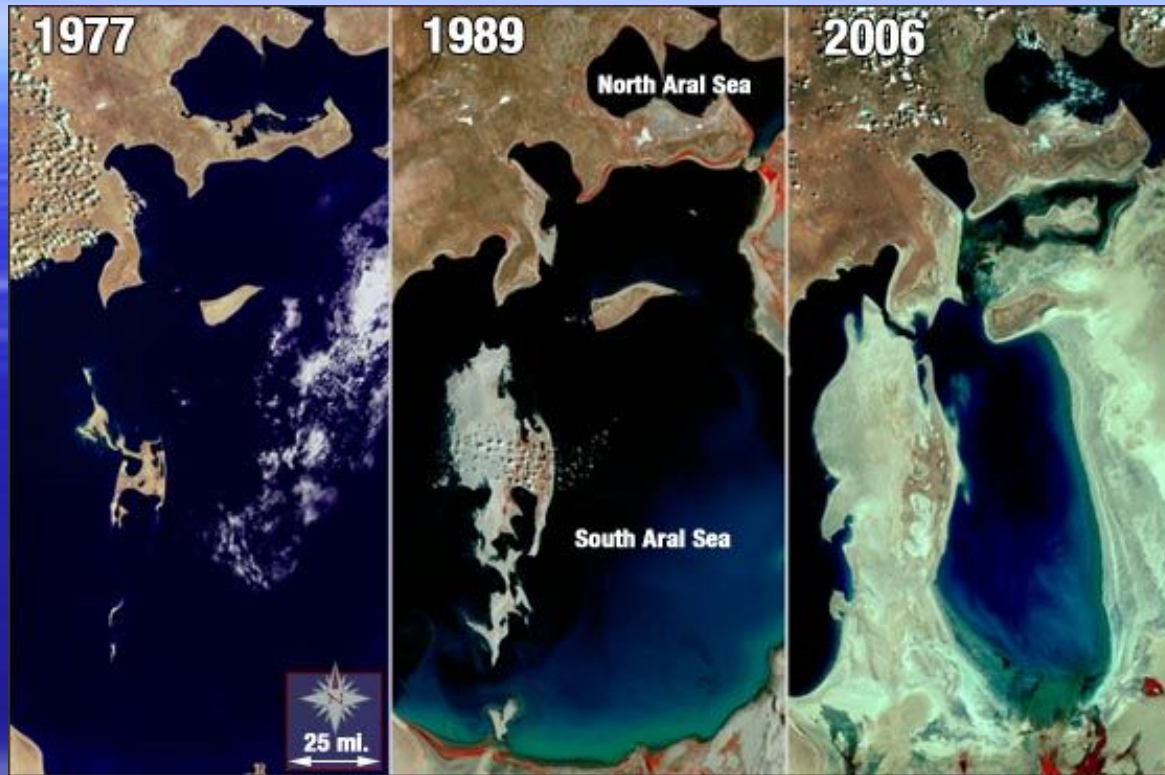


THE MAIN PROBLEM OF ARAL SEA

- Deficiency of water resources;
- Pollution (zasoleniye) of waters collector and drainage and sewage;
- Unsatisfactory supply of the population by qualitative drinking water;
- Degradation of pastures and arable lands (zasoleniye of irrigated lands);
- Oil pollution;
- Death of the tugayny and saksaulovy woods;
- Biodiversity reduction.



Changing of Aral sea level



During the last 50 years, from 1960 to 2010, the sea received less than 1,000 km³ of river water, which led to the lowering of the sea level by 17 m, accompanied by a reduction of the volume of the water area by 75%.

As a result of the complete stop of the AmuDarya and SyrDarya runoff and expansion of irrigated territories without any control of the Aral Sea and environmental needs, a serious complex of ecological, social and economic problems was formed in the Pre-Aral area. These problems by origin and level of consequences have an international character. The sea has lost its fishery and transport importance. It was divided into two parts, the Bolshoi and the Maly (Northern) Aral, and moved 100-150 km away from the original shore.

Emergence and development of the ecological tragedy of Aral

- In the early 1960s,[10] the Soviet government decided the two rivers that fed the Aral Sea, the Amu Darya in the south and the Syr Darya in the northeast, would be diverted to irrigate the desert, in an attempt to grow rice, melons, cereals, and cotton.
- This was part of the Soviet plan for cotton, or "white gold", to become a major export. This eventually succeeded, and today Uzbekistan is one of the world's largest exporters of cotton.[11]
- The construction of irrigation canals began on a large scale in the 1940s. Many of the canals were poorly built, allowing water to leak or evaporate. From the Qaraqum Canal, the largest in Central Asia, perhaps 30 to 75% of the water went to waste. Today, only 12% of Uzbekistan's irrigation canal length is waterproofed.



Possible environmental solutions

- **Many different solutions to the different problems have been suggested over the years, varying in feasibility and cost, including:**

Improving the quality of irrigation canals

Installing desalination plants

Charging farmers to use the water from the rivers

Using alternative cotton species that require less water

Using fewer chemicals on the cotton

Moving farming away from cotton

Installing dams to fill the Aral Sea



Nuclear tragedy of Kazakhstan



Semipalatinsk test polygon – zone of ecological tragedy



- The Semipalatinsk Test Site (STS or Semipalatinsk-21) was the primary testing venue for the Soviet Union's nuclear weapons. It is located on the steppe in northeast Kazakhstan (then the Kazakh SSR), south of the valley of the Irtysh River. The scientific buildings for the test site were located around 150 km west of the town of Semipalatinsk (later renamed Semey), near the border of East Kazakhstan Province and Pavlodar Province with most of the nuclear tests taking place at various sites further to the west and south, some as far as into Karagandy Province.
- The Soviet Union conducted 456 nuclear tests at Semipalatinsk from 1949 until 1989 with little regard for their effect on the local people or environment. The full impact of radiation exposure was hidden for many years by Soviet authorities and has only come to light since the test site closed in 1991.

The history of Semipalatinsk test polygon

The site was selected in 1947 by Lavrentiy Beria, political head of the Soviet atomic bomb project (Beria falsely claimed the vast 18,000 km² steppe was "uninhabited").

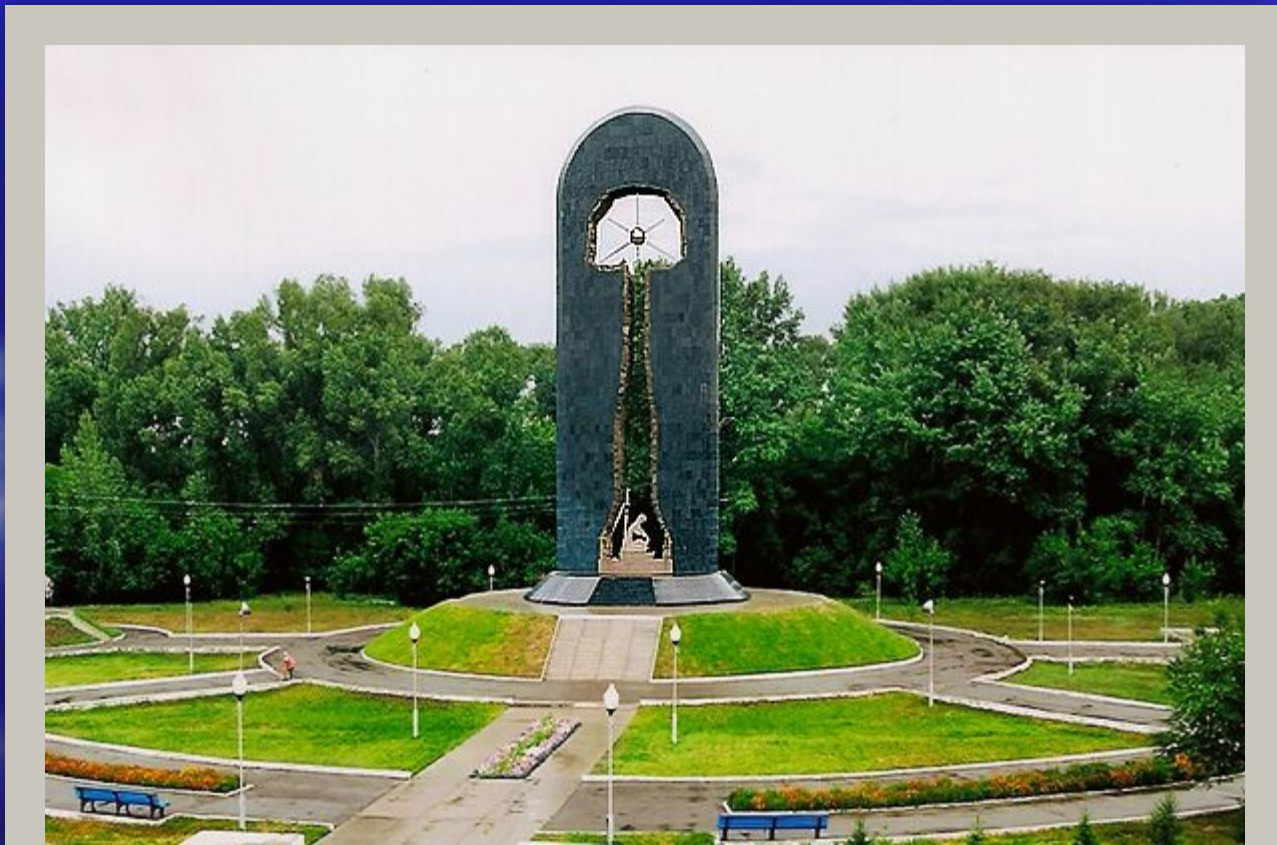
Between 1949 and 1989, 456 nuclear tests, including 340 underground and 116 atmospheric tests, were conducted at Semipalatinsk Test Site facilities

The site was officially closed on 29 August 1991



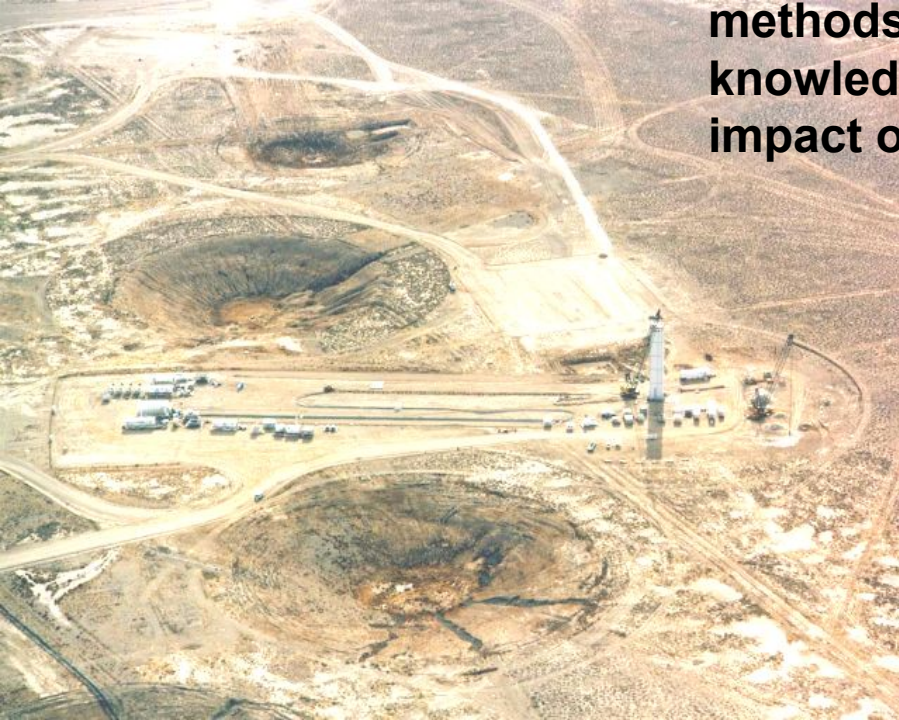
Economic solution of public health care, victim of nuclear tests

Based on information collected during the missions and subsequent research, there is sufficient evidence to indicate that most of the area has little or no residual radioactivity directly attributed to nuclear tests in Kazakhstan. There are a few areas that have elevated residual radioactivity levels within the test site where the surface tests were performed and where a few underground tests vented to the atmosphere. Preliminary surveys of these areas indicated that the contamination is relatively localized.



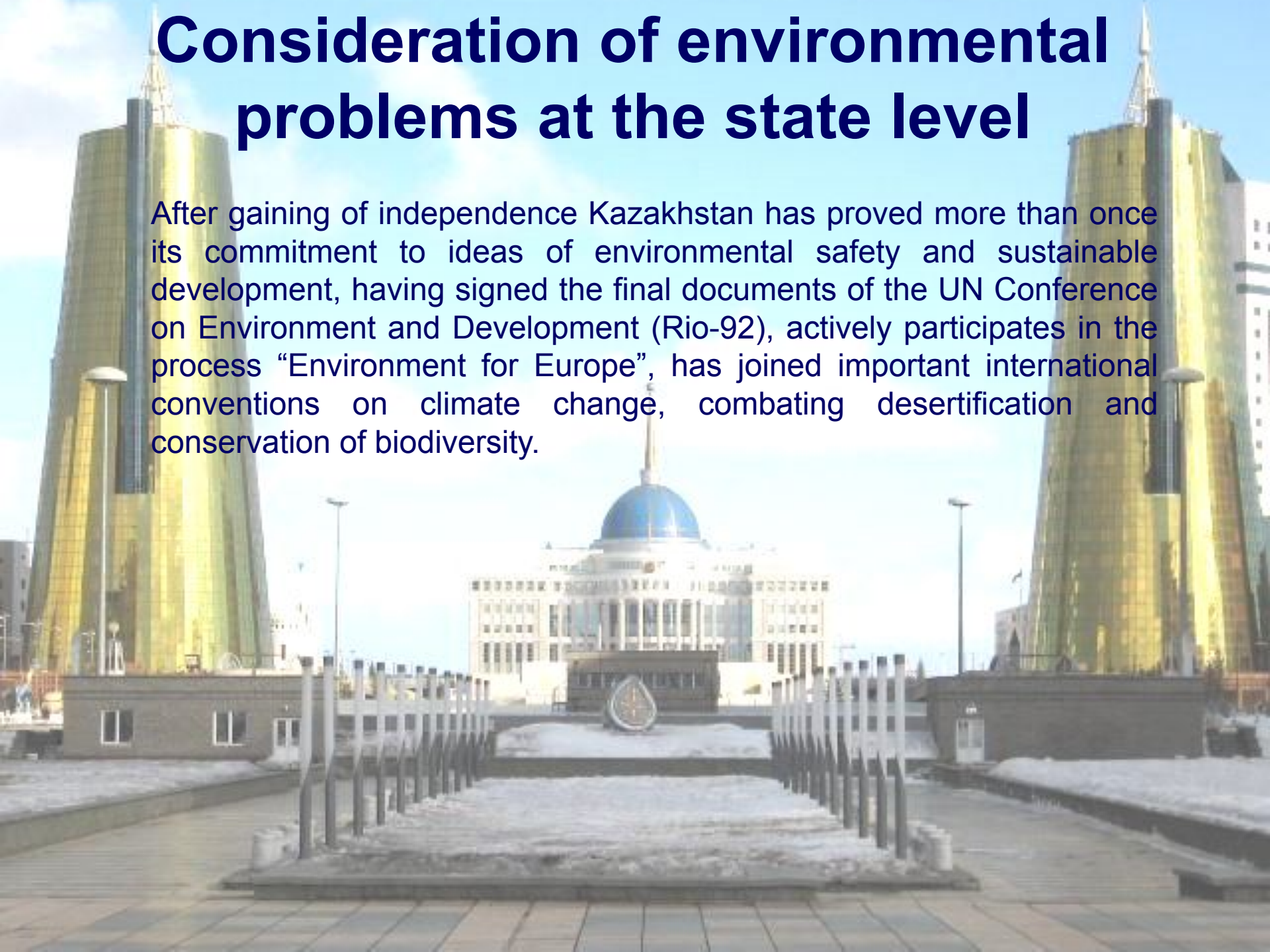
Impact of nuclear tests for environment

The historic evolution in population radiation safety measures and the atmospheric criteria of the nuclear test period (1949–1962) are of great scientific interest. Their development represents a stage in the history of science in our country, particularly in radiobiology, radiation medicine, radiation hygiene, and radiation safety. The outlook on radiation safety criteria and methods changed notably with accumulated knowledge of the biological consequences of the impact of ionizing radiation on the human body.



Consideration of environmental problems at the state level

After gaining independence Kazakhstan has proved more than once its commitment to ideas of environmental safety and sustainable development, having signed the final documents of the UN Conference on Environment and Development (Rio-92), actively participates in the process “Environment for Europe”, has joined important international conventions on climate change, combating desertification and conservation of biodiversity.





Strategy -2030

But given sustainable development is a global task what could one country possibly do? What are Kazakhstan's tasks in it?

Sustainable development has both world and local dimension. Kazakhstan first formulated sustainable development tasks in "Kazakhstan-2030" Strategy. In the long-term outlook a good popular wisdom is cited "Cleanness is a pledge of health". In it is the formula of sustainability.

КАЗАХСТАН - 2030

International ecological conventions



- In the nearest future it is expected to implement the following actions by Kazakhstan and other countries of Central Asian region:
- - To prepare the National and sub-regional Adenda-21 and to evaluate the progress in their realisation;
- - To carry out the review of progress in RIO+10 process, to develop methods of evaluation of progress, in particular to adapt the indicators on sustainable development for conditions of the region;
- - To participate in preparation for the next session of the Committee on Sustainable Development (CSD) on the matter “Information for decision-makers”;
- - To adopt the sub-regional approach of ESCAT (in addition to the national approach) to process of RIO+10 and to adopt the Central Asian representation in the CSD and ESCAT.

**THANKS FOR
ATTENTION !!!**