



HISTORY OF INDUSTRIAL ENTERPRISES IN CHIRCHIK

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ABSTRACT

This article discusses the implementation of the policy of industrialization in Uzbekistan in the 40-80s of the XX century, the dense and very close location of industrial enterprises in a particular city, which had a negative impact on its environment on the basis of historical sources. The negative impact of the work of the chemical industry, oil, construction products and cotton ginning enterprises with defective technical equipment in Chirchik city on drinking water, nature and Chirchik River has been shown. There are reports of the damage caused to the environment by waste, the outbreak of diseases in the health of the population as a result of neglect of the material and technical base of industrial enterprises, the rapid implementation of the obligations of the Soviet Union.

KEYWORDS: *industrial enterprises, environment, people, manufacturing, water, soil, health, atmospheric air, disease.*

DISCUSSION

Environmental security is one of the most important issues due to the urgency and importance of human society today and tomorrow. If these problems are solved in practice, in many ways it will be possible to determine the state and quality of life of the present and future generations [1].

Despite the fact that Chirchik is a small city, it is distinguished in the country by the location of large chemical and electrochemical plants in the city and the breadth of production processes. The name of the city of Chirchik is derived from the name of the river Chirchik, and this river Chirchik has been the main source of water for the population, the source of livelihood. The Chirchik River has been used not only by the residents of Chirchik, but also by the residents of Gazalkent and Chinaz.

Chirchik is the second largest economic center after Tashkent. Before the World War II, Chirchik had metal processing and industrial construction enterprises, but after the war, the construction of chemical, machine-building, light and food industries was accelerated. In 1941, 143 industrial enterprises producing industrial construction products were evacuated to Uzbekistan. Of these, the largest were the newly industrialized cities of Chirchik, Kuvasoy and Bekabad [2]. There is scientific research on the activities of industrial enterprises in Chirchik, work

processes, the activities of workers, socio-economic problems in industrial enterprises, which can be seen in the works of Sh. Askarov, O. Yuldashev [3].

In his research, O. Yuldashev noted that the level of pollution of the Chirchik River was high due to the Chirchik Chemical Plant built in Chirchik. He said that the wastewater from the Chirchik Chemical Plant was dumped into the Chirchik River uncontrolled, and that the use of the river's water by the environment has led to an increase in diseases among the population and in nature.

A.Usmanov and D.Mahmudova [4] have conducted a number of researches on the ecological situation in Chirchik and the damage caused by industrial enterprises to its environment. In their research, they have covered issues related to public health, water and soil protection. For example, According to A.Usmanov and D. Mahmudova, the Chirchik Chemical Plant, Maxam-Chirchik and Almalyk Mining and Metallurgical Enterprises in Chirchik polluted the water of the Chirchik River as a result of wastewater discharges.

During the Second World War, several industrial enterprises were built in Chirchik. In the 1940s, 12 industrial enterprises were established in Chirchik, and by 1950, the number of industrial enterprises had exceeded 20. Industrial enterprises



are located in the chemical, oil refining, mining, cotton ginning and coal industries.

Launched in 1940, the Chirchik Electrochemical Plant was the first industrial enterprise in Uzbekistan. The chemical plant produces nitrogen fertilizers, urea, carbon dioxide, dry ice, toxic chemical fertilizers, which are used in agriculture of the republic [5]. The Chirchik chemical industry, built in Chirchik, was launched in 1940, but by 1945 it was of poor quality and had low production volumes. Because the chemical industry was not equipped with new machinery, workers were working on the basis of manual labor with many chemical means, there was a shortage of specialists. However, by 1947, changes had taken place in production processes. The deployment of specialists from the center and the provision of workers with technical machines had a significant impact on the work process. As a result, the volume of production at the Chirchik chemical plant will increase by 60 compared to 1945 [6]. In addition, gas-generator systems were installed at the Chirchik Chemical Plant in 1950. The increase in the company's capacity has again led to an increase in production. In 1957, the construction of activation shops for the chemical plant began and the production of hydrogen sulfide was launched. In order to provide energy efficient, artificial water reservoirs Donetsk and Kuzbass were built in Chirchik. Chirchik's chemical industry was strengthened to such an extent that it was included in the list of the strongest and leading chemical plants of the Union.

The rapid start-up of the Chirchik chemical plant, the start of production processes with incomplete production, led to a number of errors and shortcomings, which in turn led to the production of poor quality products. The technical equipment of the chemical plant, which was launched before the production system was ready, was not up to standard. In 1949, an inspection of industrial enterprises in the Tashkent region showed that 23 out of 42 industrial enterprises were inadequate [7]. Out of 45 facilities of industrial enterprises, 12 facilities did not have wastewater treatment equipment at all. The reason for the rapid deterioration of existing wastewater treatment equipment from chemical alkalis was that it was not repaired in a timely manner. Pollution of groundwater in the city of Chirchik has affected the drinking water of the population. The consequences were seen in the fact that in 1949 the incidence of dysentery in the population increased by 11.8 per cent compared with 1948.

By 1950, only 3 out of 45 industrial enterprises were fully operational in wastewater treatment plants [8]. Surrounding districts has been suffering from toxic wastewater of Chirchik chemical plant. As early as 1950, there were changes in the

composition of water in canals and ditches in Kuybeshiv, Leninsky and Frunze districts. In the canals and ditches flowing from the villages of Chirchik, Varashilov, Tyulpansky, Kara-Suv, Kuznetskaya and Sallarsky, it was noted that there is an excessive amount of chemicals, unusable at all, and, most tragically, the content of chemical elements in drinking water has increased [9]. Excessive pollution of Chouli and Salar canals in Tashkent region by industrial wastes has contaminated drinking water. In 1950, an outbreak of acute intestinal diseases was observed among the population around the Chouli and Salar canals, and an increase in gastrointestinal, acute intestinal diseases was found in 60-65% of the population [10]. The environmental damage caused by the Chirchik chemical plant has increased over the years since its launch. The center did not pay attention to the technical support of chemical enterprises. The pursuit of income has caused economic, social and environmental problems in the areas where many chemical enterprises are located in Uzbekistan. The saddest part was when the morbidity rate among the population increased. The dynamics of the disease among the population of Tashkent region and Tashkent city was as follows [11].

Table 1.
The dynamics of the disease among the population of Tashkent region and Tashkent city

Regions	Years	Typhoid fever (acute intestinal)	Dysentery
Tashkent	1947 й	837	2615
	1948 й	733	7376
	1949 й	590	8239
	1950 й	580	8030

In 1949, 40% of the population, especially in the villages of Leninsky, Kuybeshiv and Oktyabrsky, were hospitalized with gastrointestinal poisoning. By 1950, compared with 1949, typhoid fever among the population had increased by 65 percent, and dysentery by 11.3 percent. Among the patients, the number of children aged 6-8 years was 12.2 percent.

The construction of many chemical enterprises in Chirchik has given the city the name of the town of chemists in Uzbekistan. In 1957, a number of industrial enterprises producing Chirchik Electrochemical Industry, Chirchik Hydro Nitrogen, Chirchik Hydrochemical Industry, Glass and Construction Products were established in Chirchik [13]. The Chirchik hydrolysis industrial enterprise has launched the production of technical alcohol used for washing metal products. After washing the metal,



the wastewater was treated as waste by technical treatment equipment and removed from the plant. Industrial wastewater is sent to the landfill through sewers. Industrial enterprises have been developed over the years, and new ones have been built. By 1960, Chirchik had more than 20 industrial enterprises engaged in agricultural development. These industrial enterprises did not meet the technical and sanitary requirements. Dust filters, air conditioners, and ventilation systems did not work, and the old ones did not work. Chirchik chemical and construction industry enterprises have repeatedly appealed to the center. In accordance with the Resolution of the Council of Ministers of the Uzbekistan SSR No. 840 of October 1960, work was carried out to improve the material and technical condition of heavy industrial enterprises in Tashkent on "Measures for the modernization of obsolete technical equipment of industrial enterprises." According to the resolution, the replacement of obsolete, obsolete technical equipment was launched. Execution of the decision is limited to the allocation of new technical equipment only to the Stalin Nova-Kramatorsky Machine-Building Industry Enterprise in Tashkent. Other heavy industry enterprises were not taken into account or the funds allocated were not enough to provide other enterprises with equipment. The decision was implemented with the support of a single industrial enterprise [14].

By 1969, the environmental damage caused by the Chirchik Chemical Industry Plant was increasing

due to the fact that the repair work at the industrial enterprise had not yet been completed and it was not provided with technical equipment [15]. The Chirchik Electrochemical Plant was in need of maintenance, lack of equipment for technical treatment of wastewater and chemical dust filters, and the existing ones were not working at all. The number of tooth decay, premature tooth loss, lung diseases and pancreatic diseases among the population of Chirchik city in 1969 increased by 3-10 times during the year compared to 1968 [16]. All industrial enterprises in the city of Chirchik dumped wastewater into the Chirchik River, Kara Kulduk canals. As a result of the inspection of Chirchik water, it was found that due to the large number of types of chemical elements in the river water, the wastewater of various industrial enterprises is discharged uncontrolled wastewater. In 1980, the commissioners of public control of the Uzbek SSR inspected the technical equipment of industrial enterprises operating in Chirchik during the inspection "Implementation of nature protection measures" and found that 22 water treatment plants and technical equipment were not working at the Chirchik chemical plant [17]. Although chemical wastewater has been discharged to the outskirts of the city through sewers, the combination of open-air wastewater with groundwater has had a negative impact on nature and surrounding wildlife.

Table 2.**The structure of production growth of enterprises of the oil and chemical industry in Uzbekistan**

No.	Industrial enterprises	Volume of manufactured products		
		1950 year	1960 year	1970 year
1	Chemical industry	97,3	97,4	94,9
2	Mining chemistry	8.7	5.7	1.9
3	Basic chemical means	64.5	56.4	70.9
4	Petrochemical	2.5	2.7	5.1

The table shows that the chemical industry in Uzbekistan has sharply increased the volume of production from year to year. The chemical industry has also been dispersing toxic waste during production. As the chemical dust rose into the air layer, the wastewater began to accumulate in the soil and nearby ditches using faulty technical equipment. Contamination of industrial wastewater in the city of Chirchik with the composition of open collector water was observed. The collected part of the collector water is dumped into the Chirchik river, canals. As a result, the waters of the Chirchik River did not meet sanitary and hygienic standards. In addition, the Chirchik River was dumped into the river by the Chinoz Construction Industrial

Enterprise, the Chirchik Chemical Plant, the Chirchik Maxam (formerly Elektroximprom), the Gazalkent Industrial Enterprise, the Oil Refinery, and the Charvak Resort. In 1983, during the inspection of the Chirchik River, it was noted that the level of pollution with petroleum products was high [19]. The Chirchik River flows into the Syrdarya. It is obvious that the discharge of polluted water from the Chirchik River into the Syrdarya River by industrial enterprises has begun to affect the flowing areas of the river. In particular, the current Chirchik Maxam (formerly Elektroximprom) industrial enterprise is the main source of acute pollution of the ecology of Chirchik. Built in Chirchik, this industrial enterprise is a chemical industry enterprise adapted for the



production of mineral fertilizers in agriculture. Chemical wastewater and dust emitted by the industrial enterprise have been polluting the atmosphere. In 1984, the Chirchik Electrochemical Plant was found to have a lack of technical equipment and technical failures. As a result, untreated wastewater treatment has also affected the surrounding drinking water. High levels of ammonia, nitrate, urea and ammonia were found in the waters of the Chirchik River [20]. In addition, it was noted that the water content of the Chirchik River exceeds the norm by oil products and heavy metals. All this indicates that the wastewater is well treated in industrial plant treatment filters and the wastewater treatment equipment is obsolete. In 1989, artificial dumps appeared along the Chirchik River. The accumulated rubbish piles consisted of chemical and construction materials: concrete, cement, brick products. There have been cases of dumping of wastes of industrial enterprises along the Chirchik River into the river. The chemical wastes in the Chirchik River have negatively affected the wildlife in the riverbed and the surrounding flora. SN Kuchkarov, a traumatologist at the Tashkent City Hospital for Infectious Diseases, reported an increase in oncological diseases in 1989 among the population of Tashkent city and region [21]. The reason for the increase in this disease is the increase in the element ammonia, one of the chemicals in the human body, as well as the excessive circulation of chemicals in the air and water. The main reason for the increase in chemical toxins in water, air and soil is the fact that the chemical, asphalt, cement, construction products built in Tashkent for many years are manufactured by industrial enterprises without maintenance. As a result, the amount of chemicals in the drinking water of the population of Chirchik increased by 4-6 times [22]. By the end of the 1980s, the content of drinking water in the population had also increased. These processes have led to the emergence of dangerous cancers in the population. In the 1980s, malignant tumors and cancers accounted for 70% of the population of the Republic of Uzbekistan.

The presence of Almalyk mining wastewater in the Chirchik River also indicated that there was a technical problem at the industrial enterprise. A mixture of metal waste, sernoic acid, and rock waste from the Almalyk Mining and Metallurgical Plant has been polluting the Chirchik River.

Another chemical industry enterprise, a machine-building plant, has also been operating in Chirchik. The plant was equipped with technical parts for agricultural machinery, and produced spare parts for the manufacture of machinery for chemical works.

In Chirchik, by 1989, the air purification and water treatment filters in the shops of the chemical

industry were obsolete. The untreated passage of chemical wastewater from the treatment plant has contaminated the surrounding water. Although the wastewater contains ammonium acid, nitrate and heavy metal alkalis, it has been dumped into the Kara Kulduk canal [23], which flows through the center of Chirchik. As a result, wastewater has led to the contamination of groundwater and surface water. As a result of the combination of groundwater with the population's drinking water, the population's drinking water was contaminated.

By the end of the 1980s, Uzbekistan began to study the composition of atmospheric air, harmful chemicals in water and soil, and waste products of construction products on a monthly basis in the field of nature protection. According to Uzbek newspapers *Uzhydromet* and *Goskompriroda*, monthly observations are organized in all regions and cities of the country. Reports on the damage caused by heavy industrial enterprises to nature and the population have been organized. Despite the criticism of many industrial enterprises in Uzbekistan that cause damage to nature and the environment, the condition of many chemical enterprises has not been studied and has been operating without technical cleaning equipment. There have also been cases of some heavy industrial enterprises demanding closure. But these appeals were made only on paper. Measures to prevent damage to nature have not been implemented in practice. In particular, the concentration of ammonia in the air of Chirchik increased from 2.2 to 3.8 times, formaldehyde from 0.3 to 0.7 times, phenol from 0.7 to 1.3 times, carbon monoxide from 0.3 to 0.7 times, carbon dioxide from 2.2 to 2.4 times [24]. It had doubled. In 1990, the amount of toxic chemical dust in the air of Chirchik increased, and the amount of nitrite nitrogen in the water of the Kalgan-Chirchik and Salar canals was found to be 11 times higher than the PDK [25]. No measures were taken to prevent these indicators. As a result, the environmental situation in Chirchik has worsened.

According to the data, in the late 1980s, the Chirchik chemical industry, the cement industry and the chemical industry in Tashkent were among the industrial enterprises that caused the most pollution of the Syrdarya River [26].

In short, the deterioration of the environmental situation in the city of Chirchik was caused by the fact that the chemical industry enterprises are operating without maintenance, in a state of disrepair. Uncontrolled dumping of chemically toxic water from the Chirchik chemical plant into nearby canals and ditches has led to water poisoning. Changes in the health of the population were not in the focus of the center. The development of the chemical industry was one of the first. The nature and water resources of Chirchik were not used wisely. On the contrary, in



addition to artificial reservoirs, Chirchik hydroelectric power stations were built. From its natural resources, coal deposits and oil reserves also served to support the chemical industry. The improvement of living conditions of the population, the technical repair of the industrial enterprise were covered by insignificant funds. Natural resources have suffered from water, atmospheric air, and soil chemical wastes.

TRANSLITERATION

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