The chapter focuses on the economic development in the USSR, examining the strategies and policies that shaped the economic landscape. It highlights the role of natural resources, particularly the oil and gas reserves in the North, and discusses the economic development projects initiated by the Soviet Union. The text also delves into the impact of these developments on the local communities and the broader economic context of the period.

Managing Natural Resources at the North:

-Changing Styles of Industrialization in the USSR

Ali Bolotova, Dmitry Vorobyev
interest groups on the spot. After the revolution and, especially, with the coming to power of Stalin there was a change of the “pluralist” model of expansion of the territory in favor of a more centralized one. Within the Soviet State, the activity of various groups in the regions was subject to the centralized planned system that was dictated from above. The management and decision-making took place in the center, while the interests of local processes played a minor role.

The Soviet authorities started to pay close attention to the North very early: Lenin supported first research activities and projects beginning from 1918. The orientation toward the forced model of industrialization was taken by Bolshevik authorities after 1925. Priority was given to development of the heavy industries and machinery, and the tempo of construction works was very high. The Soviet Union urgently needed to search for domestic minerals in order to supply raw materials for industries. There was a strong wish to get rid of dependency on export of minerals from capitalist countries. The interest to the North was based on scientific assumptions about mineral richness of the Russian North. At that time, this was only a hypothetical guess, due to the lack of scientific knowledge about the area. Another goal was to get quickly money (currency) for buying equipment abroad — mainly machines for developing heavy industries.

The major source of currency was the export of gold, which was intensively exploited at this time. There were also strategic goals to establish political control on the Arctic Sea space.

**Romanticizing the conquest of nature**

This change in the character of the expansion to the North described above was possible with the support of corresponding ideological concepts. The Soviet variant of the ideology of subjugating nature started to develop in the USSR in the early 1920s. Slogans on the conquest and subjection of nature were among the most important ideological frames in the Soviet State. One of the bases for this ideology was the presupposition about the omnipotence of man, about his capacity to reform wild, passive nature as he pleased. The idea of human dominance over nature, and the call for human beings to subdue, modify and reconstruct a chaotic and meaningless nature in order to regulate natural processes supplemented the overarching goal of a total reconstruction of the social order. This relation is linked with the sweeping wave that romanticized industrialization and technologies and was characteristic of the literature and press at the time.

Overall, this romanticization of the battle against nature is characteristic of large industrialized countries, such as the USSR and the USA. The way of perceiving and colonizing open spaces can be described as “colonization of nature” — with some caveats — as opposed to “civilizing nature” that has been practiced in Europe for many centuries, i.e. the gradual spread of populated areas, organization of territories, perceiving nature as “my household” (I shall take care of it), as opposed to seeing it as “a wild, alien area” (I shall seize it).

Changing the natural environment in response to the collective needs of the Soviet Union was closely connected with the formulation of “the new (Soviet) man.” “Man, while changing nature,
The party said there is a need for the development of carbon sciences in order to improve the work of academic institutions. The need for the development of carbon sciences has been identified as a necessary step for the improvement of carbon sciences for the future of the world. There is a need for the development of carbon sciences in order to improve the work of academic institutions.

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institutions with military purposes and industrial development. Strict state control over academic science was established in the end of the 1920s. This was made by means of the radical reorganization of educational and research institutes, as well as of the repression of the scholars of the “old school”.

The first post-revolutionary expeditions were sent out in 1918. They had a complex of tasks with as a main goal to complete the detailed description and evaluation of the prospects of a region for the economy. For this reason, the expeditions consisted of specialists in many types of resources (minerals, water, bio-resources, animals). At the same time, they conducted many different investigations, e.g. geographical, geological, botanical, hydrographical and others. Mapping and mineral prospecting were among the most vital tasks of these fieldworks. Here is the list of the main areas where different expeditionary groups were sent to between 1918-1928: the Kol’skii peninsula, the Noril’skii territory, Karelia, Pechorskii krai and the Ukhtinskii and Aldanskii territories (Belov 1959).

In the late 1920s-1930s, expeditions sent to the North became more specialized. The investigations were orientated towards the search of minerals that were of vital strategic importance, e.g. gold, tin, nickel, copper and iron. Concrete results were expected – opening up of rich mining sites. Year by year the number of expeditions grew. Thus, for example, from 1927-29 to 1928-29 their number rose from 628 to 938 (Otchet ... 1931). Funding for these surveys also grew. On the whole, from 1923 to 1927 the budget for geological surveys rose twelve-fold, from 900,000 to 10,5 billion roubles (Otchet ... 1931).

There were also some attempts to improve the water regulation system made by scientists. Suggestions to replace the permanent water-reserves from the Pechora at the expense of rivers of north-western USSR were developed. In the end of the 1930s, the project of Kama-Vychege-Pechera water complex (KVPC) was formulated. Within the framework of the complex use of the Volga-Kama-basin that was taking place in the beginning of the 1930s, an idea was born to direct northern rivers – Pechora, Vychege, North-Dvina and Onega – into new transport connections. Thus, the project KVPC foresaw the redirecting of the currents from northern rivers into the southern regions of European Russia, first as an attempt to develop water-transport (improving shipping industry) and to distribute the harnessed hydroelectric energy in order to boost the Urals industries, but then later in connection with trying to fight the water deficit. Later, these works were stopped.

First large industrial complexes to the North

Only few large industrial complexes were built in the North on the richest deposits of valuable strategic minerals before WW II. At this stage, industrial development of Soviet northern and north-eastern territories was primarily orientated towards the construction of transportation networks and on quick digging of the most valuable minerals (as gold, for example), but not so much towards the construction of industrial enterprises. The reason for this was the very poor transport communication in all northern regions of the USSR.

In general, the distribution of industrial production in pre-war USSR was quite lop-sided: there were several highly industrialized regions in the country’s European part where almost all industries were concentrated (Kantor 1991, pp.88-89). The primary function of the northern and eastern regions in the soviet economy was to provide raw materials for industries situated in less hard climatic conditions. The State supported quick resource extraction at lowest costs. Priority was given to the development of mining, in some areas – on wood processing, as other
natural resources were used more for local needs. Economic activity in the USSR was completely subordinated to the task of increasing the power of the Bolshevik regime (Popov 1982, pp. 4-10). These projects were situated in the European part of the country, where there were some examples of planning complexes and industrial territories. A special decree of Sovnarkom USSR, "About the main working force for the expansion of the northern industrial areas", was enacted on July 11, 1929. This document gives GCPU using prisoners' labor the right to broaden the network of camps on the Kola peninsula (Murmansk region) and in other remote regions. "For the colonization of the regions, the exploitation of their natural riches, by using labor of prisoners", the first experiment with dry construction and industrial production site (Savin, 1982, 15).
Connections in the north-western part of the country and to connect the Baltic Sea with the White Sea. This experience of using forced labor was considered as very successful, and the GULAG system started to grow very quickly (Dzhioev 2005: 177-196). The northern and east-eastern territories of the USSR became the main space for its activity. The majority of the northern settlements founded before 1953 started their development from GULAG camps (cities were built later on places of prisoners camps).

**War Time Development: Strategic Minerals**

During the war period, the northern and eastern regions played a very important role, providing minerals of machinery and other industries. The war started to work intensively in regions in 1942, after the process was over. Generally they move of industries was directed eastwards than northwards. The reason for that was the underdevelopment of the transportation network, the climate and the long distances between regions. Therefore, the military transportation was developed in the northern and north-western regions during the war period. The war demanded materials and ore for machinery industries re-modelling the European part of the USSR, Central Asia, and the East. Still a few plants have been built from the northern b
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Starting a new city in Khibiny mountains on Kola peninsula. Tent settlements called 'spetspereeselency' (special settlers) on the place of future Khibinogorsk. Thousands of peasants were moved by force by the state from southern regions to develop northern mineral deposits in the 1930s. Source: Archives of Museum of local history of the city of Kirovsk (Historiko-kraevedcheskiy musey goroda Kirovsk).

Les débuts d'une nouvelle ville dans les monts Khibiny, dans la Péninsule de Kola. Des campements de tentes appelés 'spetspereeselency' (cotons spéciaux) à l'emplacement de la future Khibinogorsk. Des milliers de paysans furent déplacés de force par l'Etat depuis les régions méridionales afin d'exploiter les gisements de minerais septentrionaux dans les années 1930.

Amnesty was declared and many prisoners were released (and later rehabilitated). The majority of the mining complexes founded during the previous period met with serious economic problems; when the possibility of using the labour of prisoners disappeared, many enterprises became unprofitable, due to the low degree of mechanisation. By this time, the economic losses caused by the Second World War were mostly overcome. The main strategies for coping with the economic crisis in the mining industry were the following: intensifying the geological surveys and using new methods of searching minerals, increasing the level of mechanisation, and searching for a solution of the problem of populating the northern and eastern regions of the country.

The main shift in labour politics of the State was a diversion from using forced labour to persuading young people to move into the regions. In the 1960s, the whole country has fallen into a state of permanent migration: people travelled to "colonise the North" and to the country's "great constructions". One of the most important propaganda tools that stimulated the colonisation of the distant areas was the ideology of subduing nature, which gained its strongest force in the 1960s. In order to legitimate the right of radical transformations, nature was discursively made senseless, passive and wild. The State ideology, an integral part of which were the ideas of a battle against nature, nurtured a widely spread technocratic philosophy in the USSR (Josephson 2002).

Changes in the political regime from a totalitarian to an authoritarian one happened synchronically with a technological shift. Technologies significantly replaced hard manual labour, the level of mechanisation of work was increased.

Generally, at this stage the industrialisation of the Soviet North was intensified in spite of the reduction of the GULAG system, new sources of working force were found - enthusiastic educated young people replaced prisoners, new technological and economic possibilities enabled to strengthen the development in the area. New industrial centres started growing on the places of former GULAG camps. Still, in relation to the politics of natural resource management this period is already not so uniform as the previous one. A very characteristic tendency of this stage are the uprising conflicts between different ministries. Moreover, in the end of the 1950s the State system of nature protection was getting stronger: the first environmental laws were enacted, the system of natural reserves was developing (Weiner 1999).

Changes in decision-making in the USSR.

The shift in the major working force in the North that followed the change of the political regime came along with a transformation of the decision-making style with respect to natural resources use. A relative weakening of the repressive regime and command system in the country allowed the participation of different actors in the decision-making. Earlier decisions were made mainly at the centre and local interests of the peripheral regions were strictly subdued to the current State priorities. Starting from mid-1950s discussions on complex questions concerning the use of natural resources became possible among the powerful elite, local authorities and economic ministries.
Let us consider several cases of conflict.

The first case is the question of how to implement a new market economy in transition economies. The second case is the question of how to manage resources for the development of new markets and economies. The third case is the question of how to manage resources for the development of new markets and economies. These cases illustrate the importance of understanding the relationship between different groups and the implications of these relationships for their own goals and social interests. The question of how to implement a new market economy in transition economies is a complex one, requiring a deep understanding of the economic and social dynamics involved. The question of how to manage resources for the development of new markets and economies is also complex, requiring a deep understanding of the economic and social dynamics involved. The question of how to manage resources for the development of new markets and economies is a complex one, requiring a deep understanding of the economic and social dynamics involved.

In the early 1990s, the world experienced a transformation of the economic system, leading to the emergence of new market economies. This transformation was accompanied by a change in the way economic resources are allocated. In particular, the shift from a centrally planned economy to a market economy has led to a redefinition of the role of the state in the economy. The state has been reduced in size and influence, and a new role for the state in the economy has been established. This role is to provide public goods and services, to regulate the economy, and to ensure the stability of the economic system. The shift from a centrally planned economy to a market economy has led to a redefinition of the role of the state in the economy. The state has been reduced in size and influence, and a new role for the state in the economy has been established. This role is to provide public goods and services, to regulate the economy, and to ensure the stability of the economic system. The state has been reduced in size and influence, and a new role for the state in the economy has been established. This role is to provide public goods and services, to regulate the economy, and to ensure the stability of the economic system.


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between these two interest groups. The project to build a hydro-power station on the river Ob was created (Nizhneobskaya GES). Many scientists argued against this construction, due to its large effect on the environment. The major contradiction of interests about this power station appeared between the Ministry of Energy, the Ministry of Water Management and the Ministry of Geology. The officials from the geological Ministry could not allow the flowage of huge territory in the West-Siberian Lowland and they started to struggle against it. Although this hydro-power project had already been approved by the Congress of the Central Committee of the Communist Party and included into the "General directions of the 5-years Plan" – one of the main documents defining the future development of the country, this project was stopped and the decision was cancelled.

Another case when interests of geological and water management departments confronted again with each other is the so-called "Siberian rivers diversion project". The plan was to reverse partly the stream flow of the rivers from North to South. In the 1960s-1980s, geological institutions were conducting large-scale geological surveys on gas and oil in the northern part of the USSR and western Siberia. The scientific prognoses were very positive and the discovery of large gas and oil fields was a matter of short time. This was the main reason why geological departments took the information about the planning "river diversion" and expected the flooding of a vast territory in the north of USSR very critically. Geologists suggested, first, to speed up the survey, and second, to change or to renounce the project, if it will cause the flooding of prospective oil and gas fields. They argued that both exploration and exploitation are much more expensive from water in comparison with usual work on land.

The Ministry of Water Management had to take into account the necessity of developing oil fields in the North. As a compromise, they suggested to construct artificial islands in the storage reservoir for gas and oil exploitation. Geologists resisted as well, proving its economic irrationality. In 1957-1961 local authorities in mining regions (for example Komi republic) opposed the project arguing that it was contradicting plans of industrialization of the North. Due to a clash of institutional interests, economic difficulties and critic of large technological projects, this project stopped. The official decision dismissing the project to turn river in 1986, but it is necessary to notice throughout the time it was discussed, preparations were already under way and parts of the project were on the point of realization.

Conclusion

How could the critical discussion of these issues become a barrier for the materialization of engineering mega-projects, especially when the USSR and changed the political situation in the country? It became possible due to the institutional pluralism (Hooghe and Fainstein 1980) – series of contradictions within and between different sectors of the state, including contradictions of political, regional, scientific, economic, and public interests.

Tracing the changes in style of industrialization of the North, one can emphasize two major homocentric/polycentric industrial styles. In the case of homocentric industrialization the local development is defined by the programs developed in the centre. The major characteristics of this style are the following: a utopian vision of the regional development, requiring demanding programs, ambitious implementation of large-scale projects, usage of the north as a resource area.
The process of the main research questions was focused on the role of the government in economic development. The research aimed at understanding the impact of government policies on economic growth and the role of institutions in shaping economic outcomes. The study involved an analysis of various economic indicators and the role of government interventions in promoting or hindering economic development. The findings suggested that effective government policies and strong institutional frameworks were crucial for sustained economic growth. The research also highlighted the need for continuous policy adjustments to address emerging challenges and opportunities in the global economy.
started, together with the construction of the Kama-Pechera water-reservoir (Schischkin 1961, p.87).

9 - From then on (between 1931-1939), investigations were conducted mostly by the Gidrovozduh (that was organized in 1931, on the foundations of the Ukamprek and Ulakek (the project-organization of the Lache-Kubensk connection) and Srzayzuv (short for “Izyskanija vodnymy putej Severo-Zapadn”) (Vendrov 1984, 7). Between 1933-37 there were detailed studies of soils, as well as hydrological and meteorological studies (Schischkin 1961: 87). In the end of the 1930s a joint-project was prepared by a number of organizations (Gidrovozduh, Gidroenergetgoproekt, the governing organs of the Solikam waterworks facility) – Kama-Vyshegda-Pechera water management complex (KVP), which was meant to redirect a portion of the flow into the river Kama. These materials were presented by the National Water Commission of the USSR in the form of a technical project, part of the series of works directed at the governance of the Volga river. The plan passed through experts at Gosplan and was recommended for further development (Schischkin 1961, p.87).

10 - As part of the 1933-project, the participants envisaged the possibility of pumping 3.4 km³/year. In 1934 it was seen necessary to pump 7 km³/year and in the projects of 1937-40 the amount was 17,8 km³/year (Gangard 1971, p.10).

11 - An abbreviation for the main Soviet executive office Sovet Narodnykh Komissarov - Council of People’s Commissars.


13 - “Agreement between the governments of USSR and USA about the principles of mutual support in prosecution of war against aggression” was arranged in 1942. By this agreement the USA promised to send: tanks, automobiles, oil-products, locomotives and rail-tracks, food and clothing. In exchange for military supplies, USSR obliged to send to the US gold, tin, wood, fur, caviar, etc. Cited after: Buteinina 2004, pp.104-106, 292.

14 - More detailed analysis of the ideology of conquering nature in the USSR can be found in Bolotova 2004.

15 - Detailed analysis of decision-making in the soviet political system can be found in Pullot and Shaw 1981. The decision-making and different conflicts on environmental issues in USSR were considered in Peterson 1993. An overview of groups of interests in the system of decision-making in the USSR: see in: Skilling and Geoff 1971. The role of local communist party organizations in decision-making is described in Houh 1969.

16 - There were also confrontations between other ministries. See Bush 1972, p.28 and Pryde 1990, pp.92-93 for examples of conflicts between the Ministry of Agriculture and the Ministry of Forestry.

17 - In details, the history of the realization of large-scale technological projects in the USSR can be found in Graham 1998; Josephson 2002; Richter 1997; Turvock 2001. For a description of the consequences of their realization for the environment see: Feshbach and Friendly 1992; Pryde 1991; Josephson 1998b.


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