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ENVIRONMENTAL SITUATION AND ISSUES OF NATURAL RESOURCE USE IN UZBEKISTAN DURING THE YEARS OF INDEPENDENCE

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Abstract: This topic provides a scientific analysis of the processes of change in the environmental situation in Uzbekistan during the years of independence, the policy of environmental protection, and issues of rational use of natural resources. The study highlights modern approaches to the use of water, land, mineral and biological resources, ecological problems — the Aral Sea crisis, desertification, water scarcity, atmospheric pollution, as well as their socio-economic consequences. It also reveals the importance of ensuring environmental security, introducing the principles of sustainable development, state environmental policy, and international cooperation.

Keywords: environmental situation, natural resources, environmental protection, sustainable development, Aral problem, water resources, land resources, environmental security, desertification, environmental policy, biodiversity, rational use of resources.

Introduction. After gaining independence, the Republic of Uzbekistan inherited a complex ecological situation as a result of serious structural errors in agriculture, energy, and industry during the Soviet period, which led to numerous problems in environmental and natural resource management. Centers of ecological instability were observed in almost all regions of the country. High ecological instability was mainly local in nature. The Republic of Karakalpakstan, Khorezm, Fergana, and Navoi regions emerged as the most unfavorable areas.

Among environmental problems, the following factors are considered significant for the territories of Uzbekistan: atmospheric air pollution; accumulation of solid waste, including toxic industrial waste; pollution of water resources and shortage of fresh water; insufficient provision of the population with clean drinking water; problems of desertification and aridification; soil salinization and degradation; decline and reduction in the biological productivity of species diversity complexes; and problems of ensuring food security.

If we consider the problems of atmospheric pollution in the early years of independence, the number of enterprises polluting the air in the republic amounted to 839 in 1992[1] and 889 in 1993, most of which were located in the city of Tashkent (155), Fergana (105), and Tashkent region (93). By 2001, the number of such enterprises had reached 1,962, the majority of which were concentrated in the city of Tashkent (351), Fergana (213), Namangan (201), and Kashkadarya (159) regions[2].

Even today these problems remain relevant. In industrialized cities such as Andijan, Angren, Bukhara, Navoi, Fergana, Almalyk, Bekabad, Chirchik, Tashkent, and Nukus, the level of air pollution with dust has been observed to exceed sanitary norms by an average of 2.7 times[3]. In Namangan region alone, nearly 70 thousand tons of pollutants are emitted into the atmosphere annually, of which 90 percent (more than 63 thousand tons) fall on motor vehicles.

Another problem is waste management: in the city of Tashkent, 2 thousand tons per day and 700 thousand tons per year of household waste are generated, while across the republic this figure amounts to 7–8 million tons annually. Only 4–5% of this waste is recycled. In major cities of the world, this indicator reaches 15–20%[4]. In Fergana region, an average of 3.5 thousand tons of household waste is generated daily, 105 thousand tons monthly, and 1 million 260 thousand tons annually[5].

Desertification and land degradation processes remain among the most pressing environmental problems in Uzbekistan. As a result of climate change, this threat is intensifying.

Eighty percent of Uzbekistan's territory consists of deserts and semi-deserts — ecological systems highly sensitive to climate change and anthropogenic factors. Changes in precipitation caused by climate change are leading to mudflows and landslides, which in turn intensify soil erosion.

The Aral disaster has sharply increased the continentality of the climate, resulting in more severe summer droughts and longer cold winter periods. The number of days with temperatures exceeding 40 degrees in the Aral region has doubled. While the sea depth was 53.52 m in 1960[6], it decreased to 35.48 m in 1996[7]. On the dried seabed, a new "Aralkum" desert has formed over an area of 5 million hectares. From time to time, storms arise there, spreading millions of tons of salt, dust, and sand over hundreds of kilometers. Salt plumes extend beyond 400 km, and the impact zone of sandy and saline storms reaches up to 300 km. Desertification in the Aral region leads to degradation of land resources, deterioration in the quality of natural pastures and hayfields, and increasing soil salinization, which each year covers new territories. The unfavorable ecological situation has also affected population migration in the region.

As a result of the initiative put forward by the President of the Republic of Uzbekistan Sh. Mirziyoyev in his speech at the 72nd session of the UN General Assembly on September 19, 2017[8], a Multi-Partner Trust Fund for Human Security for the Aral Sea region was established under the UN in November 2018[9]. It created opportunities to attract funds from donors in various countries to implement projects aimed at improving the living conditions of the population in the region. Following the results of the President's visit to the Muynak district of Karakalpakstan in November 2018, a two-year State Program was adopted, under which 793 projects with a total value of 1.5 billion US dollars were planned for implementation [10].

Irrigated lands in Uzbekistan amount to 4.3 million hectares and produce 90–95 percent of agricultural output. Thus, irrigated lands are of particular importance in meeting the population's demand for food products. A threat to sustainable land use in Uzbekistan is the limited nature and low-quality composition of land resources. The economic and demographic pressure on land is increasing year by year.

Currently, of the existing 4.3 million hectares of irrigated land in the republic, nearly 2.0 million hectares (46.7%) are salinized to varying degrees. In particular, 1 million 324 thousand hectares (30.9%) are slightly salinized, 570 thousand hectares (13.3%) moderately salinized, and 105.5 thousand hectares (2.5%) strongly salinized.

In the early years of independence, the constitutional foundations for environmental protection, rational use of natural resources, and further development of environmental legislation under market economy conditions were reflected in the Basic Law — the Constitution of the Republic of Uzbekistan, which strengthened the legal basis for nature conservation and rational use.

During the years of independence, nearly 40 laws and about a thousand by-laws adopted on the basis of the Constitution of the Republic of Uzbekistan have served to implement important tasks such as environmental protection, rational use of natural resources, and solving ecological problems. These include the laws: "On Nature Protection" (1992), "On Water and Water Use" (1993), "On Protection of Atmospheric Air" (1996), "On Protection and Use of Flora" (1997), "On Protection and Use of Fauna" (1997), "On Forests" (1999), "On Environmental Expertise" (2000), "On Subsoil Resources" (2002), "On Waste" (2002), "On Protected Natural Areas" (2004), "On Environmental Control" (2013), "On Public Control" (2018), and the Land Code (1998).

Based on the Law of the Republic of Uzbekistan "On Nature Protection" of December 9, 1992, the Oliy Majlis of the Republic of Uzbekistan began to determine the main directions of state policy in environmental protection and regulation of relations in this sphere [11]. According to the current legislation, state governance in the field of ecology, environmental protection, rational use and restoration of natural resources in Uzbekistan is carried out in accordance with

laws and other regulatory legal acts by the Cabinet of Ministers of the Republic of Uzbekistan, the State Committee of the Republic of Uzbekistan for Ecology and Environmental Protection, and local government authorities [12].

In order to ensure the country's sustainable development and gradually eliminate environmental problems, the "National Action Program for Environmental Protection in the Republic of Uzbekistan for 1999–2005" was developed and implemented. The program paid special attention to creating a healthy environment for the population, rational use of natural resources, preventing pollution of water, air and soil, protecting all flora and fauna, ensuring the inviolability of nature, and addressing other related issues. In this regard, a trend toward stabilization and improvement of the natural environment began to emerge, with reductions in emissions of pollutants into the atmosphere and discharges of contaminated wastewater, as well as an expansion in the reuse of waste [13].

As a continuation of the above program, the "Program of Environmental Protection Activities of the Republic of Uzbekistan for 2008–2012," approved by Resolution No. 212 of the Cabinet of Ministers of the Republic of Uzbekistan dated September 19, 2008, was implemented [14]. For the implementation of this program, funds amounting to 376.14 billion soums, 427.79 million US dollars, and 504.4 thousand euros were allocated. In accordance with the program, emissions of pollutants were reduced by 78.8 thousand tons through the conversion of 145.5 thousand vehicles to gas fuel; more than 17.2 billion cubic meters of associated gas produced together with oil were utilized; nitrogen oxide emissions at the facilities of the "Uzkimyosanoat" State Joint-Stock Company were reduced by 3.5 million tons; a small hydropower plant was constructed and commissioned at the Hisor reservoir; and the ameliorative condition of agricultural lands on nearly 86 thousand hectares was improved. However, measures taken to reduce atmospheric air pollution in cities such as Almalyk, Nukus, Tashkent, and Chirchik did not prove sufficiently effective [15].

The "Action Program on Environmental Protection in the Republic of Uzbekistan for 2013–2017," adopted on the basis of the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated May 27, 2013, became a historically significant document in addressing environmental problems. The program placed particular emphasis on environmental protection, rational use of natural resources, and the development of environmental legislation and regulatory-methodological frameworks. A total of 89.39 billion soums, 1,635.55 million US dollars, and 57.63 million euros were allocated for the implementation of the measures outlined in the program [16].

During the years of independence, important organizational, socio-economic, and legal measures were developed and implemented to ensure environmental security. The measures taken contributed to reducing atmospheric pollution, improving major open water flows, decreasing the use of pesticides, improving the structure of cultivated areas, and attracting international organizations to participate in solving national environmental problems.

References

1. Karomov, G. U., & Nafasova, K. (2025). The establishment and progress of the public health sector in the Turkestan ASSR (1917–1920). International Journal of Artificial Intelligence, 1(4), 2024-2029.

2. Ochilov, U. B., & Karomov, G. U. (2025). THE DEVELOPMENT OF PRESCHOOL EDUCATION IN QASHQADARYO REGION: MODERN STAGE, URGENT ISSUES AND ACHIEVED RESULTS. Journal of Multidisciplinary Sciences and Innovations, 1(3), 945-949.

3. Каромов, Г. Х. (2019). Особенности городской культуры Самарканда Раннего Средневековья. Евразийское Научное Объединение, (1-7), 373-374.

4. Khamitovich, K. G. (2022). Measures in the Sphere of Maternal and Child Health in Uzbekistan. Miasto Przyszłości, 29, 12-15.

5. Каромов, Г. Х. (2020). ИСТОЧНИКОВЕДЕНИЕ И ИСТОРИОГРАФИЯ ИСТОРИИ МЕДИЦИНЫ В ТУРКЕСТАНЕ. ББК 1 Е91, 205.

6. Khamitovich, K. G. (2022). HISTORY OF HEALTH WORKS IN TURKESTAN ASSR. INTERNATIONAL JOURNAL OF SOCIAL SCIENCE & INTERDISCIPLINARY RESEARCH ISSN: 2277-3630 Impact factor: 8.036, 11(10), 68-72.

7. Khamidovich, K. G. (2020). The history of turkestan sanitary work. Journal of Critical Reviews, 7(9), 1126-1129.

8. Karomov, G. U. X. (2023). TURKISTONDA EPIDEMIYALAR VA ULARGA QARSHI KURASH. Journal of Social Sciences, 4(01).

9. Buronov, O. (2025). SOCIO-ECONOMIC CONDITIONS IN UZBEKISTAN IN THE 40-80-IES OF THE XX CENTURY. BRIDGING THE GAP: EDUCATION AND SCIENCE FOR A SUSTAINABLE FUTURE, 1(1), 1160-1168.

10. Buronov, O. (2025). Changes In The Murobak Gas Processing Plant In The Years Of Independence. Zien Journal of Social Sciences and Humanities, 40, 62-67.

11. Buronov, O., & Davronov, U. B. (2025). Administrative-territorial division and demographic indicators of Samarkand during the years of independence. International Journal of Artificial Intelligence, 1(1), 405-409.

12. Buronov, O., & Davronov, U. B. (2025). History of modern construction and urban development in Samarkand region during the years of independence. International Journal of Artificial Intelligence, 1(1), 410-414.

13. Murodullaevich, B. O. (2024). The fight against infectious diseases of Uzbekistan on experience. Western European Journal of Historical Events and Social Science, 2(4), 93-97.

14. Бўронов, О. Қишлоқ врачлик пунктларида тиббий кадрлар салоҳиятини оширишга қаратилган давлат сиёсати. Ўтмишга назар, 7.

15. Buronov, O., & Tursunov, A. (2025). SOCIAL, ECONOMIC AND CULTURAL LIFE OF SAMARKAND REGION (ON THE EXAMPLE OF NURABAD DISTRICT). BRIDGING THE GAP: EDUCATION AND SCIENCE FOR A SUSTAINABLE FUTURE, 1(1), 1781-1788.

16. Bo‘ronov, O. Qishloq joylarda tibbiy profilaktika va sanitariya-epidemiologik barqarorlikni ta’minlash ishi tarixi. Journal of Social Sciences, 1(02).

17. Buronov, O. (2025). O ‘ZBEKISTONDA QISHLOQ AHOLISI SOG ‘LIQNI SAQLASH TIZIMI HUQUQIY ASOSLARINING SHAKLLANISHI VA SOHA MODDIY-TEXNIK BAZASINI MUSTAHKAMLASH MUAMMOLARI. Journal of Tamaddun Nuri, 12(75), 61-64.

18. Bo‘ronov, O. (2025). Uzbek QISHLOQ JOYLARDA TIBBIY PROFILAKTIKA VA SANITARIYA-EPIDEMIOLOGIK BARQARORLIKNI TA’MINLASH ISHI TARIXI. Journal of Social Sciences, 1(02).

19. Olim, B. (2025). THE FORMATION OF LITERATURE AND READING CULTURE IN QASHQADARYA REGION. SHOKH LIBRARY, 1(13).

20. Jalilov, I. (2021). National “Kurash”: History and Contemporary (On the Example of the Uzbek People). *Procedia of Social Sciences and Humanities*, *1*, 360-363.

21. Jalilov, I. (2021). National “Kurash”: History and Contemporary (On the Example of the Uzbek People). *Procedia of Social Sciences and Humanities*, *1*, 360-363.

22. Kenjayev, Z., Nursulton, B., & G‘aniyevich, J. I. (2026). AYOLLARNING HUQUQLARI VA GENDER TENGLIGI. *TA’LIM, TARBIYA VA INNOVATSIYALAR JURNALI*, *2*(6), 110-114.

23. Kenjayev, Z., Donyor, T. A., & G‘aniyevich, J. I. (2026). RAQAMLI DAVRDA INSON HUQUQLARI: SHAXSIY MA’LUMOTLAR DAXLSIZLIGI VA SO ‘Z ERKINLIGI MUAMMOLARI”. *TA’LIM, TARBIYA VA INNOVATSIYALAR JURNALI*, *2*(6), 94-99.

24. Kenjayev, Z., Xurshid, A., & G‘aniyevich, J. I. (2026). INSON HUQUQLARI VA MAJBURIY MEHNAT. *TA’LIM, TARBIYA VA INNOVATSIYALAR JURNALI*, *2*(6), 100-104.
25. Ўзбекистон Республикаси Марказий Давлат архиви (ЎзР МДА), М-110-фонд, 1-рўйҳат, 181-йиғма жилд, 1-варақ.
26. ЎзР МДА, М-110-фонд, 1-рўйҳат, 5958-йиғма жилд, 4-5-варақлар.
27. Атроф-муҳитни муҳофаза қилиш – аҳоли саломатлигини сақлашнинг муҳим омили. //www.uza.uz/oz/ programs /26-years/atrof-mu-itni-mu-ofaza-ilish-a-oli-salomatligini-sa-lashning-02-02-2018/
28. Тошкент шаҳрида кунига қанча маиший чиқинди ҳосил бўлади? //www.uza.uz/oz/society/toshkent-sha-rida-kuniga-anchamaishiy-chi-indi-osil-b-ladi-21-02-2019
29. Фарғона водийсида чиқиндиларни комплекс бошқариш кластери. http://www.uza.uz/oz/programs/25-years/far-onavodiysida-chi-indilarni-kompleks-bosh-arish-klasteri-02-09-2017/
30. Шульц В.И., Шалатова Л.И. Уровень Аральского моря в 1961-1966 гг. // Проблемы освоениия пустынь. 1968. №3 - С.
31. ЎзР МДА, М-114-фонд, 1 д-рўйҳат, 141-йиғма жилд, 35-варақ.
32. Ўзбекистон Республикаси Президенти Шавкат Мирзиёевнинг Бирлашган Миллатлар Ташкилоти Бош
33. Ассамблеясининг 72-сессиясидаги нутқи // Халқ сўзи, 2017 йил 20 сентябрь.
34. Специальный фонд для региона Приаралья под эгидой ООН // www.uza.uz.
35. Базарбаев Ж. Орол денгизи қуришининг оқибатларини бартараф этиш мумкинми // http://teleradio.uz/2018/12/12
36. Жумаев Т.М .Экология иқтисодиёти. –Т, .2004.- Б. 236.
37. Ўзбекистон Республикаси қонун ҳужжатлари тўплами (ЎР ҚҲТ), 2017 й., 37-сон, 978-модда
38. 2008 - 2012 йилларда Ўзбекистон Республикасининг Атроф-муҳитни муҳофаза қилиш ишлари дастури // http://lex.uz/docs/1392868
39. Ўзбекистон Республикаси Олий Мажлиси Сенатининг 2013 йил 29 март СҚ-376-II-сон қарори // Ўзбекистон Республикаси Олий Мажлиси палаталарининг Ахборотномаси, 2013 й., 3-сон, 67-модда.
40. ЎР ҚХТ, 2013 й., 22-сон, 282-модда; 2017 й., 19-сон, 345-модда.