

Internal displacement and the slow-onset adverse effects of climate change

The physical and geographical characteristics of Azerbaijan make it a highly vulnerable country to the adverse effects of climate change. Extreme weather events, such as flooding, drought and heat stress are expected to increase in frequency. A growing water deficit, high temperatures, and unevenly distributed precipitation place a high vulnerability in different sectors: agriculture, human health, water resources, forestry, tourism, coastal zone. The most vulnerable areas identified are water resources, agriculture and coastal areas.

Agriculture plays an important role in the economy of Azerbaijan and 48% of the population lives in rural areas. Agriculture employs 38% of the country's population. After the agrarian reform in 1997, approximately 817,000 families owned 1.3 million hectares of land. In addition, the country had more than 620,000 households with land of 2.8 hectares.

The main effects of climate change on agriculture:

- Increase in temperature will cause the increase in the number of dry days (drought periods);
- Lack of irrigation water due to a decrease in precipitation;
- As a result of the break in the precipitation cycle, periods of excessive precipitation can occur, causing landslides, floods that leads to crop losses;
- Loss of productivity of agriculture products that are not drought-resistant (cereals, grapes, fruit crops, vegetable crops, etc.), particularly in areas of rainfed agriculture;
- Increase in the levels of summer and winter pastures degradation due to decrease in precipitation.

Lack of water resources, non-equal distribution of water and seasonal fluctuations cause problems in water availability. Only 5-20% of the annual river flow is used for irrigation. On the other hand, there is a shortage of water during drought periods, however, during the rainy season floods could occur. Studies show that there is a decrease in the country's major rivers and water resources. In particular, decrease is observed in winter precipitation and snow water resources, as well as in spring precipitation. This also led to a decrease in both surface and ground water.

Lack of control over the occupied territories also creates difficulties in fulfilling Azerbaijan's obligations under international conventions. Armenia's non-accession to the UN Convention on the Protection and Use of Transboundary Watercourses and International Lakes makes impossible to resolve transboundary water problems within the framework of international norms.

10 reservoirs with a total volume of 631 million m³, including the Sarsang reservoir with a total capacity of 560 million m³ which designed to irrigate more than 100,000 hectares of arable lands are occupied by Armenia on the verge of collapse.

Due to the lack of maintenance of technical facilities for a long time, 400,000 people living in the settlements below the Sarsang Reservoir, in the foothills and lowlands, are in danger.

Water from reservoir is released during the winter without taking into account the seasonal needs of the area, and as a result, settlements, agricultural areas and communication lines are flooded. In the hot summer season, much less water is released than the annual norm, which creates acute water shortages and problems with irrigation.

Taking into account the above-mentioned facts, the Parliamentary Assembly of the Council of Europe adopted Resolution No. 2085 in 2016 on the deliberate deprivation of water to residents of the border regions of Azerbaijan. Taking into account the important humanitarian problem, the resolution demanded the immediate withdrawal of the Armenian armed forces from the region and the provision of on-site investigations by independent engineers and hydrologists.

The length of the Caspian Sea coastline in Azerbaijan sector is 850 kilometers. Ten administrative regions are located on the coastal areas (including Absheron peninsula) and population size has reached to 4 million. The country's largest cities - Baku, Sumgayit and 75% of industrial resources and infrastructure of the country is located in the area of Caspian Sea.

Last decades temperatures significantly higher than normal has been observed during the summer months in major cities. Positive temperature anomalies are dominated. According to the long-term meteorological observations it is normal to observe of 30-32⁰ C daytime temperatures during the months of July and August in Baku. The local population has adapted to such conditions. However in recent years during the long term abnormal summer heat, the process of adaptation becomes difficult, and complications arise. The research show, that the strong heat replication and its continuance is significantly increased in comparison with the length of the base period.