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Development of Science in Uzbekistan during the Second World War: The Contribution of Scientific News to Victory

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ABSTRACT

This article provides information about the changes in science in Uzbekistan during the war years, scientific innovations made by scientists of the Academy of Sciences of the USSR, researchers and professors of higher education institutions. In particular, efforts were made to cover innovations in agriculture, industry, including heavy industry, chemistry, geology, pharmaceuticals, meteorology and others. There was also information about the work done with the evacuated scientists.

KEYWORDS: *Science, scientific innovation, Academy of Sciences, chemistry, pharmaceuticals, geology, HPP, Higher education institutions, medicines, research institutes*

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The war exacerbated the problem of the interdependence of science and industry, and demanded a clear and rational coordination of efforts in the relevant branches of science. Special commissions have played an important role in coordinating the efforts of scientists to carry out defense tasks. They comprehensively and expeditiously solved complex and diverse problems facing the scientific community, involved specialists from various departments, and the plans drawn up by scientists were mobilized for scientific and technical assistance to the military economy and the front.

"In those turbulent years, when the fate and future of mankind were being decided, Uzbekistan became a solid supply base for the front. During the terrible years of the war, our country has shown its high humanistic qualities. He sheltered thousands of people of different nationalities brought to Uzbekistan, showed compassion and humanity, and shared his last bread with them. "Tashkent has once again proved in practice that it is a city of bread and Uzbekistan is a country of kindness."

During the war, science was to help develop social relations, create new jobs, and solve problems in various spheres of life.

In order to meet the needs of the front in a short period of time, it was necessary to turn the country's scientific research into a military one. One of the most difficult and large-scale tasks is to transfer research to the military, and the Academy of Sciences of the USSR and its branches, in particular, the Academy of Sciences of the Uzbek SSR, played an important role in solving it.

At the beginning of the war, the Central Asian republics had three branches and one base of the USSR Academy of Sciences, which were the headquarters of science throughout the country. In total, there are more than 130 research institutions in the region, which employ more than 4,000 researchers. In Uzbekistan, Tajikistan and Kyrgyzstan alone, 3,331 researchers worked. Of these, 1322 were doctors of sciences, candidates, professors and associate professors.

Reconstruction of research on the basis of militaryization also played an important role in the Uzbek SSR. 2512 scientists working in the Uzbek branch of the USSR Academy of Sciences and higher educational institutions of the republic, including 400 local scientists, 16 academicians, 5 of them Uzbek, 20 corresponding members of the USSR Academy of Sciences, including 3 Uzbeks, 510 professors, 627 associate professors, 395 assistants, 485 teachers, 176 senior researchers and 283 junior researchers.

From the very beginning of the war, the thematic plans of scientific research were revised in order to provide the highest level of scientific and practical assistance in the formation of scientific institutions and their budgets in Uzbekistan, as well as to meet the needs of the country's defense. The Academy of Sciences of Uzbekistan and research institutes of the republic have played an important role in this. On July 1, 1941, a joint meeting of the Presidium of the Uzbek branch of the USSR Academy of Sciences and the party organization was held. The meeting discussed the issue of "scientific and practical assistance to the front." The meeting agreed to significantly increase spending in order to solve defense problems faster, to reduce budget expenditures that are not related to the country's defense. All this allowed to save 750 thousand soums and spend them on solving defense problems

In the early days of the war, scientists of the Research Institute of the Academy of Sciences of the Uzbek SSR developed "Cutting procedure and norms of manual control of the process", "Gate molded sand deposit", "Methods of cultivation and drying of sugar beet", "Coke extraction from local coals"","" Norms of design and construction of structures during the war "," Search for solid materials for fuel oil reservoirs "and other issues. Approved by the People's Commissariat of the USSR Glavneft.

In the autumn of 1941, 1 Academy of Sciences of the Allied Republic, 31 universities and 7 military academies were relocated to Uzbekistan from the western regions of the country, 17 of which were located in Tashkent.

Academy of Sciences of the Byelorussian SSR, Moscow State Planning Institute, Odessa Institute of Water Transport, K.A. Moscow Agricultural Academy named after Timiryazev, USSR Academy of Sciences, Institute of Oriental Studies, History, World Literature, Economics and Law, Soil Science, Central Research Institute of Malaria and Medical Parasitology, Leningrad Polytechnic Institute, Kiev Industrial Institute, Kharkiv Railway 1 Institute of Transport Engineers, Moscow Institute of Architecture and Textile, Leningrad Conservatory and others. Scientists from the relocated institutes, together with Uzbek scientists, have done a great deal to study and develop the use of local raw materials and subsoil resources.

In particular, the Faculty of Chemistry of the Central Asian State University has done a lot. In a very short time, a chemical laboratory was set up to produce special chemicals for 100 people to work in two shifts. He produced IK boxes for the Red Army. University management mobilized students into special productions with reduced working hours by grouping them together. As production managers, university staff G.V. Lazurevskiy, Z.M. Manulkin, and as laboratory director, V.I. Dulov was appointed. Employees of the Faculty of Chemistry became the initiators and organizers of the pharmaceutical industry. During the war, the laboratories of the Faculty of Chemistry produced about 50 drugs (caffeine, streptocide, sulfazole, comfort camphor bromide, etc.) and special reagents.

Prof. I.P. Under the leadership of Sukervanik, as a result of active research by S. L. Gusinskaya, the production of diesel fuel was launched at the oil refinery. For this work, I.P. Sukevanik was awarded a cash prize of 2,500 rubles. In addition, the Department of Organic Chemistry (Central Asian State University), headed by IP Sukervanik, played a major role. The team of scientists of the department developed a method for the formation of nicotinic acid from anabasine sulfate.

At the university meeting on December 28, 1943, the assistance of chemists was discussed, mainly by the Department of Analytical Chemistry (Head of the Department I.T. Talipov) for "Podyomnik", "Elektrostanok" and other plants. It was noted that the production of steel, cast iron, various alloys and various materials was of great importance. In 1943 alone, more than 1,000 analyzes and experiments were conducted.

Geologists of the Central Asian State University headed by Professor AS Uklonsky, BN Nasledov, VI Popov are active in the search for new types of raw materials for Tashselmas, Rostselmash and a number of similar plants, local materials, especially molded sand and the creation of ferrous metallurgy base in Uzbekistan. participated. For the evacuated carborundum plant in Tashkent, the Department of Mineralogy made proposals on the raw material base for carborundum production. Some employees of the university were hired on a special assignment from the People's Commissariat of Defense. By order of the head of the authorized state defense committee, the head of the department of petrography and lithology, prof. VI Popov was invited to study and

search for special strategic raw materials for the North Karatag geological expedition. Despite the war, geological theories were successfully developed at the Department of Petrography and Lithology, making the university one of the largest scientific and geological centers in the country.

The scientific work of the Department of Higher Plants of the Central Asian State University was of great importance for providing the front and the national economy with the necessary things. Scientists of the department studied the problems of Central Asian vegetation, as well as the development of pasture and plant resources.

Caffeine extraction from tea powder of Samarkand tea packaging factory has been developed. Based on this, caffeine was extracted from tea waste during the war. A method of separation of anabasine lupine mixture was developed, which was used to obtain sodium lupinate (a substance that has analgesic properties). This was one of the greatest achievements made for the front.

Scientists of the Academy of Sciences of the Uzbek SSR have completed a large-scale research work on the "Scientific basis of the electrification of the Uzbek SSR." On the recommendation of scientists and scientists, no wood was used in the construction of Farhod HPP, as the board was replaced with broken stone concrete. Along with blasting, the method of soaking the soil was also widely used. At the same time, the productivity of miners has increased by 10-15 times. The soil at the Lower Bozsuv HPP was removed by blasting. This saved 16,000 manpower.

A doctoral program has been established at the Central Asian State University and the Academy of Agriculture to train scientific personnel on the basis of local and evacuated scientific institutions. Samarkand Medical Institute named after KA Timiryazev, Moscow Zootechnical Institute resumed the training of graduate students. It should be noted that special attention was paid to the training of local staff. For example, the Tashkent State Pedagogical Institute had 36 graduate students, 20 of whom were Uzbeks. As of November 1, 1944, 117 graduate students were studying at the Central Asian State University, the largest scientific center of the republic, including 65 Uzbeks. The scientific advisers of the postgraduate students were mainly local scientists and well-known scientists and specialists from Moscow and Leningrad: Corresponding members of the USSR Academy of Sciences NK Piksanov, SB Bakhrushin, EZ Vertelye, VF Shishmaryov, literary critic Y. Chukovsky, Professors MO Eichengolts, DD Blagov, N.A. and others. During the war, along with scientists from Moscow and Leningrad, there were also members of the Kiev FA. Well-known scientists such as academicians of the Academy of Sciences of the Uzbek SSR, doctors of physical and mathematical sciences, professors TN Qori-Niyazov and TA Sarimsakov, doctors of geological sciences, professors HM Abdullayev and AS Uklonsky continued their scientific work as academicians of the Academy of Sciences of the Uzbek SSR. .

Representatives of the scientific community evacuated during the war made a significant contribution to the scientific and practical activities of the Central Asian State University. The evacuated scientists and leading scientists of the university carried out major research work. Through the organization of expeditions in the desert pastures, new territories were developed, pest research was successful, physics and geophysics, synoptic and dynamic meteorology (since November 1, 1943, Prof. V.A. Giorgio was appointed head of the newly established department of synoptic-meteorology).), many achievements in the field of history, philology, archeology.

At the same time, the Academy of Sciences of the USSR, scientists of higher educational institutions, researchers of research institutions have achieved such great success. Firstly, research has helped to solve problems in the national economy, agriculture, industry, society, education, and secondly, it has helped to raise science to a new level of development.

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