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TRAINING OF NATIONAL SCIENTIFIC AND TECHNICAL PERSONNEL FOR INDUSTRIAL RESEARCH INSTITUTES IN THE UZBEK REPUBLIC

by

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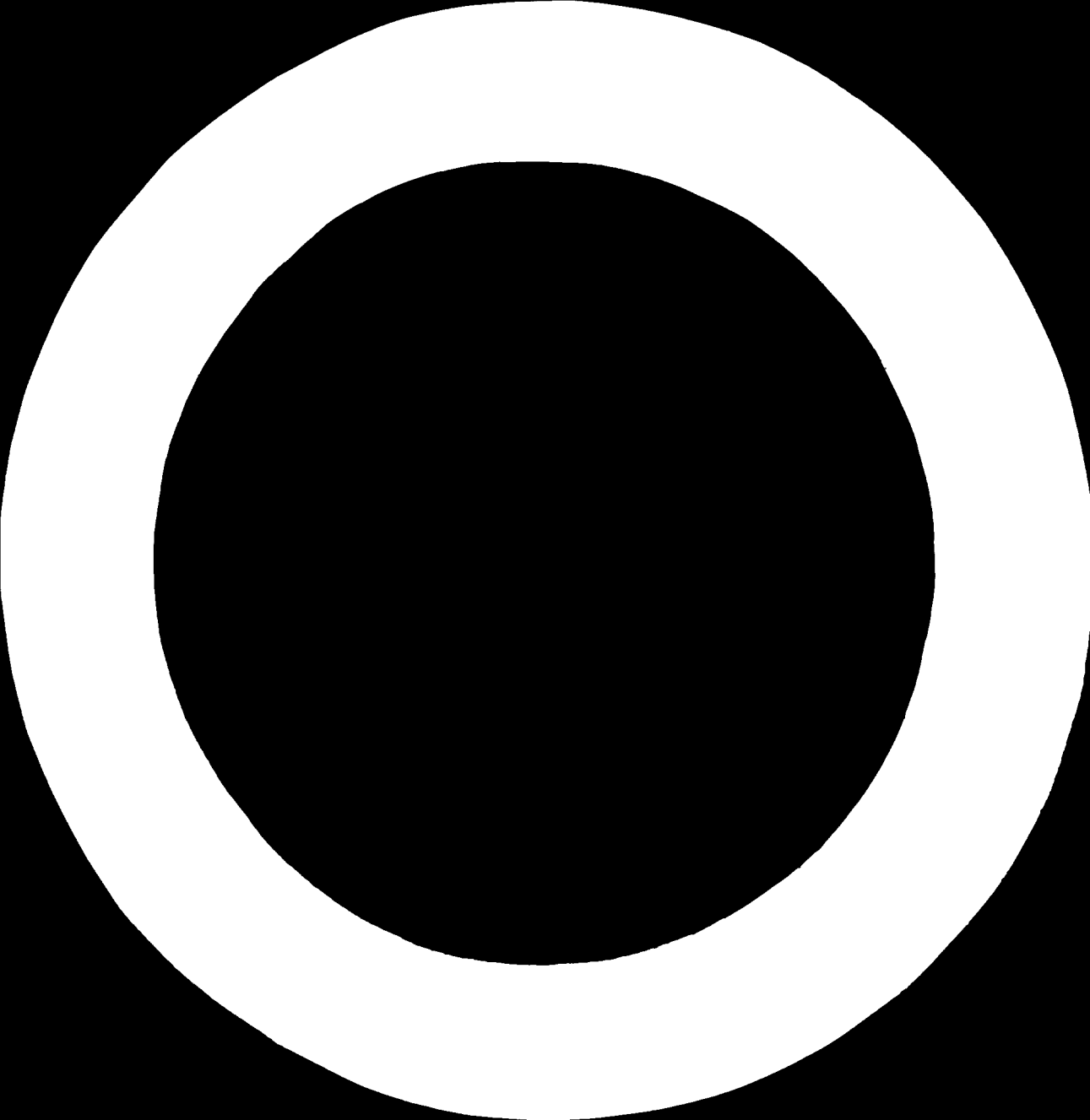

DEVELOPMENT OF NATIONAL SCIENTIFIC AND TECHNICAL PERSONNEL FOR INDUSTRIAL RESEARCH INSTITUTES IN THE UZBEK REPUBLIC

After the victory of the Great October Socialist Revolution the country was faced with many problems, prominent among which was the acute shortage of personnel for the newly established state machinery and the public sector of the national economy.

The solution of this problem in Central Asia encountered specific difficulties. First and foremost, not all the civil servants of the former tsarist administration could be invited to work with the Soviet state institutions. Secondly, the territory did not have any national cadres and it was vitally important to train these as quickly as possible. For this purpose higher and secondary special educational establishments were organized and specialists were also trained at all kinds of short term courses.

This paper is intended to describe the training of national personnel at the higher educational establishments of of Uzbekistan and to outline in brief the development of the system of higher education in our republic.

Before the 1917 Revolution there was not a single higher educational establishment throughout the whole of Central Asia. Despite the fact that the peoples of the region have a very ancient culture they were almost totally illiterate at the time of the Revolution. The average literacy rate for the whole of Russia was 24 % while in Turkestan (as Central Asia was then known) it did not exceed 2 % and was

even lower in the rural areas. According to official statistics only 195 Uzbeks out of every 10,000 could read and write at the turn of the century.

Pre-revolutionary Uzbekistan had only 600 specialists (mainly Europeans) with a higher education and another 800 with a secondary education. There were no Uzbek engineers or technicians and national cadres were not allowed employment in state institutions.

There were no cut and dry recommendations for the liquidation of illiteracy, development of a system of public education (from elementary to higher) and the training of national cadres. The crucial problem was how to develop national specialists in a region where illiteracy was rampant ?

Guided by Lenin's plan for socialist upbuilding, the Soviet State launched an allout campaign against illiteracy with the aim of eliminating it in 10-15 years and got down to establishing a state system of education for the younger generation through the rapid development of a network of elementary and secondary schools. Only this way led to the training of national specialists with a secondary and higher education for all branches of the national economy.

The progress made by public education in our country testifies to the fact that the path taken was the only correct one. Higher education in Uzbekistan was started by the Central Asian State University which was organized under a Decree of the Council of People's Commissars of the Russian Federation signed by V. Lenin in 1920. Now it is known as the Tashkent State University and has been named after Lenin.

The organization and development of the University in Tashkent was facilitated by the assistance rendered by higher

educational establishments in Moscow and Leningrad who sent their professors, equipment and literature to Tashkent.

Most of the higher educational establishments in Uzbekistan today were formerly faculties or departments of the first University which later developed into independent educational centres. Among these are the Tashkent Polytechnic, the Tashkent Institute of Irrigation and Mechanization of Agriculture, the Tashkent Institute of the National Economy, the Tashkent Medical Institute, the Tashkent Institute of the Light and Textile Industries.

The rapid development of Uzbekistan's economy and particularly its industry called for an increased output of specialists and better training, particularly for industry and transport and also for research centres.

It may be said that the establishment and development of higher and secondary special education in Uzbekistan went hand in hand with the development of industry, transport, communications, agriculture and culture. An important prerequisite for the development of agriculture in Central Asia immediately after the 1917 Revolution was the solution of the problem of water -- it was vitally important to restore irrigated farming and build new irrigation systems. In view of the extreme importance of training engineers for irrigation construction the engineering faculty at the University was reorganized into the faculty of land improvement engineering.

The development of existing branches of industry and the creation of new ones -- first and foremost of the heavy industry : agricultural farm machine building, mineral fertilizer production, building materials production and the fuel

and power industries, called for so many engineers that the existing faculties could not cope with the demand.

At the end of the twenties and the beginning of the thirties there appeared in Tashkent several independent institutes -- the Polytechnic, the Textile Institute, the Institute of Railway Engineering, the Institute of Irrigation and Mechanization of Agriculture. This period also saw the beginning of a national technical intelligentsia and the training of engineers from among people of local nationalities.

The period from 1934 to 1941 was marked by the further development of higher engineering education in Uzbekistan -- the number of faculties and chairs was increased, the professor and student body grew considerably, the facilities of the educational centres improved greatly. There was a substantial increase in the number of specialists trained and in their quality which corresponded to the growth in the productive forces of not only Uzbekistan but the entire Central Asian economic region.

By 1939 the Uzbek Republic had 200,000 specialists employed in the national economy and of these 19,000 had a higher education. As against 1926 the number of engineers had grown 8.3 times, the number of agronomists -- 10.7 times and the number of veterinary doctors -- 12.2 times.

During World War Two a big number of industrial enterprises and higher educational establishments were evacuated to Uzbekistan from the central regions of the European part of the country. Among these were the Polytechnics of Leningrad and Kiev, the Moscow Architectural Institute, the Novocherkask Industrial Institute, the Leningrad Electrical Mechanics Institute and the Kharkov Institute of Railway Transportation

which merged with the existing institutes in Tashkent. The Tashkent Textile Institute, for one, became a centre for the professor and student body of the Leningrad, Moscow, Kharkov, Kiev and Odessa textile institutes.

Besides performing their immediate duties, that is training specialists, these institutes took an active part in installing and putting into operation equipment which also arrived in Uzbekistan from the evacuated areas. Research conducted by the specialists promoted the development of new branches of industry in Uzbekistan. This was vivid illustration of the fraternal friendship between the peoples of the Soviet Union.

The post-war period saw the further development of higher education in the republic. The institutes received new premises and equipment which made it possible to put out more engineers for the national economy and to develop research. New hostels were built for the students and the staff of the institutes were provided with better housing.

The Uzbek Republic has achieved great progress in developing national cadres particularly during the last few years. The number of engineers in Uzbekistan has risen from 5,300 in 1941 to 32,000 in 1966, the number of agronomists, zootechnicians and veterinary doctors from 1,500 to 10,900 and the number of school teachers has gone up from 8,900 to 90,100. There has also been a considerable increase in the number of specialists with a secondary education (from 6,100 in 1941 to 60,200 in 1966).

In spite of this substantial boost in the training of specialists of a higher and secondary level, the rapid development of the national economy and the creation of new

branches of industry called for more specialists. During the last five years several new institutes were opened in Uzbekistan to train specialists for the branches which required them most. A Polytechnic was opened in Ferghana, an Institute of Architecture and Civil Engineering and a teacher's training institute were opened in Samarkand. Teacher's training institutes were also opened in Termez, Angren and Sirdarya. New faculties and chairs were organized at the Tashkent Polytechnic and other institutes.

Andijan, for instance, has the only Cotton Growing institute in the country. It trains engineers, agronomists and economists for the cotton growing collective and state farms of Central Asia and Kazakhstan. There is also a Teacher's Training Institute of Languages in the city.

The Uzbek Republic has 39 institutions of higher learning (including two universities) with a total enrolment of 231,796 students and 165 vocational colleges with an attendance of 155,743 students. Besides the 2 universities there are 7 engineering institutes, 3 agricultural institutes, 4 medical institutes, 2 institutes of economics, 16 teacher's training institutes, an institute of physical culture, a political institute, an institute of law and 2 arts institutes. The higher educational establishments of the republic train specialists in 175 professions including such new specialities as industrial and physical electronics, computer mathematics and engineering, economic cybernetics, automation and remote controls, semi-conductor materials.

Of the total of 231,796 students (as of October 1, 1969) in the republic, over 70 % are young men and women of local nationalities. It would be appropriate to recall that in

1927 students of the local nationalities amounted to hardly 20 % of the total student body while in 1939 the ratio was already 36 %.

During the period from 1959 to 1969 the higher educational establishments of Uzbekistan put out over 140,000 engineers,agronomists,doctors,teachers,architects,art workers, cultural and enlightening specialists.

The following is a brief description of the tertiary educational establishments which train specialists for industry,transport,communications and research.

The opening of a University in Tashkent -- the first higher educational establishment in Turkestan,was an event of supreme importance for the development of the productive forces in the region and realizing a cultural revolution in Central Asia and Kazakhstan.In fact it had great impact on socialist upbuilding in the area.

Tashkent State University was opened at a time when the young Soviet Republic was going through a difficult period of the civil war,economic ruin and the establishment of the Sovoet power. In spite of the adverse conditions the Soviet Government and Vladimir Lenin personally devoted much time and effort to the organization of the University .Prominent scientists and a big amount of laboratory equipment were sent to Tashkent.

Thanks to the constant solicitude of the Communist Part and Soviet Government Tashkent State University has developed into a leading educational and research centre.It has 12 faculties and over 90 chairs and trains students in 24 specialities (physics,mathematics,chemistry,biology,geography,

history,biology,journalistics,oriental languages -- Arabic, Hindi,Persian,Pashto , as well as English,French and German).

The University has over 15,000 students of many nationalities of the USSR (6,000 attending the day-time department,while the rest study at night or by correspondence). There are also foreign students at the University and a special preparatory faculty has been opened for them to help master the Russian language.

During the half a century of its existence the University has put out some 25,000 specialists who have been offered employment in various branches of the national economy in Uzbekistan and other parts of the country. Many of the research workers at the Uzbek Academy of Sciences are alumni of Tashkent State University. Many of its former graduates hold responsible posts in state and public establishments.

During the last 8 years alone the University has put out over 5,000 young specialists of whom 50 % are of local stock (this includes 1,800 women).

There are over 1,000 members of the teaching staff at the University and this includes over 70 professors and doctors of science,25 members and associate members of the Uzbek Academy of Sciences and also 20 Merited Workers of Science and Engineering. It is very indicative that almost 60 % of the teaching staff are graduates of the University.

The growing number of chairs at the university and various scientific establishments there has brought about considereble increase in the number of laboratory assistants whose number now reaches 500 - most of whom are graduates of the University.

The University attaches great importance to the training

of researchers and not only for its own needs but for other institutes of the republic. Post graduate courses at the University were started in the thirties and at present the University has over 200 research students. The University also offers refresher courses for readers in social sciences and has a faculty of advanced learning for teachers of mathematics, physics, chemistry and biology from other higher educational establishments in Central Asia and Kazakhstan.

The teaching staff of the University constantly improves its professional standards and during the last decade over 45 staff members won D.Sc. degrees and another 220 — Ph.D. degrees.

The researchers of the University have always been in the first ranks in studying pressing problems arising from the development of the productive forces of the republic, the study of its natural wealth and its utilization for the needs of communist upbuilding. The University has developed a number of important scientific trends and schools which have won wide recognition in the country and abroad. This concerns the theory of probability and mathematical statistics, the theory of digits, electronics, aviation meteorology, organic chemistry and chemistry of vegetable substances, mineralogy and geochemistry, sedimentary formations and ores, hydrology and hydrogeology, ecology, phyto-haelminthology and a number of other important aspects of social, legal and philological sciences.

The last decade has seen a considerable development of scientific and other contacts between Tashkent State University and other educational and research centres abroad.

The University is a member of the World Universities Association and maintains close scientific and cultural contacts with universities in Pyongyang (The Korean People's Democratic Republic), Rangoon (Burma), Laknow and Delhi (India), Indiana (U.S.A.), Rabbat (Morocco), Katmandu (Nepal), Tunis (Tunisia) and Karachi (Pakistan). A number of professors from Tashkent State University have been lecturing in India, the United Arab Republic, Afghanistan, China, the Democratic Republic of Vietnam and other countries. A number of leading scientists from the University -- Professors T.Zakhidov, A.Sadikov, T.Sarimsakov, S.Sirajdinov, A.Tulyaganov and others have been in the United States, France, Britain, India, Nepal, Cuba with the aim of establishing scientific contacts and delivering lectures.

Every year the University sends 10-15 students and research students for language studies in the countries of the East.

Scientists from Afghanistan, India, the German Democratic Republic, Iraq, the United Arab Republic and other countries have been invited tolecture at Tashkent State University.

The Central Library of the University has a depository with some 1,5 million books and it maintains regular exchange with 230 establishments abroad receiving from them between 2,500 and 3,000 scientific publications every year. During the last few years the University library has become a research and methods guidance centre for the libraries of other higher educational establishments in the republic. It also has a consultation centre to render practical assistance to teachers and research workers.

A teacher's training institute was opened in Samarkand in 1927 with the purpose of training specialists for vocational colleges, normal schools and workers' faculties. In 1930 the institute was reorganized into the Uzbek State Pedagogical Academy. In 1933 the Academy was used as the basis for the organization of the Uzbek State University which has been named after Alisher Navoi, the great Uzbek thinker and founder of Uzbek literature.

The University in Samarkand was set the task of training highly-qualified specialists for research centres, secondary and higher educational establishments and schools mainly from among the local nationalities. The first group of graduates left the University in 1933. These were 109 doctors, historians, economists, chemists, physicists, mathematicians and biologists of 15 different nationalities.

Today Samarkand University is one of the largest higher educational establishments in Uzbekistan with 10 faculties and trains students in 12 specialities. It has an enrolment of over 13,000 students and during the years of its existence has put out over 16,000 specialists who are employed in various parts of Uzbekistan, Tajikistan and other republics.

The University conducts extensive research activities and trains researchers and lecturers. The post-graduate course at the University has 150 research students including over 50 women.

The teaching staff at the University is almost 600 strong and includes 12 professors and 170 assistant professors.

There are 7 higher educational establishments training scientific and technical personnel for industry and research

centres -- the Tashkent Polytechnic, the Tashkent Light Industry and Textile Institute (formerly the Textile Institute), the Tashkent Institute of Railway Engineering, the Samarkand Institute of Architecture and Civil Engineering, the Tashkent Institute of Communications and the Tashkent Institute of Irrigation and Mechanization of Agriculture , the latter sending part of its graduates to worm in industry. The Tashkent Institute of the National Economy also puts out economists for work in industry. The industrial enterprises and engineering research establishments also take up specialists from the physics, mathematics and chemistry faculties of Tashkent and Samarkand Universities.

During the years from 1964 to 1969 the four leading engineering institutes of Uzbekistan (Tashkent Polytechnic, Tashkent Light Industry and Textile Institute, Tashkent Institute of Railway Engineering and Tashkent Institute of Communications) put out 13,255 engineers 65 % of whom were of local stock. They all found employment at the industrial enterprises, construction sites, research and designing centres of Uzbekistan and other republics.

The Tashkent Polytechnic is one of the biggest higher educational establishments in the Soviet Union. Its 25 departments (full-time, night and extra-mural education) have an enrolment of over 33,000 students . Since its opening the Polytechnic has trained 18,000 engineers for various branches of the national economy in a total of 60 specialities. The Polytechnic has 109 chairs with a staff of 2,087 which includes 25 professors and 395 assistant professors.

Most of the engineering personnel in the industry of Uzbekistan and its research centres are alumni of the Tash-

kent Polytechnic. Graduates of the Institute have also made careers as leaders of trade and science and also prominent public figures.

The Tashkent Polytechnic helps to develop research workers from among specialists employed in industry and construction. During the six years from 1964 to 1969 the institute awarded degrees to 120 engineers (including 50 men and women of local nationality). With the purpose of further promoting research work by specialists engaged in industry or construction the Tashkent Polytechnic has opened many consultation centres directly at the enterprises. The specialists are able to attend lectures by leading professors, to seek scientific advice and guidance, to work on their theses and win degrees. These consultation centres now exist at a number of mining and metallurgical enterprises, chemical works, engineering plants and designing bureaus in Uzbekistan.

In 1968 the Tashkent Polytechnic opened a special faculty of advanced learning for engineers of 15 specialities in industry and construction. Last year alone over 700 engineers took a course at this faculty to improve their professional standards.

The Institute does research work for industrial enterprises on a contract basis in which members of the staff, students and research students take part. This helps to develop better specialists and at present the Institute has 86 contracts with industry and construction for various items of research.

The Tashkent Light Industry and Textile Institute is another major educational centre in Uzbekistan. It trains

engineers in 14 specialities for the light and textile industries and the research and designing institutes of these branches.The Institute is the only educational establishment in the Soviet Union which trains specialists in the primary processing of cotton.

From 1964 to 1969 the Institute has put out 3,237 young specialists from its day,night and extra-mural departments. It has an enrolment of 7,083 and 60 % of these are of local stock. The teaching staff of 412 has 5 professors and 102 assistant professors.It maintains close contacts with various textile,silk and machine-building enterprises and also several research and designing establishments (the Uzbek Silk Industry Research Institute,the USSR Fibre Research Institute,the Uzbek Academy of Sciences,etc.). These contacts boil down to conducting joint research,rendering assistance in dealing with major problems in industry,helping to raise the professional standards of the engineering personnel, organizing conferences on various aspects of technical progress,lecturing on various problems of science and engineering.

During the last few years the Institute has been conducting extensive research on contract bases for the branch ministries and industrial enterprises.In 1968,for instance, these contracts for research reached a sum of 190,000 roubles. The Institute co-operated with the Ministry of Cotton Growing Industry of Uzbekistan in organizing two branch laboratories — one on the mechanics and reliability of cotton gins and the other on the economics and scientific organization of labour in the cotton ginning industry. A branch labora-

tory of technology of silk has been set by the Institute jointly with the Ministry for the Light Industry.A laboratory on textile material studies has been set up jointly with the Institute of Mechanics of the Uzbek Academy of Sciences.

A consultation centre has been set up at the Institute in Tashkent to help engineers in research and in winning degrees.The staff of the Special Designing Bureau for Cotton Ginning Machinery is also affiliated to the Institute for the same purpose. From 1961 to 1969 the learned council of the institute awarded degrees to 30 specialists working in industry, designing and research centres.Of these 13 were of local nationality.

The Tashkent Institute of Railway Engineering and the Tashkent Institute of Communications develop engineering personnel not only for the Uzbek Republic but also for the other republics of Central Asia.

The Tashkent Institute of Railway Engineering was founded in 1931 and has 6 faculties, several consultation centres and branch departments of the extra-mural section in Ashkhabad, Alma-Ata, Dushanbe, Aktyubinsk and Chimkent.It is one of the large institutes in the country and has an enrolment of some 10,000 students of 32 nationalities.

The teaching staff of 556 includes 5 professors and 249 assistant professors. The Institute has well-furnished lecture halls, laboratories, up-to-date equipment and various study aids which enable the students to imitate real-to-life situations and do practical work in railway engineering.

The research workers of the Institute jointly with railway engineers study important problems and this co-opera-

tion helps to raise the professional standard of both the engineering workers and the members of teaching and research staff.

In 1960 the Institute opened engineering courses of advanced learning (2-3 months of full-time studies or 1 year of part-time studies). The Institute also has a post-graduate course which trains research workers for the institute itself and also for work in transport and research establishments.

The acute shortage of communications engineers in Central Asia and Kazakhstan necessitated the opening of a Communications Institute in Tashkent in 1935. Since then this higher educational establishment has put out some 2,000 qualified engineers in various fields of communications and they have been offered employment in many parts of the USSR. The day-time department of the Institute has an enrolment of over 2,000 students over half of whom are of local stock. There are students from Kazakhstan, Tajikistan, Kirghizia, Turkmenia and other republics.

The Institute has a staff of 250 teachers and instructors including one professor and 30 assistant professors. It trains engineers in telephone and telegraph communications, radio communications and broadcasting, automatic and multi-channel communications and television. The building of the Institute has well furnished lecture halls, 45 laboratories and study rooms and the equipment used as study aids is worth over 1.5 million roubles.

The Tashkent Institute of Irrigation and Mechanization of Agriculture, one of the oldest educational establishments in Uzbekistan, holds a special place in training engineers. This institute develops engineering personnel for the water

economy, and agriculture of Central Asia and Kazakhstan. Besides it trains engineers for work at farm-machinery plants and research establishments. The Institute has already put out almost 11,000 engineers including 5,000 of local nationality, who specialise in hydro-engineering, land utilization, electrical engineering, farm mechanics and mechanization of land improvement work.

In 1936 the Institute opened a post-graduate course which now has over a hundred research students. During the last 25 years 12 staff members of the Institute won D.Sc. degrees and another 100 won Ph.D. degrees.

The research and teaching staff of the Institute work in close contact with specialists in industry and research establishments and their activities are discussed at joint scientific-production conferences.

The Institute also trains specialists for foreign countries. During the last 5 years it provided training to 60 students from Cuba, Mongolia, the Democratic Republic of Vietnam, Ghana, Afghanistan, Somali, Southern Rhodesia, Kenya and other countries.

Graduates of the Institute find employment not only on the collective and state farms, at the industrial enterprises and research centres of Uzbekistan but also in the other republics of Soviet Central Asia.

Sending young people of local nationalities to study at the higher educational establishments in Moscow, Leningrad, Kiev, Kharkov and other big cities of the Soviet Union was another method of developing national scientific and technical personnel. Every year 200 and more young men and women go from Uzbekistan to the higher educational establishments in

other parts of the country to acquire professions for which there are no training facilities locally. There is also an exchange of students between the Uzbek,Kirghiz,Tajik and Turkmen republics.

The higher educational establishments and research centres in Moscow,Leningrad,Kiev,Kharkov,Riga and other cities render great assistance to Uzbekistan in training teaching and research personnel in engineering,geologic-mineralogical,chemical-technological sciences.In 1960 alone 45 post graduate students (including 37 of local stock) were sent to these cities for research training .

The higher educational establishments of Uzbekistan also train a big number of specialists for the developing countries of Asia,Africa and Latin America. During the last 20 years they have put out over 700 civil engineers,engineers in mechanics,power,land improvement,agronomists,physicists, chemists,mathematicians and doctors from 42 countries of the world. Besides 25 foreigners finished post graduate courses at our institutes and 17 of them won degrees.

Among those who graduated higher educational establishments in Uzbekistan were students from Afghanistan,the United Arab Republic,Iraq,India,Indonesia,Nepal,the Yemen Arab Republic,Algeria,Japan,Ghana,Ceylon,Congo (Brazaville),Cuba, China,Mongolia,the Democratic Republic of Vietnam.Right now there are some 300 students from 2 countries at the institutes and universities of the Uzbek Republic.

As has been mentioned earlier there was not a single higher educational educational establishment in pre-revolutionary Uzbekistan and hence there were no national teachers

with a higher education. The creation and development of a new Soviet educational system demanded the training of a whole army of teachers for both the secondary and higher educational establishments. Lenin said at that time that the task of the moment was to develop teaching personnel which would be closely connected with the Party and its ideas and which would attract the working masses, instill in them the spirit of communism and get them interested in what the communists are doing. This task was achieved through the creation of a network of secondary and higher teacher's training centres. At present the Uzbek Republic has 16 teacher's training institutes including two foreign languages institutes and one institute of physical culture which trains instructors of physical culture for schools.

The teacher's training institutes have a total enrolment of over 60,000 students (62,000 students of local stock). During the last four years these institutes have put out over 39,000 teachers who now work at various educational centres. The institutes train teachers for work at schools in other parts of Central Asia and Kazakhstan.

The development of higher education in Uzbekistan encountered numerous difficulties. There was an acute shortage of teachers, particularly of teachers of local nationalities. The first groups of graduates from Tashkent State University and the Uzbek Academy of Pedagogics were sent to work as teachers. The institutes of Moscow and Leningrad also sent their teachers to work in Uzbekistan and took up young Uzbek teachers for practical training and research studies.

The development of teaching personnel for the republic

[illegible] organized and made it possible to provide all the teacher's training institutes with staff within a short period of time. Right now there are some 4,000 staff members at the teacher's training institutes of the Uzbek Republic and this includes 28 doctors of science and some 700 people with Ph.D. degrees.

During the last 6 yearsthe number of teachers at the higher educational establishments of the republic has grown by 4,600 and there has been a considerable improvement in their professional standards. As of November 1st,1963 the Ministry for Higher and Special Secondary Education employed a total of 5,042 teachers whereas on January 1st,1970 there were already 9,562. There has also been a considerable increase in the number of teachers with degrees.As of November 1st,1963 the higher educational establishments of Uzbekistan had 184 professors and 1,665 assistant professors. On January 1st,1970 the number of professors reached 262 and the number of assistant professors went up to 3,370 .

The Tashkent Polytechnic for one increased its teaching staff two times,while the Tashkent and Samarkand Universities, the Tashkent Institute of the National Economy,the Textile and Light Industry Institute almost doubled their teaching staff.

The teaching and research staff at the higher educational establishments of the republic were increased mainly by an influx of young graduates from the local institutes and research courses. During the last 6 years alone 940 graduates of research courses and some 3,000 graduates of higher educational establishments were invited to take up employment at the higher educational establishments of the republic.

Extensive work is conducted in raising the professional

standards of the teaching personnel at the higher educational establishments. A special Institute of Advanced Learning was organized in 1967 for instructors in social sciences at the Tashkent State University. A special faculty has been opened for readers in mathematics, physics, chemistry, biology at Tashkent State University. Besides, up to 100 teachers of higher educational establishments are sent for advanced learning at the other educational centres of the country, including Moscow State University, the Moscow Higher Engineering School, the Kazan and Tbilisi Universities and other centres.

During the last 2 years over 500 teaching staff members of higher educational establishments improved their professional standards at these courses and faculties. Some 400 people were sent to study during the 1968-1969 academic year and another 300 went for advanced learning this year.

The educational facilities of the institutes and the equipment of their laboratories determine to a considerable extent the number of specialists trained and their standards. Hence the Government of the Uzbek Republic attaches great importance to improving the material and technical basis of the higher educational establishments. During the last 5 years alone the Ministry for Higher and Secondary Special Education allocated 30 million roubles for capital construction of study premises, laboratories and hostels for the students. An educational complex is now going up on the outskirts of Tashkent and it will house Tashkent State University and the Tashkent Polytechnic. There will also be the housing and hostels for the professor and student body.

The project is making good progress and the chemical, physical, mathematical faculties of the University have already moved in and so have the department of engineering-physics of Tashkent

Polytechnic, the research students' house and 29 hostels for 10,000 students.

The Tashkent Institute of Communications has also moved into new premises. New buildings are also going up for the Tashkent Institute of the National Economy and the Tashkent Textile Institute, the Ferghana Polytechnic, the Samarkand Institute of Architecture and Civil Engineering and the Tashkent Institute of Irrigation and Mechanization of Agriculture.

The further development of the national economy of Uzbekistan calls for a further increase in the number of specialists trained in the republic and a further improvement in their professional standards.

In the near future several new institutes are to be opened in Tashkent -- the Institute of Civil Engineering, the Automobile Engineering Institute and also many new departments and chairs which will enable to increase considerably student enrolment.

The main task facing higher education in the Uzbek Republic is to provide more highly-trained specialists with a higher education to meet the growing requirements of economy, culture and science and to cope with the innovations in engineering, organization and magament of industry.

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