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**TRAINING OF THE RESEARCH AND ENGINEERING STAFF IN  
CHECHENO-INGUSHETIA IN THE 1960-1980s**

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*Abstract*

The increased interest in various aspects of regional history, the role of the intellectual elite for the purpose of development of the Chechen society and experience of training of the research and engineering staff in the Chechen Republic in the 1960-1980s. The present article is the first research on that period. It describes adaptation of the traditional worldview of the Chechen and Ingush people to the post-industrial era. The relevance of the study is due to the need for reviving the reputation of engineering professions in the Chechen Republic. The historiographical analysis identified main research areas for training of the research and engineering staff in Checheno-Ingushetia in the 1960s – 1980s and issues which were ignored by researchers. By the mid-1980s, formation of the research and engineering staff based on representatives of the titular nations had failed. The research and engineering policy aiming to strengthen interaction of science and production, social, natural and engineering sciences; to expand R&D automation; to increase effectiveness of the research potential of universities; to improve the system of scientific and technical information and patent and licensing work; to improve the organizational structure of research institutions; to develop mass creativity of inventors and rationalizers; to enhance the role and responsibility of the USSR Academy of Sciences. Disregard of staff selection and rotation was a major miscalculation made by party organizations.

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**Keywords:** Research and engineering staff, petroleum industry, petroleum institute, interaction of science and production, reputation of engineering professions, training process optimization.



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## 1. Introduction

The role of the intellectual elite for development of the Chechen society requires studies on research and engineering staff training in the 1960-1980s. The information technology society imposes higher requirements on engineering professions and profession status. The present article is the first research on that period. It describes adaptation of the traditional worldview of the Chechen and Ingush people to the post-industrial era. The relevance of the study is due to the need for reviving the reputation of engineering professions in the Chechen Republic. The integrated approach allowed the authors to determine the level of training of the research and engineering staff in Checheno-Ingushetia in the 1960-1980s. ( Table 01).

**Table 01.** Grozny research institutions training experts for the oil and gas industry, 1967

№	Name of research institutions	Total number of workers	Including researchers
1	Grozny petroleum research institute	880	236
2	North Caucasian Petroleum research institute	586	190
3	Grozny branch of the Research and Design Institute of integrated automation in the petroleum and chemical industries	236	77
4	Grozny branch of the Research Institute of Polymeric Materials	176	59
5	Grozny branch of the All-Union Research and Design Institute of Complex Automation of the Oil and Gas Industry	414	95

## 2. Problem Statement

The information technology society imposes higher requirements on engineering professions and its status. It is necessary to revive the reputation of engineering professions in the Chechen Republic in the context of globalization of the post-industrial society.

## 3. Research Questions

The present article aims to study the engineering staff training in the republic in the 1960-1980s. Modern engineering education is changing. New training forms (industrial partnership and practical training courses) are being implemented. The role of the intellectual elite for development of the Chechen society requires studies on research and engineering staff training in the 1960-1980s. The present article is the first research on that period. It describes adaptation of the traditional worldview of the Chechen and Ingush people to the post-industrial era. For the research purpose, materials of the Russian State Archive of Social and Political History, Archive Administration of the Government of the Chechen Republic, government and party decrees, regulatory and department materials were used. They provide data on the public research and engineering staff training policy. The analysis of party and government decisions shows that the government focused on the research and engineering staff training. Periodicals, research publications and internet resources were used for the research purpose.

#### **4. Purpose of the Study**

The article aims to analyze the research and engineering staff training in Checheno-Ingushetia in the 1960-1980s.

#### **5. Research Methods**

A set of general scientific methods and approaches were used. The system method made it possible to study the level of training of the research and engineering staff in Checheno-Ingushetia in the 1960-1980ss as a complex process. Statistical data were processed using mathematical grouping which allowed for specific conclusions. The principle of historicism is based on the objectivity of historical processes and their variations. Interdisciplinary relations with other humanitarian disciplines – law, economics, geography, demography – contributed to the comprehensive analysis of the subject matter. The historiographical analysis of literature identified main areas of research on engineering staff training in Checheno-Ingushetia in the 1960-1980ss and identified a number of problems which were ignored by other researchers.

#### **6. Findings**

In 1957, Chechens were at the bottom of the country according to the proportion of people with higher and secondary special education. The vocational-engineering school was the most problematic in the education system of the Chechen-Ingush ASSR. As of December 1, 1957, there were 1.200 Chechen and Ingush workers with higher and special secondary education, including 500 workers with higher education. As of December 1, 1961, there were 3.776 Chechen and Ingush students in the republic, including 733 mountain women (Ibragimov & Nuridova, 2008). Territorial distribution of industries also had an impact on the number of Chechen and Ingush workers. For example, availability of textile and food industries in various districts of the Chechen-Ingush ASSR, including new factories and plants which recruited local people, determined a higher proportion of indigenous peoples in these industries: by 1975, the proportion had been about 50%. In most significant and technologically advanced industries which were located in Grozny industrial region, the share of titular nations was smaller: 14 % – in electric power industry, 16 % – in the oil industry, 13 % – in the gas industry, 11 % – in the chemical and petrochemical industry, 17 % – in the machine-building and metal-working industries, only 5 % – in the oil refining industry. To a large extent, this situation was determined by the fact that in the period under review the issue of creating an effective system of primary and secondary vocational education was unsolved in the USSR (Zoev, 1984).

New industrial enterprises on the basis of modern technology, an increasing level of production mechanization and automation increased demand for highly qualified engineers and researchers. This trend was supported by both federal and republican authorities. The main "research and engineering staff training center" in the Chechen-Ingush ASSR was Grozny Petroleum Institute which is the oldest university of the republic. At the beginning of 1957, 3.512 students studied in five departments of Grozny Petroleum Institute, 166 people were part-time students and 701 students studied by correspondence (Cultural construction, 1985). In 1957, 84 Chechen and Ingush students were enrolled at the University (Kadyrova, 1986).

The department of Civil Engineering, which was founded in 1957, trained engineers and researchers both for republican and federal needs. Many graduates became ministers, headed departments and construction companies, became prominent scientists. Since the beginning of the 1960s, Chechen and Ingush people have been teachers and students of Grozny Petroleum Institute. In the 1960s, the first mountain women graduated from Grozny Petroleum Institute (Karimov, 2005).

Engineering training involved a combination of training and practical methods taking into account the profile of the university, types of students, national and local characteristics. Given that Chechen and Ingush applicants had poor general knowledge, the University paid special attention to general education disciplines. It helped prepare students for studying special disciplines. According to the decree of the Central Committee of the Communist Party and the Council of Ministers of March 3 1966 "On measures to improve staff training and higher and secondary special education management", the Ministry of Higher and Secondary Special Education of the USSR assisted by the ministries and departments developed and approved the regulations on industrial work placement of university students. The enterprises were assigned to universities as bases for industrial work placement (Executive order, 1966).

Industrial work placement management was one of the crucial tasks of universities. A significant number of future engineers were trained at technical colleges where factories were industrial, scientific and technical bases. Some laboratory and practical classes and lectures took place at North Caucasian enterprises, including Grozny Oil Refinery n.a. V.I. Lenin, Grozny RI, Grozneft, Grozny oil geophysics, Grozny oil organic synthesis, RPU Promavtomatika, SevKavNIPIneft, Plant "Krasny Molot" (Taymaskhanov, 2016).

The system of engineering training covered all educational levels, including secondary schools and advanced training of engineers and technical workers. In 1958, rules for enrollment at universities and post-graduate schools became harder. "Two-year work experience provided enrollment benefits. However, it decreased an academic level. Correspondence and part-time (evening) forms of higher education as well as target training of specialists (1959) (students returned to factories after graduation) (Higher education in the USSR, 1961) were very popular. In 1971, a preparatory department of the Petroleum Institute was founded. There were full-time, part-time, and correspondence forms of training. Students who graduated from the preparatory department were enrolled at the university based on their final examination results (Jafarov, 2005).

New specialties appeared at Grozny Petroleum Institute. (Elbuzdukaeva, 2012). They aimed to train engineers to fit the times. Laboratories of some departments (heat engineering and hydraulics, oil field geology, physics, inorganic and organic chemistry, etc.) were equipped with modern equipment. They met requirements of curricula and training programs. In the 1959/1960 academic year, two new specialties were introduced in the curricula. They are automation and tele-mechanics. 256 students were trained in these areas. Gas engineering was introduced in the curricula.

The faculty members carried out various researches. For example, Professor P. P. Zabarinsky founded a luminescent, and later a geochemical laboratory where researchers processed core materials from geological surveys using modern technology. Students dealt with radiometric and gel surveys. Since the mid-1960s, the university departments have been sending their staff to train the research and teaching staff of other countries. University graduates worked in all oil and gas regions of the country, participated in

exploration and development of oil and gas fields, developed the oil and gas industry in India, Burma, Afghanistan and other Middle Eastern countries.

The Act "On Strengthening the relations between the school and life and further development of the Public Education System" adopted by the Supreme Council of the USSR in 1958 was of great importance for training the research and engineering staff. The most promising areas were, among others, identifying ways for the best use of natural sources (Law, 1986). The Act of July 9, 1962 contributed to development of university science, training of scientific and teaching staff, improvement of the teaching process and development of science.

The Oil Institute organized advanced training courses for young specialists in oil industry automation and tele-mechanics. Since 1968, the Department of Advanced Training for managers of the USSR Ministry of Oil Industry was founded. More than 7.000 engineers were trained in 12 majors. The Student Research Society of Grozny Petroleum Institute helped potential post-graduate students. Two dissertation councils helped train young researchers. A great deal of work was carried out by students of the Student Research Society which numbered about 300 members in the 1959/1960 academic year. A lot of students concluded economic contracts.

The heyday of Grozny State Oil Institute accounted for the 1950–1970s when the country reoriented the fuel industry to the oil and gas one. Given the growing needs of the USSR economy for highly qualified oil industry specialists, P. Zaborinsky, B. Lotiev, G. Sukharev, S. Itenberg, A. Dorogchinsky and other prominent scientists, who are well known both in Russia and abroad, formed research schools at the State Oil and Gas Research Institute. By 1970, the institute had prepared 12 780 engineers who worked in the USSR and abroad.

In 1978, there were 390 faculty members, including 15 doctors of science, professors and 160 candidates of science, associate professors, 8 university departments and 34 chairs. There were 5850 students, including 3537 full-time ones, mastering engineering specialties in 14 engineering areas (Slesarenok, 1995). By the mid-1980s, university facilities and teaching staff had made it possible to train specialists in almost all oil and gas industry areas.

The decree "On development of Soviet science and acceleration of scientific and technological progress in the USSR" was approved by the 26<sup>th</sup> Congress of the Communist Party (February-March 1981) identified key areas of the public scientific and technical policy aiming to declare resource saving: deep refining of mineral resources and use of secondary resources. Researchers of three largest Grozny research institutes were graduates of the Petroleum Institute. These institutes are as follows: Grozny Research Institute I. V. Kosior; North Caucasian Research Institute of Petroleum which became independent in 1965; The design department of Grozneft transformed into Grozny Petroleum Institute designing oil refineries and petrochemical factories in the USSR and abroad (Grozny Institute celebrates 50-year anniversary, 1979). As of January 1, 1967, in the republic, there were five research institutes where specialists in various engineering areas worked.

Grozny Oil Research Institute (GrozRI) was one of the largest institutions in the country. GrozRI dealt with oil extraction and refining, petrochemical processes, methods for producing high-quality fuel, designed new plants, etc. (History of Chechnya, 2008).

From 1959 to 1965, 166 researches were completed. The total volume of funds was 8 million 866 thousand rubles. During that period, using projects developed by Grozny Research Institute 15 technological installations were put into operation, 26 installations were under construction, Kremenchug Oil Refinery, Grozny paraffin-oil production plant were constructed (Kodzoev, 1984). Research teams of the North Caucasian Research Petroleum Institute, Grozny Institute for Petroleum Plant Design, Grozny Special Engineering Design Department for Industrial Petroleum, SPKB Petroleum and Gas Automation contributed to researches and industry development. Almost all Grozny refineries were designed by Grozny Institute for Refinery Design. In the 1960s, Grozny branch of the Research and Design Institute "Petroleum Industry Automation" became a national leader in automation of production of catalysts and absorbents for the oil refining, petrochemical and chemical industries. Grozny researchers and experts assisted by the staff of the Institute of Automation and Remote Control of the USSR Academy of Sciences developed a frequency-phase system for tele-controlling oil production facilities. Over the years of the seven-year plan, more than 140 thousand inventions, of which 100 thousand inventions were implemented, were developed. It helped save more than 44 million rubles.

Grozny researchers found optimal solutions for oil selection. They developed a fountain mode of oil reserve production. Thus, researches of Grozny scientists ensured efficient development of oil deposits. The Grozneft company increased oil production from 2.08 million tons in 1955 to 21.63 million tons in 1971. By the mid-1980s, 18 upper cretaceous and 8 lower cretaceous deposits were under development providing the main oil production source in Grozny oil-producing region. Research cost in the first half of the 1980s increased from 11.7 billion rubles in 1970 to 22.3 in 1980 and 28.6 billion in 1985..

## **7. Conclusion**

Thus, the research and engineering policy aimed to strengthen the relationship between science and production, interaction of social, natural and technical sciences; to expand R&D automation; to increase effectiveness of the research potential of universities; to improve the system of scientific and technical information and patent and licensing work; to improve the organizational structure of scientific institutions; to develop mass creativity of inventors and rationalizers; to enhance the role and responsibility of the USSR Academy of Sciences. The regional aspect of science and technology policy can be considered within production tasks depending on interests of development of leading sectors of the regional economy. However, even by the mid-1980s, it had not been possible to train the research and engineering staff meeting requirements of the scientific and technical progress. Disregard of staff selection and rotation was a major miscalculation made by party organizations. Communist Party members were promoted to key positions in the oil-producing, oil-refining, and machine-building sectors of the economy of the republic in accordance with the principle of "partisanship in the HR policy". Mostly Russians worked in all the research institutes and Grozny Oil Institute. Among 1.300 teachers and employees of the Petroleum Institute, there were only 81 Chechen and Ingush workers. Therefore, during the crisis of the 1990s, the outflow of research workers from the Petroleum Institute was larger than from other universities.

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