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A Survey of the Socioeconomic Indicators of the Villages and Living Standards of the Local Population (before 2004)*

Introduction

One of the most important conditions for balanced and sustainable development is the development of a country's economy in both sectors and regions. This is currently of great importance to Azerbaijan. For example, against the backdrop of greater development of the oil sector, other industries are still operating by inertia. Although a number of new enterprises have been set up in the non-oil sector, on the whole this sector still does not play a decisive role in the economy. Most investments are channeled into the oil industry and related sectors. The difference in the socioeconomic development of Azerbaijan's regions is deepening. Although the infrastructure and socioeconomic life of Baku are developing at a fast pace, the provinces are isolated from this development. However, despite Baku's fast-paced development, the surrounding villages and settlements are lagging behind in terms of socioeconomic development and infrastructure. Another point is that the oil refineries which form the basis of the country's economy were mostly located in these villages. Among such villages, Sabunchu, Surakhani and Balakhani stand out. These villages, which played an important role in the history of Azerbaijan's oil extraction, are crying out not just for development, but also for rehabilitation. Although a limited number of new enterprises have been built and have gone into operation in each of these villages, it is hard to say, that the

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existing socioeconomic problems have been solved.

The current socioeconomic situation on this territory was studied on the basis of the results of a survey and on the basis of statistical information. The main task is to define the extent to which state economic policy has affected the living standards of the local population. This report sets out the characteristic features of enterprises located in this area and provides information on the leading sectors of the local economy and new jobs. The survey studied the extent of the development of the service and construction sectors, the operation of industrial enterprises and the course of privatization. Along with characteristics of the general economic situation, it also assesses the existing economic potential, especially the export potential of local enterprises, prospects for the development of the non-oil sector and potential investment projects.

The Information Base of the Survey

In order to explore the socioeconomic development of all three villages, the research is based on official information from the local executive authorities and press articles about all three villages. Information obtained during the survey also forms the information base of this report.

The Oil Booms and Azerbaijan Economy

Financial capital flowed into Baku owing to the development of the oil industry in Absheron. In the 1890s, oil fountains in Balakhani and Bibi-Heybat drew the attention of the whole world. Baku became more and more famous. In the second half of the 19th century, Baku was transformed from a small fortress into a large industrial centre.

The territory of the city increased more than five times in a period of only 40 years. For example, if the territory of the city was 250 ha. in 1878, it increased to 1,300 ha. in 1918. The population of the city increased more than 10-fold - from 20,000 to 262,000.

This dynamic development can be seen as one of the main aspects of Baku's financial sector at that time. In the early 19th century, the rev-

venues of the city increased 28-fold - from about 51,000 to 1,423,000 roubles. The following fact related to Baku's municipal history is of special significance: at the end of the 19th century, private owners allocated 20,472 roubles in aid for development of the city.

Haji Zeynalabdin Tagiyev built the Bibi-Heybat road, beautiful buildings in Baku city centre and four historical buildings in Moscow. He also financed construction of a fire station in Baku. Tagiyev was not only an industrialist, but also a manufacturer. Haji Zeynalabdin Tagiyev also played a great role in the construction of the Baku canal. At the end of the 19th century, he invited the prominent British expert Lindley to Baku.

Another famous Azerbaijani industrialist, Aga Musa Nagiyev, built a grandiose building in the centre of Baku, Ismayiliyya, as well as a hospital on the outskirts of the city. At the beginning of the century, several magnificent multi-storey buildings were built in the city centre.

In the 1870s, the oil fields of Baku played an important role in industrial development and in attracting a large number of foreign companies to the region. The first foreign company in Baku was set up by the Nobel brothers. The Nobel brothers owned



oil fields in Bibi-Heybat, Balakhani and Surakhani and built the first oil pipeline from Balakhani to the Black City and an oil refinery. The Nobel brothers also built the first railway. Currently, thousands of oil workers are living in the workers' settlement in Sabunchu built by the Nobel brothers.

The famous French banker and owner of a Paris bank, Alfonse de Rothschild, also actively participated in the extraction of oil in Baku. As production fell in 1912, Rothschild engaged in selling oil. Buildings built by Rothschild still remain in Baku.

German businessmen were also very active in Azerbaijan. In 1863, the Siemens brothers started building a copper-smelting plant in Gadabay. In 1883, they opened a second copper-smelting factory in Galakand. Unlike Gadabay, electricity was used here.

In 1892, the Helenendorf brothers built the first brandy distillery in Azerbaijan. Three years later, the Hummel brothers built a second brandy distillery.

As expected, the oil boom gave an impetus to the development of the whole economy of Azerbaijan. In 1900, 106 oil companies were already operating in Azerbaijan. Owing to the oil industry, other industries were developing, too.

In 1913, Azerbaijan's industrial structure took the following form: the oil industry - 79.6 per cent; machine-building and metal industry - 3.4 per cent; the energy sector - 0.9 per cent; the textile industry - 2.4 per cent; the food industry - 6.8 per cent and other sectors - 6.9 per cent.

Before the revolution, Azerbaijan was one of the richest oil-producing countries in the world. However, revolutionary upheavals destroyed Azerbaijan's oil industry. The events of November 1917 had an impact on Azerbaijan.

The creation of a favourable situation for economic reforms in the post-Soviet period, constitutional guarantees for the development of the national economy on the basis of market relations, the signing of oil contracts, foreign investments in the country, Azerbaijan's involvement in strategic-economic projects of international importance and the expansion of international economic cooperation became possible as a result of strategic steps taken in this direction.

In 1990-1995, the volume of GDP dropped by 15 per cent. Since this economic recession was accompanied by inflation, stagflation was registered in the country in the early 1990s. The economic decline in Azerbaijan, which began in 1991 and lasted six years, was contained only in 1996. It was replaced by permanent economic growth. GDP grew for eight years. In 1996-2003, the average annual growth in GDP amounted to 8-9 per cent. In 2003 alone, growth stood at 11.2 per cent. In this period, industrial output increased by 6.1 per cent.

The private sector plays a defining role in economic growth. Currently, the share of this sector in GDP is 73 per cent, and in indus-

trial output - 54 per cent. The pace of economic growth is even higher in the private sector.

Compared with 1998, the strategic currency reserves of Azerbaijan have increased by 2.7 per cent, reaching 1.5 billion dollars. The Oil Fund has about 800 million dollars of currency reserves and the National Bank - 700 million.

The private sector plays a defining role in ensuring employment in the country. Currently, 70 per cent of those employed are working in the private sector and 30 per cent in the state sector. For comparison purposes, in 1990 this indicator was the opposite, i.e. 71 per cent of those employed worked in the state sector and 29 per cent in the private sector. The structure of employment also shows that a market economy is developing very quickly in Azerbaijan.

The Economy of the Villages

Twenty-four previously state-owned industrial enterprises in Sabunchu district, of which the villages of Sabunchu and Balakhani form a part, have now been totally privatized, while one enterprise has become a joint-stock company. Oil and gas extraction and oil machine-building form the basis of the economic potential of Sabunchu district. In 1995, growth began in production in Sabunchu district, as in the rest of the country. From that period onwards, the volume of output in the district increased by 15.7 per cent, and in 2003 it totalled 300.7 billion manats. In five months of 2007, the volume of production in the district increased in comparison with the same period of the previous year and reached 84 billion manats.

In January-May 2004, the volume of retail commodity turnover increased by 22.6 per cent and the volume of paid services to the population by 32.2 per cent in comparison with the same period in the previous year. The average monthly salary of workers and employees of industrial enterprises reached 474.6 manats, which is 11 per cent higher than in the previous year. A number of enterprises in the district are trying to manufacture products that can compete on the world market. The Baku Machine-Building open joint-stock company has already

received the ISO-9901 international quality certificate from the British company Moody International to sell its products on the world market. Moreover, the Neftgazmash open joint-stock company received an international gold award for its trade credibility from the Trade Leaders' Club in Madrid. Furthermore, Neftgazmash received the Order of Honour from the International Cadre Academy in Kiev and a diploma of quality from the international organization Gold Fortune. Neftgazmash has started manufacturing ball cocks and back valves which can withstand atmospheric pressure measuring 700. In order to sell its products on the world market, the Zabrat Machine-Building open joint-stock company received the ISO-9001 international quality certificate from Moody International in 2004.

The Sun Tea open joint-stock company received the ISO-9001-2000 certificate from the Turkish Standards Institute for producing high quality tea and the IMO certificate for manufacturing eco-friendly products. Also, its tea received an international hygiene certificate from Belgium's SGS organization for meeting international hygiene standards.

The Baku Hazelnut Processing Plant received an honorary certificate of quality from the European Confederation of National Manufacturers in France for its high quality products in 2002. It also received a diploma and a silver medal at the Inter drink Exhibition in Moscow and a gold diploma at an international exhibition held in Moscow in 2003.

Despite all this, these villages, which have always been known as oil-extracting areas, are in a deplorable situation today.

Problems of Business Development in the Villages

An assessment of business development and economic activity in the three villages makes it possible to draw the following conclusions. There is no real diversity in the business activities in these villages. In fact, business cannot develop in a situation where there is no normal infrastructure for business activity. In all three villages, the private sector is represented by unorganized trade and handicrafts.

According to the results of the survey, residents highlighted several problems preventing business development. Some 59.1 per cent of

respondents pointed to the lack of finances, 13.3 per cent high taxes, 13.1 per cent the lack of financial assistance from the state and 9.8 per cent interference in business activity by government agencies as the main obstacles standing in the way of the development of the private sector.



Like other entrepreneurs, businessmen in all three villages are unable to obtain loans. The main difficulty is that banks have no interest in providing credit to small and medium-sized businesses in these villages as local residents have no high-liquidity property to mortgage. The fact that business entities do not generate high revenues is also a problem for the credit-providing sector.

One of the main tasks facing all three villages at the present time is to create favourable conditions for business development in the district and render the necessary assistance to businessmen. In order to organize entrepreneurship, protect their rights and increase their economic knowledge and awareness, a meeting attended by businessmen was held on 2 May 2004 and the Sabunchu District Business Association was set up. One of the main activities of this organization is to create business communications and mutual trust between government agencies and businessmen. In order to explain to businessmen amendments and changes to various laws, including the Tax Code, the Business Association holds seminars and consultations attended by the Ministries of Economic Development, Tax and Finance.

Living Standards

Consistent reforms should make it possible to increase welfare, create new jobs and ensure employment. Along with that, every citizen

should be able to feel the effect of Azerbaijan's socioeconomic achievements in his or her everyday life.

In this regard, living standards, especially the causes of poverty, were studied. Information obtained as a result of surveys and study of the structure of the population's income and spending show that the living standards in all three villages are low. For example, 43.9 per cent of respondents in all three villages earn less than 10 dollars per family member. For the purposes of comparison, in 2003 the average index of poverty per person in the country was 35 dollars. These figures show that the level of poverty in the villages is extremely high.

Like the structure of employment, the structure of the population's income confirmed once again that the financial situation of residents in these villages depends on the public sector. For example, 47.5 per cent of respondents receive their income from the state budget. Some 8.9 per cent of respondents receive their financial income from various services, 8.8 per cent from unorganized trade and 8.6 per cent from the private sector. Although agriculture, especially vegetable-growing, used to be one of the main activities and sources of income in these villages, only 1.3 per cent of respondents said that agriculture was their source of income.

The difficult environmental situation in all three villages, problems in providing the population with drinking water, the lack of alternative sources of income and the abandonment of homesteads have considerably aggravated the financial situation. The environmental situation has also had an impact on the productivity of the land.

The Problem of Refugees and Displaced Persons

According to official information, 4,255 families or 17,456 displaced persons are living in about 50 social facilities and various buildings in Sabunchu district. Apart from that, 1,198 families of displaced persons are living in various houses.

The survey shows that 24.6 per cent of respondents moved to the three villages in 1988-1993. Some 21.8 per cent of respondents said the main reason why they settled in these villages was that they were refugees or displaced persons. Since this category of the local popula-

tion is traditionally engaged in agriculture and cattle-breeding, they are experiencing serious adaptation and employment problems in the area. The surveys also showed that these refugees and displaced persons are not well-integrated into the local population.

Employment

Owing to measures taken since 2004, 390 new jobs have been created in Sabunchu district. New enterprises and businesses opened in the district by 30 legal entities and private individuals have created 209 jobs, while three restored enterprises created 181 jobs.

Despite these desultory measures to create new jobs, the current employment situation in all three villages is far from satisfactory. This situation can be attributed to the fact that enterprises are standing idle while at the same time refugees and displaced persons have settled in these villages. The generalized results of the survey show that 32.7 per cent of respondents in all three villages are unemployed, while 49.5 per cent of the population is economically active. An analysis of the structure of employment shows that 10.9 per cent of the population is working on industrial estates, 10.3 per cent in the service sector, 9.3 per cent in the trade sector, 8.7 in the education sector and 7.6 per cent in the health sector. This structure shows that the financial situation and the employment of village residents largely depend on the public sector and industry.



Infrastructure

A project has been launched to reconstruct the power networks and improve the quality of power supplies in most of the villages of the district by the end of the current year. Some work has been carried out in order to improve

gas supplies to the villages and settlements of the district. Since the beginning of this year, more than 3.5 km of new gas pipelines have been laid and reconstruction and renovation work has been carried out in the villages of Sabunchu, Bakikhanov, Nardaran, Bilgah and Balakhani.

A lot of reconstruction work has been carried out to resurface central and village roads in the district. Inside Bakikhanov, Sabunchu, Balakhani, Nardaran and Mashtaga, 60,000 km of roads have been resurfaced with asphalt.

Besides that, using district resources, 2,005 metres of new sewerage lines have been laid in the village of Balakhani, 600 in Ramana, 250 in Bakikhanov, 200 in Sabunchu and 200 in Zabrat.

Despite all this, we cannot say that the infrastructure, especially water, gas and power supplies in this area are satisfactory.

Some 64.2 per cent of respondents assessed access to drinking water as satisfactory, while 35.8 per cent said it was unsatisfactory. A total of 65.8 per cent of people assessed rubbish disposal as satisfactory, and 34.2 per cent as unsatisfactory, while 55.7 per cent of respondents assessed the work of the sewerage system as satisfactory, and 44.3 per cent as unsatisfactory.

According to the survey, 67.6 per cent of respondents have their own flats, while 27.4 per cent live with their parents. Some 69.4 per cent assessed their flats as satisfactory, and 30.6 per cent as unsatisfactory.

Along with that, 47.1 per cent of respondents said they intend to move out of the area in order to improve their living conditions. This shows that housing conditions in all three villages are unsatisfactory.

Tourism Development Opportunities

Conditions are favourable for the development of tourism given the existence of historical monuments and temples on the surveyed territory. However, no tourism infrastructure has been created in any of the three villages so far. The development of tourism in the area could play an important role in providing employment. According to international experience, 36 people are required to cater to every tourist. This could

help develop the service sector and create an alternative source of income for the local population and municipalities. In our opinion, realization of the tourist potential of the Baku villages should be reflected in the "Tourism Development Programme" which has been under preparation by the government.

Institutional Aspects

Experience shows that alongside government agencies, private entities and non-governmental organizations are engaged in solving socioeconomic problems. According to the results of the survey, 69.4 per cent of village residents are not happy with the activities of any organization in the area. However, 13.9 per cent are happy with the work of the local executive authorities, 5.5 per cent - local government bodies and 5.2 per cent - the private sector. Since non-governmental organizations are not playing an active part in solving the problems of the villages, only 2.1 per cent of residents are happy with their work.

Plans

The head of state's 24 November 2003 decree "On Measures to Speed up Socioeconomic Development in the Azerbaijani Republic" is of exceptional importance in making economic development more dynamic. In order to implement a number of important points arising from this decree, a meeting was held with heads of district industrial enterprises, departments and organizations at the office of the Sabunchu district executive authorities on 10 December 2003. In line with the requirements of this decree, the meeting approved a plan for the socioeconomic development of Sabunchu district in 2004-2005, a plan for the economic development of Sabunchu district in 2005-2008, a programme for employment in Sabunchu district in 2005-2008 and a plan forecasting production at the industrial enterprises of the district.

The programme that was adopted envisaged the creation of 1,565 new jobs in the district by 2008. These new jobs were to be generated

by the creation of new production sectors in existing enterprises, the restoration of non-operational sectors and by stimulating business activity. In general, it was planned to increase the number of employed people to 95,900 by 2008, which is 28,000 people or 41 per cent higher than in 2004.

Prospects for the Socioeconomic Development of Azerbaijan

Like many other problems, the increasing pace of socioeconomic development in Azerbaijan should solve the problems of all three villages. So what are the prospects for this?

It is planned to increase GDP by 2.5 times in the next five years. This means that Azerbaijan's economic potential will double. In parallel, per capita GDP will increase from 880 to 2,000-2,200 dollars. This will allow Azerbaijan to become a developing country that has significantly reduced poverty.

The volume of currency reserves will increase due to growing oil export. Budget investments will also increase. It is planned to spend state investments mainly on the construction of infrastructure facilities. A relevant mechanism will be prepared to use oil revenues for investments.

Prospects Expected in the Three Villages

Although there are numerous problems in all three villages, it is possible to solve the socioeconomic, infrastructure and institutional problems of the villages gradually by making effective use of the territory's potential and resources. The priority is to make use of the existing potential. The isolation from general development of these villages, which are located in the traditional industrial area of Absheron, can be seen as a graphic example of the imbalance in regional development.

The presence of medium-sized and large state enterprises, mentioned in the second state privatization programme, on the territory of all three villages will make it possible to bring more capital into the ter-

ritory, create new jobs, revive economic activity and restore idling enterprises through privatization.

Proposals and Recommendations

The surveys that were carried out made it possible to identify priority issues in solving the problems of all three villages. Some 39.4 per cent of respondents think it important to create new jobs, 31.1 per cent - to improve the work of the executive authorities, 15.5 per cent - to develop entrepreneurship and 9.5 per cent - to ensure ecological safety. There is no doubt that in order to prepare appropriate proposals and recommendations to solve the socioeconomic development problems of all three villages, it is necessary to take account of the aforementioned priorities.

In general, we have come up with the following proposals and recommendations to solve the social, economic and institutional problems of the villages:

1. It is important to assess the state of implementation of the programme on poverty reduction and the programme on the development of regions in all three villages because the elimination of problems on this territory depends directly on the implementation of these programmes.

2. Specific measures must be taken to boost economic activity and develop entrepreneurship. It is necessary to prioritize the holding of business training courses and prepare investment projects to develop new enterprises.

3. As we can see from the results of the survey, most of the residents described the lack of finances as a serious obstacle to business activity. In the light of these findings, it is necessary to launch micro-financing programmes and allocate micro-credits to small businesses in all three villages.

4. The creation of new jobs is not the only way to solve the problem of employment. It is also necessary to help workers learn new skills and improve their qualifications and to hold regular job fairs.

5. The development of tourism is possible given the great number of historical monuments in this area. This could help secure stable

sources of income in all three villages. There is no doubt that the necessary work in this sphere should be carried out in parallel with the creation of an appropriate infrastructure.

6. It is necessary to secure the normal operation of infrastructure facilities that are used by the population on a daily basis. Specifically, it is necessary to improve gas, power and water supplies.

7. In order to implement all this, existing problems on this territory must be solved through social partnership, i.e. civil society, the municipalities, government agencies and business entities should cooperate in this sphere and mobilize all their potential.

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Gubad Ibadoglu

**A Survey of the Socioeconomic Indicators
of the Villages and the Living Standards of the
Local Population (2004-2008)**

Fourteen years ago, Azerbaijan signed the "Contract of the Century" with foreign companies on the exploitation of Caspian oil reserves for a period of 30 years. The growth in oil extraction in this period and the hike in oil prices on the world market brought about changes favourable to Azerbaijan in terms of the distribution of revenues from extraction and increased the country's currency reserves. According to official information from the State Oil Fund of the Azerbaijani Republic, since the second quarter of 2008 the Azerbaijani government has received revenues which comprise 80 per cent of extraction, and therefore, by the end of year 2008, the strategic currency reserves of the country are expected to exceed 20 billion dollars. The positive influence of this money on socioeconomic development depends on its fair, effective and transparent distribution. This report describes changes in the development of the infrastructure in the villages surrounding Baku and in the living standards of the population of these villages and assesses its socioeconomic results.

The Current Situation of the Azerbaijani Economy

The pace of economic growth in Azerbaijan has been extremely high in recent years. According to the results for 2005, 2006 and 2007, the country's GDP increased by 26.4, 34.5 and 24.5 per cent respectively. Scientific-theoretical surveys show that there is a positive correlation between economic growth and state investments. The high economic growth in Azerbaijan boosts state investments from domestic sources.

Although investments in the infrastructure, which are not so attractive for the private sector, are regarded as one of the factors that reduce the cost of goods and services, the lack of transparency in implementing such investments increases the scale of corruption and reduces their effectiveness. On the other hand, the high prices caused by growing total demand in the non-commercial sector have increased profitability and resulted in this sector attracting not just additional capital created by the oil boom, but also resources from the private sector. In this way, the problem of diversifying the economy has become even greater.

Calculations made on the basis of the nine main GDP-shaping sectors - mining and quarries; the processing industry; power, gas and water supplies; agriculture; trade; public catering establishments and hotels; transport, warehouses and communications; social and informal services; pure taxes - show that the coefficient of diversification in the Azerbaijani economy was 3.3 in 2006. The fact that this coefficient is close to the lowest point on the 9-point scale shows that the economy is lopsided.

Along with the oil sector, significant growth in the Azerbaijani economy can currently be observed in trade, transport and communication services and in another service sectors - the non-commercial sector. The fact that the coefficient of diversification is closer to the lowest point shows the asymmetric development of the economy in Azerbaijan. Therefore, there is no balanced economic development in the country. This tendency indicates that, as a result of growing oil and gas extraction and the inability of the non-oil sector to keep up with this growth, the coefficient of diversification in the economy is falling year by year.

The situation in the other sectors of the economy which provide for sustainable economic development can be interpreted in different ways in comparison with the idling situation of the non-oil industry. For example, the situation regarding agricultural production, which is the main guarantor of general employment in Azerbaijan, is not particularly heart-warming. If we look at statistical information for 2005-2008, the agriculture and processing industry sectors have seen the slowest rate of development, while transport and communications have been developing at the highest speed. The decline of Azerbaijan's non-oil sector, especially agriculture and the processing sector, can be explained by academician Rybchinski's "de-industrialization effect".¹ Academician Rybchinski said,

that a sector which emerges under the influence of "Dutch disease" takes all the resources of the industry and channels them into the more profitable oil and non-commercial sector. If we take a look at last year's statistics, we can clearly see the scientific-theoretical postulate of academician Rybchinski in the Azerbaijani economy. Therefore, in order to improve the deplorable situation in agriculture, 80 million manats in subsidies have been allocated from the budget for the development of agriculture. The rules for use of these subsidies were confirmed by Cabinet of Ministers Resolution No 32, issued on 15 February 2007.² According to these rules, in order to ensure that the state covers 50 per cent of expenses for fuel and motor oil used for the production of agricultural produce, producers should be given 40 manats in subsidies for every hectare of fields and for cultivating perennial plants.

According to the results for 2007, only 3.2 per cent of all investments in the Azerbaijani economy from all sources went into agriculture, which accounts for 38 per cent of employment and 6 per cent of GDP. As a result, agriculture grew by only 4 per cent in that period.³ Thus, agriculture and the processing industry, which are traditional employment sectors in Azerbaijan, are sliding deeper into trouble. This has a negative impact on the socioeconomic situation in the villages surrounding Baku, where the main employment sector is agriculture, particularly vegetable- and fruit-growing.

State Spending in Azerbaijan and its Role in the Socioeconomic Development of the Villages Surrounding Baku

In 2003-2008, state budget spending increased by 9,168 billion mantas, or by five times - from 1.266 billion to 11.434 billion manats. Eighty per cent of this money, or 6.5 billion manats, is spent on five functional spending sectors - industry and construction, defence, public service, the judiciary and law-enforcement agencies, as well as on sectors that do not belong to the main sectors. At the same time, along with the growth in absolute budget-spending figures in 2003-2008, the share of spending in GDP also increased. In 2003-2006, the weight of

budget spending in GDP rose by 3.6 points, from 17.7 to 21.3 per cent, while in 2007 it exceeded 24 per cent. The growth of the share of spending in GDP is due to the fact that the pace of growth in budget spending has been higher than the pace of economic growth in recent years. This information also shows that in 2005-2007, the pace of growth in GDP was three times slower than the pace of growth in budget spending. The growth in total spending accounted for 31.8 per cent in 2003, 16.5 per cent in 2004, 43.6 per cent in 2005, 77.1 per cent in 2006 and 66.6 per cent in 2007, whereas the pace of growth in GDP in those years was between 10 and 24 per cent.

Along with this, in those years local budget expenses decreased while the amount of centralized expenses increased. For example, though in 2003-2005 the share of local expenses in total expenses increased from 9.2 to 25.2 per cent, in 2007 it dropped again to 12.7 per cent. This shows that no reforms have been carried out in the country in the sphere of fiscal decentralization and that authority to spend budget funds is concentrated in the hands of a small group of central government agencies. In reality, this is a "budget monopoly" that allows a closed circle to decide on budget spending.⁴

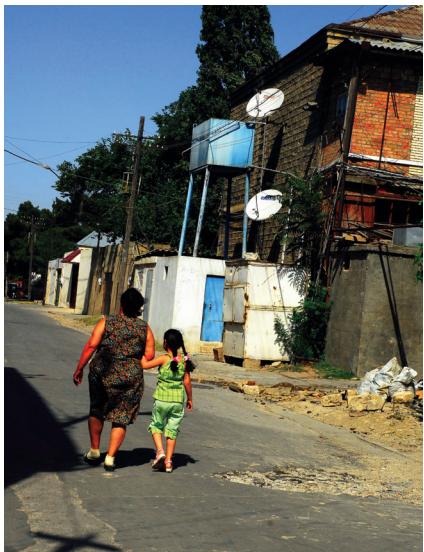
In these years, considerable changes have occurred in the budget revenues of the State Oil Fund of the Azerbaijan Republic. For example, by presidential decree the revenues of the 2008 budget of the State Oil Fund totalled 10,144,743,200 manats, while spending amounted to 4,380,853,600 manats. The same indicator was 222 million in 2001 and 294.8 million in 2002. Due to the increase in extraction, oil revenues are expected to grow at a fast pace in the next few years. In 2005, revenues from the implementation of oil contracts totalled about 660 million, in 2006 - 985.9 million and in 2007 - 1,555 million AZN (according to the budget forecast). This is approximately 1.5, 2.2 and 3.5 times higher than the budget of 1995. At the same time, official calculations forecast that in 2009-2011, Azerbaijan will receive at least 60 billion dollars from the sale of oil. If the price of oil is 70 dollars per barrel, about 18 billion dollars can be expected every year during this period.⁵ Interestingly, although the Azerbaijani economy has not yet tasted big money, it is already experiencing the problems this may cause. For example, according to the results of the first six months of 2008, the share of oil

and oil products in Azerbaijani export reached 97 per cent, while direct incomings from the oil sector into the state budget accounted for 70 per cent. The oil sector forms 60 per cent of the country's GDP.⁶

In the process of expanding total supply, the national economy has encountered difficulties such as the obstacles created by monopolies, the fall in the coefficient of diversification in the economy, the loss of comparative advantage in international trade, the disruption of the balance between the commercial and non-commercial sectors in the non-oil sector and uncontrollable inflation. In this situation, the "easy oil money" has allowed government officials to relax and fight not for balanced and sustainable development, but for distributing oil revenues, and this has turned into a kind of competition.⁷ This competition, which foments tensions between groups in the government, has also increased corruption-based relations between the government and business circles, speeding up the adoption of populist and groundless decisions in the non-commercial sector of the economy. As a result, the construction sector, which is a classic sphere for corruption in the process of distributing oil revenues, has become a priority in state spending.

On the one hand, the impression made by expensive projects implemented in the construction sector has turned into the leitmotif of the government's economic propaganda, and on the other, it has worsened the country's corruption ranking, weakened the international competitiveness of the economy and prompted lopsided development of the economy, i.e. only the non-commercial sector. Though the economy needs institutional changes against the backdrop of mounting revenues, reforms have been put on the back burner and pseudo-institutions have been set up under the guise of reforms. Empirical surveys show that people are usually indifferent to money which they make without hard work.⁸ This can be seen in Azerbaijan's state spending as well. The spending of easy money coming from the oil sector on unproductive sectors without observing the principles of responsibility, efficiency and transparency is causing serious problems for the national economy.⁹

The sharp increase in the investment expenditure of the 2008 budget (up to 4.434 billion manats) and the handover of 70 per cent of this investment for infrastructure projects, including 40 per cent to the Ministry of Transport, can be regarded as a sign of such an approach.



The effective implementation of infrastructure projects and their updating at the expense of the state should be assessed and approved as a factor that reduces business expenses and the cost of services. However, the bitter experience of recent years shows that state spending in this sphere is ineffective and non-transparent. One of the specific features of next year's budget is an increase in expenditure (through investments and defence spending) and the negative socioeconomic processes this creates. Among them, corruption and inflationary factors cause the greatest concern.

Beginning from the 1970s, Saudi Arabia and Nigeria increased their spending on the back of growing oil revenues.

Saudi Arabia secured phenomenal development of the non-oil sector by managing expenses effectively and by liberalizing the economy. Nigeria strengthened the negative impact of "Dutch disease" on agriculture due to poor management of investment projects and by exaggerating the income of the population, and secured only 6.5 per cent growth in the non-oil sector. When oil prices fell in the 1980s, economic growth slowed down even in Saudi Arabia through the reduction of state expenditure. Meanwhile, high inflation in both countries continued until state expenditure was curtailed.¹⁰ Based on the neo-classical development model of the IMF, we can judge the importance of the structure and management of state investments in Azerbaijan. According to official forecasts for 2008-2011 in Azerbaijan, the non-oil industry will increase by 6.6 per cent and agriculture by 6.9 per cent on average. This is identical to similar indicators for Nigeria in the 1970s.

Given this situation, it would be interesting to assess the fairness of the distribution of oil revenues in the context of macroeconomic indicators in order to speed up the socioeconomic development of the villages surrounding Baku.

Programme Support for the Socioeconomic Development of the Baku Villages

On 11 February 2004, the president of the Azerbaijani Republic issued a decree approving the State Programme on the Socioeconomic Development of the Regions of the Azerbaijani Republic (2004-2008). Based on this programme, drastic changes occurred in the socioeconomic life of several regions. The infrastructure of several regions was re-established, educational, cultural, health, sports and other social centres were built and refurbished in settlements and villages and a group of the population was employed. Along with guaranteeing development in the regions, all this also improved quality of life. Within the framework of individual programmes adopted during this period, the city of Baku has been developing at a great rate, its infrastructure has been updated, gas, power, water and heating supplies have been improved, new roads have been built and resurfaced, construction work has been carried out and hundreds of thousands of new jobs have been created.

However, the villages surrounding the city have been sidelined from the swift and dynamic development of Baku. The complex development of these villages and their problems (public utilities, the construction of schools and health centres, the construction of roads inside and outside the villages, the creation of new jobs, etc.) should be addressed. Therefore, on 26 February 2006, the president of the Azerbaijani Republic endorsed a package of measures to speed up the socioeconomic development of the villages surrounding Baku in 2006-2007.¹¹ During this period, it was planned to build 66 substations and 2,500 km of power lines in the villages. It was also planned to refurbish and rebuild 53 telephone exchanges, 26 post offices and 320 km of gas pipelines. It was planned to refurbish 14 libraries, reconstruct five music schools, restore and build 57 secondary schools, refurbish 26 kindergartens and 10 hospitals, build 10 new hospitals and eight clinics. It was also planned to resurface and build 750 km of roads inside and outside the villages.

Speaking at a session on the socioeconomic development of Baku and the surrounding villages chaired by Azerbaijani President Ilham Aliyev on 27 February 2007, Minister of Education Misir Mardanov said

that there are currently 350 pre-school education institutions in Baku, with 186 located in the city and 164 in surrounding villages. An analysis shows that 65 per cent of kindergartens in the villages are using unsuitable buildings, 67 per cent need overhauling and most of them have no heating system. Not a single new kindergarten has been built in Baku over the last 15 years. On the contrary, 737 refugee families have settled in kindergartens located in the city. He said that 19.6 per cent of children in the whole country and 27.6 per cent in Baku are receiving pre-school education. This is not a high indicator.

According to the plan of measures to speed up the socioeconomic development of Baku villages and settlements in 2006-2007, it was planned to build 17 new schools and 20 extensions to schools in 2006-2007. At the same time, it was planned to overhaul 20 schools, build 12 new kindergartens and overhaul 14 kindergartens, four extracurricular institutions and one vocational school. Within the framework of this programme, the president personally laid the foundations of a new school with the capacity to educate 1,176 pupils, in the village of Zabrat, and the school is expected to be completed by the next school year.

According to a programme drawn up by the Heydar Aliyev Foundation for 2006, it was planned to build extensions to 11 schools and overhaul 10 schools in Binagadi, Sabunchu, Azizbeyov, Surakhani and Garadag districts. On an instruction from the country's president, new schools were provided with high quality equipment, information and communication technologies and modern heating systems.

It was planned to build 92 new schools and 62,036-seat extensions to 140 schools in 2006-2007, including 68 new schools and extensions to 48 schools in 2006.

The health minister said that apart from three health centres refurbished in three years, not a single health centre had been refurbished in the villages surrounding Baku. These three health centres were refurbished



with the help of the Heydar Aliyev Foundation and other organizations. Money allocated from the budget for the refurbishment of other health institutions is enough for only routine repairs. The repairs carried out do not conform to any recognized standards.

According to the programme, it was planned to build, refurbish and reconstruct 25 health centres. Sixteen of the 25 health centres will be newly-built. Work in this sector began before the programme was even approved. For example, at the request of the population of the village of Zabrat, the construction of a 25-bed hospital has been completed. United City Hospital No 31 in the village of Shuvalan in Azizbeyov district was overhauled.

According to the president of the Azerenergy joint-stock company, Etibar Pirverdiyev, the Absheron energy grid generated up to 50 per cent of all electricity consumed in the country before 2005. That's to say in 2005, eight billion kilowatt hours of electricity were supplied to Baku without restrictions. This is 17 per cent more than in 2002.

According to the latest report from the Azerenergy joint-stock company, a power station with 12 module installations with a capacity of 105 MW was built on the territory of the Baku Thermal Power Centre in Baku in 2006. The commissioning of this station reduced pressure on the 22 kV Hovsan and 110 kV Nizami power lines which supplied power to the Absheron energy grid, and this increased the quality of supplies to consumers.



In order to improve power supplies to Baku and surrounding districts, in 2005 reconstruction work was carried out on the 500 kV Absheron, 330 kV Yashma, 220 kV Khyrdalan, 110 kV Mashtaga and Puta substations and high voltage power lines by means of modern equipment. Reconstruction work was also carried out on the 220 kV

Khyrdalan, Mushfig and Nizami and the 110 kV Binagadi, Surakhani, Puta, Mashtaga, 8th kilometre, Ramana and Zig substations using a loan of 8.4 million euros allocated by Germany's KfW bank.

Foreign loans were also used to improve power supplies to villages and settlements outside Baku. For example, two automatic transformers with a capacity of 200 MVA were replaced with transformers with a capacity of 250 MVA at the 220 kV Mushfig substation, and several pieces of auxiliary equipment were updated with a grant of seven million dollars from the Japanese government. At the same time, two transformers with a capacity of 40 MVA were replaced with 63 MVA transformers at the 110 kV Gala substation and several pieces of auxiliary equipment were updated with a loan of 3.5 million dollars from the European Bank for Reconstruction and Development.

Some 1.7 million dollars were spent to replace 63 MVA transformers with 125 MVA transformers at the 220 kV Sangachal substation and to update auxiliary equipment.

According to the programme, the connection of the 330 kV 4th Ali-Bayramli power line to the Absheron substation and its 330 kV open distributor were expanded and a 180 MVA automatic transformer was replaced with a 250 MVA transformer at the Khyrdalan substation. This work made it possible to improve the power supplied to Binagadi, Nasimi, Narimanov, Garadag and Absheron districts.

Transformers were also replaced at the Zabrat substation, the 110 kV Yeni Bina substation was put into operation and the 110 kV 11th Zig power line was reconstructed.

According to preliminary calculations made by specialists of the Azerigas joint-stock company, it was planned to build and repair 250 km of pipelines and install gas distributing and gas purifying centres in the villages surrounding Baku. This work was carried out in two stages - 2006 and 2007. The project covered 19 villages and 12 settlements.

At the same time, within the framework of the programme it was planned to build 37 km of gas pipelines in Baku villages and settlements, to remove 33 km of pipelines from nature reserves, to build 29 km of pipelines to supply gas to new housing estates, overhaul and reconstruct 87 km of pipelines and build an additional 165 km of pipelines in order to improve gas supplies. At the same time, it was

planned to build one gas distributing station, to reconstruct two others and to build two gas purifying centres.¹²

Within the framework of the programme, projects worth 33.871 million manats were carried out in Surakhani district in 2006-2007. This money was spent mainly to solve the problem of public utilities which concerned the population most of all - to improve gas, power and water supplies to the district, to carry out large-scale renovation and planting work, to update the infrastructure, resurface roads and build and over-haul schools, health and cultural centres.

According to information from the Azerigas open joint-stock company, on the basis of the package of measures to speed up the socio-economic development of districts of Baku, construction and installation work worth 26,079,700 manats was carried out at 71 facilities in 2006-2007, and according to project documents, 271.2 km of gas pipelines and gas installations were built and put into operation. In 2007, gas supplies to 14,951 subscribers were improved and gas was supplied to 18,606 new subscribers.

The Cabinet of Ministers of the Azerbaijani Republic says in a report on its work in 2007 submitted to parliament that last year kindergarten No 270 in the village of Hovsan and kindergarten No 279 in the village of Garachukhur were refurbished and 120-bed kindergartens were built in the villages of Bulbula and Zig. The construction and reconstruction of health and sports centres aimed at improving people's physical health are also the focus of attention in Surakhani. A new health centre was built in the village of Zig in this period. The construction of a new clinic and of a new Olympic sports complex in the village of Bulbula is continuing. At the same time, six sports grounds were reconstructed in various parts of the district in line with the programme "Model Sports Grounds". At the same time, a new maternity hospital and clinics were opened in the villages of Shuvalan, Mashtagha, Nardaran and Zira. A maternity department was opened at the village hospital in Nardaran outside Baku and a 25-bed extension to the tuberculosis sanatorium was built in the village of Turkan.¹³

The State Oil Company was also involved in the implementation of tasks outlined in the package of measures to speed up the socio-economic development of Baku villages, which was approved by the head

of state on 11 February 2006. According to this plan, SOCAR financed work to refurbish unsafe buildings in the village of Zabrat 1 in 2006-2007. On an instruction from the social development department of SOCAR, the roofs and staircases of buildings No 24, 25, 26, 44 and 46 in the village's October Street were repaired and unsafe building No 37 was completely overhauled. Work was carried out to strengthen and restore buildings 28 and 30 in this street, buildings 33 and 35 in Akhundov Street, building 90 in Babak Street and building 12 in Narimanov Street, while the roofs and facades of the buildings were completely overhauled. Apart from that, a one-storey four-flat building at 29 Akhundov Street, one-storey one-flat buildings at 9 Babak Street and 3a Narimanov Street and a two-storey four-flat building at 43a October Street were knocked down and rebuilt. A one-storey 33-flat building at 69 Babak Street and a one-storey 34-flat building at 4 Narimanov Street were knocked down and a two-storey 33-flat building and a two-storey 34-flat building were constructed in their stead.¹⁴

Financial support for the socioeconomic development of Baku villages

On 6 March 2007, the president of the Azerbaijani Republic issued a decree on financing work envisaged by the plan of measures to speed up the socioeconomic development of Baku villages.¹⁵ According to the decree, the Ministry of Finance of the Azerbaijani Republic should ensure the allocation of 26 (twenty-six) million manats to the following organizations from the reserve fund of the president of the Azerbaijani Republic in order to finance the work envisaged by the package of measures to speed up the socioeconomic development of Baku villages:

The Ministry of Education of the Azerbaijan Republic - 8 million manats

The Ministry of Health of the Azerbaijan Republic - 2.1 million manats

The Ministry of Youth and Sports of the Azerbaijan Republic - 1.9 million manats

The Ministry of Culture and Tourism of the Azerbaijan Republic - 0.6 million manats

The Ministry of Ecology and Natural Resources of the Azerbaijan Republic - 0.1 million manats

The Baku city executive authorities - 2 million manats

The Azerigas closed joint-stock company - 6.2 million manats

The Azersu open joint-stock company - 5.1 million manats

Surveys carried out in parallel show that loans from the State Oil Company of the Azerbaijan Republic, the Heydar Aliyev Foundation and international financial-credit organizations are also being used to finance measures to speed up the socioeconomic development of Baku villages. At the same time, the main source here is the state budget, 60-70 per cent of which consisted of direct transfers from the oil sector over the last two years. The state budgets of 2007 and 2008 plan to finance the following projects to speed up the socioeconomic development of Baku villages.¹⁶

The distribution of finances earmarked for capital investments from the state budget of the Azerbaijan Republic between customer organizations and facilities on the basis of Cabinet of Ministers decisions (2007-2008, thousand manats)

Table 1

Name of organization and facility	2007	2008
The reconstruction and equipment of Children's Arts School No 4 in Buzovna in Baku's Azizbeyov district		150
The refurbishment of the Jirtdan children's recreation centre in the village of Shuvalan		300
Facilities envisaged by the plan of measures to speed up the socioeconomic development of Baku villages, including:		
The construction of a sports hall in Pirshagi and Kurdakhani		255
The construction of a sports centre in Balakhani		200
The construction of a sports hall in Nardaran		200
The restoration of the Locomotive sports and health centre in Bilajari		50
The construction of an Olympic sports complex in Hovsan		2,000
The creation of a sports and health centre in Mushfigabad		250
The construction of a sports hall in Bina		235
The restoration of football pitches in Zira		35

The construction of a sports complex in Pirallahi		247
The construction of an Olympic sports centre in the village of Pirallahi		1,788
The designing and construction of a 18 km six-lane road which connects the Gala-Pirallahi road and the Zig-Hovsan highway and the relocation of engineering lines and buildings along the road		50,000
Shore protection work on the dam that links Pirallahi to the coast	500	1,662
Improvement of gas supplies to villages and settlements surrounding Baku		10,000
A water pipeline from the +70 Hovsan water reservoir to Yeni Surakhani		650
A connecting water pipeline from the +110 Sharg water reservoir to the +70 Hovsan water reservoir		3,000
The construction of a water tank with a capacity of 70,000 cubic metres on the territory of the +70 Hovsan water reservoir		1,500
The relocation of a water pipeline along the road to the city (Sabunchu roundabout – Zabrat)		1,745
Internal water networks		1,500
The reconstruction of the sewerage system and the construction of purifying installations in the village of Shuvalan in Azizbeyov district		4,000
Water supplies and sewerage system in Buzovna, Azizbeyov district		500
The restoration and reconstruction of water supplies and sewerage systems in Baku's Sabunchu, Binagadi, Surakhani, Sabayil, Garadag, Nizami, Khatai and Azizbeyov districts		6,180
The sewerage system of villages around the Bulbula Lake		1,000
The reconstruction of the Hovsan open canal and the construction of a purifying installation at its entrance		2,500
The refurbishment of secondary school No 71 for 1,176 pupils in Zabrat, Baku		428
The refurbishment of secondary school No 136 for 800 pupils in Bina in Baku's Azizbeyov district	350	304
The refurbishment of secondary school No 149 for 360 pupils in Bina in Baku's Azizbeyov district	250	400
The refurbishment of secondary school No 119 for 320 pupils in Turkan in Baku's Azizbeyov district		97
The roofing of boarding school No 10 for 600 pupils in Pirshagi in Baku's Azizbeyov district, the refurbishment of its fence and decoration work inside the building		220
The construction of a sports hall at school No 125 in Buzovna in Azizbeyov district		330

Expert assessment of the socioeconomic development of Baku villages

During the survey, experts were invited to assess implementation of the package of measures to speed up the socioeconomic development of Baku villages. Expert Fuzuli Akhundov, who used to work as a deputy mayor of Baku responsible for social affairs, lives in the Savalan housing estate in Baku's Mashtaga village. About 500 families live in the

Savalan housing estate. He said that more than 50 per cent of this territory has been supplied with gas pipelines, but there is still no gas. Although gas pipelines are being built under the programme and the main pipeline is being updated and connected to other pipelines, no gas is being supplied. The expert said that "there is one pipeline going to the Northern power station, and it comes from Garadag and passes through almost all the villages of Absheron. Gas production is seven times cheaper than power generation, but we are forced to use electricity instead of gas. In my opinion, they are not paying attention to many things or are deliberately forcing people to use electricity instead of gas."

Akhundov said that residents are paying for gas which they are not using. "The population of Mashtagha is about 65,000, and gas may be available in some parts of the village, but most people, including me, have no gas at home." He said that the water situation in the village is also deplorable. The population buys water from water carriers. This is the situation in most Baku villages. Everyone has installed a tank in their courtyard and they pump water into the tank from water carriers. Wells have been drilled in areas where underground waters flow, and although that water is not drinkable, many residents of the village are using it. Since Mashtagha does not have its own sewerage line, problems with public utilities are endemic here.

He said that "no social facility has been built in Mashtagha in recent times. Only an office was built for the territorial electoral commission. No new buildings, schools or hospitals have been built."

A former member of the Zabrat village municipality, Nizami Ahmadov, said that a school, a hospital and a diagnostics centre have been built in Zabrat in recent years. He said that like many other villages surrounding Baku, Zabrat did not have a sewerage system until recently, but now a sewerage line is being installed and this work is about to be completed. The situation with gas and power supplies is now normal and there are no complaints. About 16-17 transformers have been installed in Zabrat. Therefore, positive changes can already be felt in the socioeconomic life of the village and in living standards.

In conclusion, we would like to stress that given the contradictory opinions of the two experts and due to the expiry of the plan of measures to speed up the socioeconomic development of Baku villages in

2006-2007, it appears necessary to monitor the implementation of this programme and assess its results.

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Aydin Balayev

Oil Producing Villages: Ethnography, History and Sociology

The main purpose of this research is to study the dynamics of change in the lifestyle of residents of the villages of Balakhani, Surakhani and Sabunchu as influenced by socioeconomic factors and to identify the correlation between the traditional and the new in their present-day lifestyle. A historical approach to the problem makes it possible to compare specific features of the modern lifestyle of village residents and historical materials that reflect their traditional lifestyle. Such an approach makes it possible to identify not just their current conditions, but also the dynamics of its historical development. In part, this should make it possible to forecast future development as well.

The villages of Balakhani, Surakhani and Sabunchu were selected as the subjects of this research because they have an economic structure that is typical of the Absheron peninsula and were one of the centres of Azerbaijan's modern oil industry in the late 19th and early 20th centuries. These villages are all very similar in size and economic and social structure and the main parameters of their history and social environment also coincide closely. In essence, these villages reflect the most typical socioeconomic and cultural-historical features of the Absheron ethno-cultural region.

It is also interesting that two of these villages - Balakhani and Surakhani - are enclaves of people of Iranian origin in Absheron, the Persian-speaking Tats as opposed to the Turkic-speaking population of the rest of the peninsula, so this provides the additional possibility of studying the development of and mutual links between intra-ethnic and inter-ethnic factors.

Along with the ethnic composition of the population, one of the most important factors setting the main parameters of lifestyle is the type of

a village (its size, population, administrative structure and the specialization of businesses located there). From this point of view, villages differ from each other in terms of their gender and age structure, scale, nature and location.

Serious changes have taken place in the ethnic and demographic structure of these three villages - centres of oil extraction - over the last 150 years. The speedy development of the oil industry in Absheron in the late 19th and early 20th centuries made these villages the subjects of mass migration. This reduced the weight of the local population in these villages.

At every historical stage, ethno-demographic changes in these villages have had their own specific features. For example, following the exhaustion of oil reserves and the decline of production in the second half of the 20th century, the level of employment fell and migration of the local population increased.

The most recent migration happened at the end of the 20th century. As a result of the occupation of Azerbaijani lands by Armenian military units, hundreds of thousands of people became refugees and most of them took refuge in Absheron. Since these displaced persons had a lifestyle which differed from that of the population of Absheron, this process had an effect on the traditional lifestyle of the local population and caused significant changes in the villages.

In order to study these processes, this research made extensive use of statistical and archive material, as well as historical sources. There is almost no statistical information about this problem so, in order to fill the gap, residents of Balakhani, Surakhani and Sabunchu were polled. The results of that opinion poll form the main empirical basis of the research.

The poll was conducted among more than 1,000 residents of the three villages. This poll is totally representative and its results are quite reliable. The questionnaire used during the research was prepared specially for this survey.

History

Information from ancient and medieval authors proves that the Absheron peninsula has been a centre of oil extraction since ancient times. For example, Arab authors of the 9th-11th centuries reported that oil was extracted in Absheron in the 8th century and earlier. According to these sources, such a large volume of oil was extracted on the peninsula under the Sassanids that its fame spread far beyond Baku.¹

The great interest in oil throughout the history of mankind is related to this product's importance in people's lives and work. For example, oil was extensively used in homes and on farms, first of all for heating and lighting, then as a roofing material and as a basis for medicines.

However, one of the main factors that prompted an interest in oil in the ancient and medieval periods was its use for military purposes. According to ancient authors, burning oil was used as a weapon by Greek, Persian, Arab and other armies. Arab and Persian troops even had special units to pour burning oil onto the enemy. Oil retained its important role in the military sphere until the end of the 17th century, i.e. until the invention of firearms and artillery.²

From this point of view, European travellers who visited the Absheron peninsula beginning from the 13th century paid great attention to centres of oil extraction and often mentioned Balakhani and Surakhani. For example, the German traveller Engelbert Kaempfer, who visited Baku in January 1683, gave detailed information about oil extraction in Balakhani and Surakhani in his notes.³

As for other spheres of the economy, medieval sources tell us that, in addition to oil extraction, the production of lime for use in construction work was also quite common in Surakhani. These sources even describe in detail the technology of lime production. It is known that there were areas near the village of Surakhani where natural gas was discharged from the earth. People brought lime stones from neighbouring areas, stockpiling them in these gas-rich areas, and burnt them for three days. After that, the burnt lime was delivered to Baku and other cities by sea.⁴ Lime production in Surakhani was also mentioned in the memoirs of the French writer Alexander Dumas, who visited Absheron at the end of 1858.⁵

Furthermore, Surakhani was also one of the main carpet-weaving centres in Absheron.

The population of Absheron, including Balakhani and Surakhani, was also engaged to some extent in agriculture. The limited nature of this involvement can be attributed to the shortage of suitable land. Residents of Absheron were engaged mainly in horticulture, cultivating figs, grapes, pomegranates, melons and apricots.⁶

A crisis began in oil extraction in Absheron in the early 18th century.⁷ One reason for this was the decreasing importance of oil as a weapon, coupled with a decline in urban life in Baku. Moreover, the Russo-Turkish wars of that period aggravated the economic situation in the country and curtailed the market.

The oil extraction renaissance in Absheron began in the early 19th century, i.e. after Azerbaijan was occupied by the Russian Empire. During the initial stages of Russian occupation, oil extraction was of no industrial importance and there was no great demand for this product on the Russian domestic market. This explains the prolonged existence of a farming-out system in the oil industry. From 1850 to 1872, oil fields were farmed out to individuals. During the first 13 years of that period, the oil fields were farmed out to Ter-Gukasov and then to Mirzoyev.⁸

During that period, Balakhani residents provided compulsory labour at these oil fields. Only in 1864, after the abolition of compulsory labour, did the formation of a class of paid workers take place. This was an indicator of the development of capitalist relations in the oil industry.



Old Surakhani.
The view of a street

Oil began to be used as a fuel in industry from the 1860s onwards. As a consequence of this, the demand for oil products increased at an extraordinary rate. It was therefore absolutely essential to eliminate all obstacles to the development of the oil industry, including the farming-out system. This system was repealed in 1872 and after that, oil fields were sold to individuals through open auc-

tions, which gave an impetus to the rapid development of oil extraction in Absheron.⁹

The opportunity to obtain great revenues fuelled the growing interest in oil extraction and drove up the price of oil-bearing land on an almost daily basis, giving an impetus to the discovery of oil deposits. However, although the oil industry was developing at a great pace, the area of state-owned land remained unchanged.

In this situation, the tsarist government issued several decrees from 1882 to 1890 on confiscating 5,325 dessiatinas of land belonging to 11 villages of Absheron, including Balakhani and Surakhani, and handing it over to oil producers. Moreover, the village communities were banned from leasing public land for oil extraction and there was a ban on prospecting for oil on state-owned land. These decisions were primarily directed against the local residents of Absheron.¹⁰

The tsarist government was trying to keep Azerbaijanis out of this strategic industry. Even in the initial period after the abolition of the farming-out system, Azerbaijani national capital did not play a great role in the oil industry, whereas the mass influx of foreign capital into the oil industry of Baku had already started.

The fast growth in oil production gave an impetus to the unprecedented development of Baku itself. If in 1856 Baku had the smallest number of homes among the cities of Azerbaijan, in 1898 there were 28,322 homes there, which represented a 16-fold increase. The demand for a workforce also triggered rapid growth in the population of Baku. For example, the population of the city increased from 14,700 in 1864 to 112,000 in 1897, i.e. by eight times.¹¹

It is clear that such growth could not be ensured by natural population growth and was possible only thanks to intensive immigration into Azerbaijan. The residents of the Absheron villages still formed the basis of the workforce of Baku's oil industry but were unable to meet the growing demand for oil industry workers. For this reason, this demand had to be met with the help of a migrating workforce.

While some residents of other rural districts of Azerbaijan came to satisfy this demand for workers, it was mostly met by a great influx of workers to Baku from outside Azerbaijan. Residents of Southern Azerbaijan, part of Iran, were notable among them. According to incom-



Baku, Surakhani, the house and courtyard of an oil worker, 1933

plete official information, from 1880 onwards, 30,000-35,000 seasonal workers came to Baku from Southern Azerbaijan every year. In reality, this number was even higher because most of them were not registered by the consular service as they crossed the border illegally. Official agencies issued 15,615 passports to residents of Southern Azerbaijan in 1891 and 22,776 in 1901. Most of those who came from Southern Azerbaijan worked in the Baku oil industry.¹²

Another of the main sources of growth in the number of oil industry workers were villagers from Russian regions along the Volga River, as well as residents of distant villages from the mountainous part of Karabakh and present-day Armenian territory.

In 1897, local residents comprised only 34 per cent of workers in the Baku region, while 10.3 per cent came from the Yelizavetpol (Ganja) region. More than 50

per cent of workers came from the Russian regions, Dagestan, Armenia, Georgia and Southern Azerbaijan, for example, 28.9 per cent of Baku workers came from Central Russia, Siberia and Central Asia, 13.3 per cent from Armenia and Georgia, 5.3 per cent from Dagestan and about 8 per cent from Southern Azerbaijan.¹³

According to information available in 1904, 41.5 per cent of workers in the Baku oil industry were Azerbaijanis, 26.5 per cent Russians, 18 per cent Armenians, while others were representatives of other nationalities.¹⁴

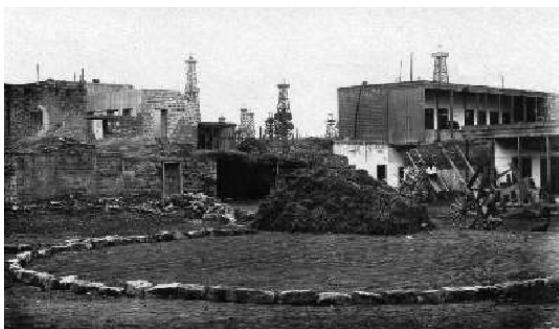
The second wave of migration to the Absheron peninsula began in the 1920s-1930s. On the pretext that there was a lack of national specialists and under the guise of securing the economic and cultural development of the region, a great number of people were resettled to Azerbaijan from central regions of Russia. In 1926-1939, the number of

Russians in Azerbaijan increased by 2.4 times (from 220,600 in 1926 to 528,300 in 1939). Most of them settled on the Absheron peninsula.

For the sake of fairness, we have to say that the wave of migration in the 1920s-1930s did not have a serious impact on the ethnic composition of the population of Absheron villages or their traditional lifestyle because these migrants, most of whom were Russians, settled in new workers' settlements in Absheron.

The Ethnographic Features of the Population

The territory of the Absheron peninsula, which occupies a special geographical position, has been situated since time immemorial on the route of permanent migration by various tribes and peoples. Furthermore, the rich oil reserves of Absheron have always attracted the attention of foreign invaders. For these reasons, during different periods of history Absheron has been a zone of close contact between various peoples, cultures and languages. This helped promote the extraordinary dynamic nature of the ethnic situation on the peninsula.¹⁵



Ola Surakhani. Thrashing-floor for bread harvesting

This is reflected in Absheron place names. Surveys show that the origins of different place names here are related to the names and languages of various tribes that populated the area from ancient times. There is a strong Iranian influence on Absheron place names. The words *khani* - "spring, brook, source", and *khana* -

"home, village" are typical of place names of Iranian origin in Absheron. This is also reflected in the names of our subjects of research - the villages of Surakhani and Balakhani.

The name Balakhani derives from the Persian words *bala* - "height, hill" and *khana*, and means a village situated on a hill.

According to popular legend, Balakhani derives from the name of Ba'li Khan (Ba'likan).

Another version is that the place name Balakhani is related to the construction of summer houses (*kulafirangi*) on the roofs of houses in the village. This place name means "a high house", because, as we said above, "*bala*" means high and "*khana*" means a home.

According to another popular legend, the territory of the village of Balakhani was always ablaze. Those who came to this village always got in trouble here. The first part of the place name is "*bela*" (trouble) and the second part is *khani* which means "home, place of residence" in Persian; that's to say "a troubled area".¹⁶

The place name Surakhani is also of Tat (Iranian) origin. The place name Surakhani consists of two elements: *surakh* which means "well, hole, cavity" in Persian or Tat and *khani* - "spring, brook, source". Thus, Surakhani means a spring coming out of a well or a source of fire. In other words, the words Surakhani and Ateshgah have the same meaning.

The reason for this is that even according to medieval authors, there were a great number of sites in Surakhani where burning gas would emerge from the earth. For example, the European traveller Kaempfer, who visited Absheron in 1683, gave a description of them.¹⁷ Kaempfer reported that "two people from the successors of an ancient Persian tribe, Indian fire worshippers and other incomers would sit still near a wall, look at the fire coming out of the earth and pray". Kaempfer's report confirms that there was a fire temple in Surakhani long before Ateshgah, which was built in the late 17th and early 18th centuries.

According to another version, Surakhani means "a red house" (*surukh* means red in Persian).

Sara Ashurbeyli puts forward another version about the place name Surakhani in her "Essay on the Medieval History of Baku". She thinks that "Surakshani" means a prayer house or a holy site in Sanskrit.¹⁸

As for the etymology of the place name Sabunchu, according to popular legend this name was created by adding the suffix "chi" to the words "se" - three and "bun" - hill, height. Allegedly, this place was

called Sabunchu (three hills) because of three hills which existed on that territory in the past.

According to another popular theory, the place name Sabunchu derives from the word "sabun" in the Azerbaijani language, i.e. it means a place where soap was made.¹⁹

The researcher A. Huseynzade regards this theory as unscientific and presents the word "Sabunchu" as the name of a Turkic-speaking tribe. He wrote that a tribe which was called Sabunchu settled in present-day border areas between Azerbaijan and Armenia and Nagorno-Karabakh in the 17th century and moved to Absheron in the 18th century.²⁰

As we said, the population of Balakhani and Surakhani is comprised of Iranian-speaking Tats. The Tat language is part of the Persian language group of the Indo-European family. According to B. V. Miller, who studied Tats in the early 20th century, residents of Surakhani called their language "Parsi" and regarded it as the most perfect of the Tat dialects. The population of Balakhani called their language both "Parsi" and "Tat".²¹ The language of Absheron (Balakhani and Surakhani) Tats is part of the southern dialect of the Tat language.²²

Absheron Tats are Shia Muslims.

The term "Tat" is of Turkic origin and was first mentioned in the Orkhon-Yenisey inscriptions, which date from around 730. It is interesting that the epic "Kitabi Dede Gorgud", which is an ancient manuscript of Azerbaijani Turks, mentions Tats as well.

*When a white lark with a grey beard flies,
When a Tat with a long beard calls for prayer.²³*

Another ancient Turkic manuscript which mentions the term "Tat" is "Divani Lughat at-Turk" by Mahmud Kashgari, which dates from the 11th century. The Divan uses this term in three meanings: 1) irreligious, infidel; 2) irreligious Uigur; 3) Persian. Experts regard the first meaning as the most ancient. The Turkic tribes which adopted Islam described not just their non-Muslim fellow Turks, but also Shia Persians who did not accept the official Sunni trend of Islam as "Tats".

Later, nomadic Turkic tribes called the whole rural and urban population of the countries they conquered "Tats", regardless of their ethnic

affiliation, because, "in the eyes of nomads, affiliation with a certain cultural type was preferable to ethnic or linguistic affiliation".²⁴

Even today, the descendants of nomads who are an ethnographic group of Azerbaijanis and were engaged in nomadic cattle-breeding in the past call sedentary Azerbaijani farmers Tats.

On the other hand, the Azerbaijani population of the Ganjabasar and Tovuz-Gazakh zones called all people who came from Iran to work "Tats", regardless of their ethnic affiliation. This was also common in Borchali.²⁵

As we can see, the term "Tat" was used for centuries not in an ethnic sense, but in order to show the social situation and lifestyle of the population. Only after this socioeconomic feature began to coincide with linguistic affiliation "did the term acquire an ethnic meaning".²⁶

There is a degree of unanimity among the scientific community about the time when the Tats first appeared in the Caucasus. According to V. F. Minorsky, A. Bakikhanov, R. Ismayilov, M. H. Baharli and many other researchers, the Tats are direct descendants of Iranian-speaking people who were resettled on this territory by Sassanid rulers from the provinces of Isfahan, Tabaristan, Lahijan and other provinces of southern and southwestern Iran beginning from the 4th century AD in order to colonize the Caspian littoral provinces of the South Caucasus.²⁷

This idea is also reflected in the Brockhaus and Efron Encyclopedic Dictionary.

It is known that the Sassanids, who came to power in Iran in the early 3rd century, started an active policy of occupation with regard to the Caucasus, especially its eastern part (Caspian coast). In order to take control of this region and prevent attacks from northern nomadic tribes, the Sassanids were trying to defend the Albanian Gate (the Derbend passage) in a more reliable manner. To this end, Sassanid rulers built a number of defensive fortifications in the Caucasus, and the most famous fortifications are the Gilgilchay and Derbend systems. According to an agreement signed between Byzantium and Iran in 387, Iran had to build defensive fortifications and deploy military garrisons in the Caucasus in order to repel attacks by nomads from the north.²⁸ In return, Byzantium undertook to provide Iran with the necessary means to take those measures. The resettlement of Iranian-speaking military

colonists to Azerbaijani territory began in that period. The modern Tats are their descendants.²⁹

At this time, the Tats settled in areas surrounding Derbend and in northeastern districts of modern Azerbaijan. The Tat villages on the Absheron peninsula appeared much later. For this reason, memories about the Tats of Absheron concern not ancient times, but more recent periods. The Absheron Tats, who have quite a superficial idea of their past, believe that they moved to the peninsula several centuries ago. They say that they arrived in Absheron from northeastern districts of Azerbaijan - Guba, Derbend and Shamakhi. In their opinion, the Tat villages of Shamakhi are older than those of Absheron. For this reason, there are almost no Tats who arrived in Absheron directly from Iran.³⁰

According to some researchers, the Tats occupied a much broader area in Absheron at the end of the 19th century. For example, A. Bakikhanov said in his famous work "Gulistani Iram" that apart from the six nomadic villages of Baku, the whole population spoke the Tat language.³¹

The author of the book "Baku and its suburbs", which was published in Russian in 1891, also claims that most of the population in the villages surrounding Baku was Tat. Along with this, he confirmed that there was no great difference between the Tats and Azerbaijanis living in Absheron in terms of lifestyle or spiritual and material culture.³²

Apparently, the Tat-speaking population of the Baku villages quickly adopted the Azerbaijani language in the early 20th century. This was related to the development of the economy, especially the oil industry, and the increase in population migration which this engendered, as well as an education system based on the Azerbaijani language. Despite this fact, a number of place names of Tat origin still remain around Baku (Kurdakhani, Novkhani, etc.).

In Absheron, a number of village names of Arabic origin still exist, for example, Khila, Binagadi, Zira, Gala, etc. Although Arab tribes settled in Absheron in the past, their language did not survive as they were assimilated by the local population and so the only remaining trace is in the place names of the peninsula. This proves that before the Arab invasion, Turkic and Iranian elements had quite a solid basis on the territory of Absheron.

There are more place names of Turkic origin in Absheron. These are Ahmadli, Guzdek, Gobu, Lok-Batan and other villages. As we said above, the name of the village of Sabunchu, the subject of our research, is also of Turkic origin.

Along with place names, research into archaeological and written sources allows us to suppose that although the first Turkic tribes are believed to have arrived on the territory of modern Azerbaijan in the 7th and 6th centuries BC,³³ their mass resettlement here began in the middle of the first millennium AD.³⁴ The influx of Turks onto Azerbaijani territory intensified in the first few centuries AD. Sources of the early Middle Ages are rich in information about frequent Hun invasions of Azerbaijan during that period. There is no doubt that some of them settled in Azerbaijan. For example, the 5th century authors Yegishe and Faust of Byzantium reported Hun attacks on Azerbaijan.³⁵

The next stage of the Turkicization of Absheron is related to the Seljuks and Mongols. From that period onwards, the Turks became the dominant element in Absheron.

The influence of Turkic tribes on the Iranian-speaking population of Absheron increased even more during that period. As a result of this influence, in the early 20th century, only two Absheron villages - Balakhani and Surakhani - were heavily populated by Iranian-speaking Tats.

Information about the Tats who lived in Balakhani and Surakhani in the late 19th and early 20th centuries is very sketchy. For this reason, we think it important to mention some reports by the well-known ethnographer, M. M. Kovalevski, about the customs of Absheron Tats in that period. Researching into the household law of Caucasus peoples, Kovalevski collected information about Tats from 76-year-old Ojam Aligulu oglu in Surakhani in 1888. The author observed the following Tat traditions: 1) the presence of endogamy; 2) the presence of a "bride price" which the parents of the bridegroom had to pay to the family of the bride; 3) the payment of one manat by the bridegroom's family to the bride and to the woman accompanying the bride to the house of the bridegroom on the day of wedding in return for her virginity; 4) the archaic form of dowry - the payment by the family of the bridegroom of a "bashliq" to the girl's family, which would then form the basis of the bride's dowry; 5) remains of levirate (the brother-in-law avoided talking



to his brother's wife); 6) the offer of a land plot, which was confiscated and put up for sale to the neighbour first, and so on.³⁶

The fact that the Tats of Balakhani and Surakhani lived side by side with Azerbaijani Turks for many centuries has had an effect on them and has left a deep mark on their culture and customs. According to G. Javadov, who studied the ethnic minorities of Azerbaijan, including Tats, for many years, "currently, the Tats are closest to Azerbaijanis in terms of their traditions and customs, ethnic features, national and spiritual culture and other ethnographic features and in many respects, they are totally identical with the latter".³⁷

By the end of the 19th century, the Tats differed from the surrounding Turkic population only in terms of their language. This is no accident because language is regarded as the most solid ethnic sign. However, serious changes occurred in this sphere during the 20th century.

In the 1920s, the prominent researcher, B. V. Miller, reported that the Turkic (Azerbaijani - A. B.) language was more common among the Tats of Absheron and that they were educated in this language. He noted that "even in the village of Surakhani, only lullabies are sung in Tat. Speeches at funeral wakes are made in both languages - Tat and Turkic, while songs at wedding parties are sung only in Turkic. The Tat language retains its position only in a limited sphere such as family and home".³⁸

It is important to stress that, according to Miller, the Tats adopted the Turkic language in a natural and voluntary way. Miller said that "the proximity of a Turkic centre like Baku and close economic and cultural ties between Tats and Turks expedited this process".

Miller drew attention to the fact that over the last 10 years, this process has become even more intensive due to the introduction of school education. He claimed that only older people actively used the Tat language in the middle of the 1920s. The use of the Tat language in families and homes was quite limited.

From this point of view, a short period of time during the 1920s and 1930s is an exception. In 1925, the Society to Study Azerbaijan set up a special Tat Commission in order to study the history, culture and language of the Tats. This commission created a Tat alphabet based on the Latin script in 1929, and from 1930 onwards, this alphabet was used in practice.³⁹

In 1930-1938, Tat schools operated in areas heavily populated by Tats in Azerbaijan. In the 1937-38 academic year, 24,100 pupils studied in the Tat language at these schools.⁴⁰

In 1930-38, 226 books with a print run of 329,200 were published in the Tat language.⁴¹ However, during Stalin's repressions, the teaching of the Tat language and the publication of books were totally suspended. This can be attributed to the Kremlin leadership's desire to speed up the formation of a single Soviet people. Thus, after the 1930s, the Tats started using Azerbaijani Turkic as a literary language in all spheres, except for in their families and homes. Before the February 1917 revolution, Azerbaijani Turkic was quite common among Tats. For example, N. Zeydlits reported that the Tat language was quickly losing ground to Azerbaijani Turkic and most Tats preferred speaking in that language.⁴²

In the current period, the ethno-cultural development of Muslim Tats is following the same course as that of the Azerbaijani Turks. This process was accelerated by the cultural unity of Azerbaijani Turks and Tats, which took shape historically (the same religious affiliation, similar traditions and customs, etc.). It is quite natural that, from an anthropological point of view, the Tats are closer to Azerbaijanis than Persians.⁴³

The same religious affiliation of Tats and Azerbaijani Turks - Shi'ism - also played an important role in this process. Though Azerbaijan is a point of convergence between various civilizations, it has been developing as an integral part of the Islamic world since the 7th century. As in all spheres of socio-political and cultural life, this factor has had a decisive influence on the public consciousness of peoples living in the country.

For example, leaving aside certain exceptions, the dominant role of the religious factor was typical of the public consciousness of all Muslim peoples until the early 20th century. In other words, religious consciousness clearly prevailed over ethnic consciousness. According to the rules of Islam, all Muslims, regardless of racial or ethnic affiliation,

comprise a single "umma". The Islamic religion even considers it to be a great sin to divide Muslims into separate nations.

In the early 20th century, this situation was typical of peoples living in Azerbaijan, including Azerbaijanis and Tats. Their consciousness was based on traditions and customs typical of the "umma" rather than on any emerging national feelings.

Only from this period onwards did the processes of modernization in Azerbaijani society gradually change this situation. Since the Tats developed as an integral part of Azerbaijani society, they developed an ethnic consciousness that was typical of Azerbaijani Turks. This means that the Tats switched from religious consciousness (identity) directly to Azerbaijani ethnic consciousness. Despite wishful thinking on the part of some Tat intellectuals, the Tats never developed a specific ethnic consciousness on a mass scale.

Of course, this does not mean that the Azerbaijani and Tat cultures are totally homogeneous. Tat culture is distinguished by a number of specific features, and they manifest themselves first and foremost in family lifestyle. For example, traces of the pre-Islamic period can be observed in the traditions and customs of Tats living in Balakhani and Surakhani. The reason is that like Azerbaijani Turks, Tats were also fire worshippers in ancient times. Despite the fact that they adopted Islam, they preserved their fire-worshipping customs for a long time and observed those customs within their families. For example, lighting a lamp or putting a dish of water for three days in a home from which a deceased person has been taken are both remnants of the Zoroastrian religion.⁴⁴

M. Hajiyev writes that Tats regard it as a bad omen if the fire in their hearth goes out and they have to ask a neighbour for fire. The hearth is extremely holy for the Tats. There is no doubt that all these are signs of fire worship in their everyday life.

Until the 1920s and 1930s, there were areas in a number of Absheron villages which were mainly inhabited by several related families. A community of related families, which is called patronymia in ethnography, manifested itself not just in hereditary links, but also as a farming, public and spiritual community.

From this point of view, the Absheron villages which are the subject of our research were no exception. For example, the following areas

historically existed in Balakhani: 1) The lower area; 2) The Bug-Buga area - the name of this area derives from the name of a mud volcano that was located near the lower area; 3) the Rza-Gulu area in the northern part of the village; and 4) The Jan Huseyn area.⁴⁵

As a rule, every area had its own elder, while a larger and more influential area had its own separate mosque and square. Residents of an area participated in various events (wedding parties, wakes, etc.) together and paid special attention to mutual support within the area. Some aspects of these local spiritual features have to some extent been retained to this day.

Modern Ethnic Processes and Changes in the Population's Lifestyle (The results of the opinion poll)

As we said above, mass bilingualism has historically been characteristic of the Tats. Apart from their mother tongue, they usually also spoke Azerbaijani Turkic. The education system also played a significant role in this process. Apart from a short period in the 1930s, the Tats were educated mainly in Azerbaijani Turkic. The literary language of the Tats was Azerbaijani as well. This was one of the main factors that expedited their adoption of Azerbaijani Turkic.

At the current stage, the total adoption by Tats, primarily the younger generation, of Azerbaijani Turkic has almost been completed. Only a limited number of older people know the Tat language. This is also borne out by the results of the opinion poll.

The main elements of traditional national culture, primarily the mother tongue, are known to be maintained most strongly in families and everyday life. From



this point of view, the language of any ethnic group, regardless of its level of development, is used more actively in the process of communication within families. The Tat language is used mainly in communication with old parents (See Tables 1 and 2).

Table 1

**Languages used by residents of Balakhani within their families
(according to the results of the poll, per cent)**

	Azerbaijani Turkic	Russian	Tat
With parents	89.7	2.1	8.2
With children (grandchildren)	93.9	5.6	0.4
With spouse	92.9	2.5	4.6

Table 2

**Languages used by residents of Surakhani within their families
(according to the results of the poll, per cent)**

	Azerbaijani Turkic	Russian	Tat
With parents	79.9	10.6	9.5
With children (grandchildren)	84.2	12.1	3.8
With spouse	83.8	9.4	6.8

The study of the language orientation of the Balakhani and Surakhani population is of special importance to the future prospects of the Tat language. For example, since today's situation in the language sphere reflects yesterday's demand, the study of today's demand among Surakhani and Balakhani residents makes it possible to identify the main outlines of future development in the language sphere.

In this context, the study of demand for individual languages in the sphere of school education is of special interest. The question "In what language would you like your children to study at school?" makes it

possible to determine the difference between the desired and real languages of education. On the basis of answers to this question, it is possible to clarify the prospects for the functional development of various languages within the school education system (Table 3).

Table 3

The languages in which people want their children to study at school (according to the results of the poll, per cent)

In Azerbaijani Turkic	67.2
In Western European languages (English, French, etc.)	21.4
In Russian	10.4
In Tat	1.0

Thus, the results of the poll show that only 2.3 per cent of respondents in Surakhani and 2 per cent in Balakhani want their children to receive their education in the Tat language. Most of the Tats in Balakhani and Surakhani prefer Azerbaijani Turkic, Western European languages (English, French, etc.) or Russian.

In general, the survey showed that the language orientation of Azerbaijanis has undergone serious changes during the post-Soviet period. For example, in the early 1990s Russian took second place in school education after Azerbaijani Turkic. Now Russian has been pushed into third place by European languages, especially English. This shows that the interest of various strata of the population in the English language is growing. There is no doubt that this is related to the almost unlimited scale of the social functions of the English language and the broad opportunities it offers to secure access to the achievements of world civilization, including various sources of information.



The street in the “Nobel Village” in Sabunchi

Mutual relations between local residents and displaced persons

According to the information available on 1 January 2008, the population of Sabunchu was 22,063, Balakhani - 11,204 and Surakhani - 15,994, though in reality the population of these villages is much higher,⁴⁶ because a great number of displaced persons who left their homes during the Karabakh conflict of 1988-1993 have settled in these villages, and official statistical figures do not reflect their numbers correctly.

The results of the poll we conducted also prove that displaced persons form a large proportion of the population in these villages. For example, migrants comprise 32.1 per cent or one third of the population of these villages. At the same time, 43.5 per cent of migrants settled here over the last 10 years, i.e. since the beginning of the Karabakh conflict, and 21.8 per cent of them are displaced persons.

There is no doubt that such a mass influx of refugees onto the territory of Absheron has aggravated the socioeconomic situation in this region, which was already suffering from unprecedented population density. In the first instance, the local authorities have to shoulder the burden of providing these displaced persons with accommodation and jobs, without having solved similar problems facing the local population, so the situation in this sphere is simply deplorable.

Consequently, problems in the socio-cultural and economic infrastructure of Absheron have been further aggravated in connection with the mass influx of displaced persons. The socioeconomic infrastructure of the region has proved simply incapable of overcoming these difficulties. Moreover, the lifestyle of these displaced persons was different from the lifestyle of Absheron residents according to many parameters.

All these factors have generated uneasy relations between displaced persons and local residents. For example, more than half of the local residents polled shun refugees and prefer to avoid



any contact with them. Only 30 per cent of local residents have casual relations with displaced persons, while only 10 per cent maintain close relations with them.

One of the factors that has a negative impact on relations between the local population and displaced persons is that the latter disrespect the environment because they regard themselves as temporary residents of this territory. This was evident in the assessment of the condition of historical monuments in these villages (Table 5).

Table 5

How do you assess the condition of historical monuments in your area (according to the results of the poll, per cent)

	Local population	Refugees
Normal	41.6	86.8
Satisfactory enough	13.8	3.8
Unsatisfactory	44.6	9.4

Though most of the historical monuments in these villages are in a poor condition, more than half of displaced persons are not only unconcerned by this but, conversely, they regard it as normal. Perhaps if we take into account though that many displaced persons are involved in the destruction of these monuments, their position does not appear surprising at all.

The mass influx of displaced persons to Absheron has further aggravated the already tense situation in the region's labour market. From this point of view, the local population regards displaced persons as rivals. This is another factor further complicating relations between the two groups. Eighty per cent of local residents regard unemployment and the difficult social situation of the population as the biggest social problem (Table 6). In other words, local residents currently find it difficult to meet even their minimum material needs. In such a situation, other important social problems take a back seat.

Table 6**The most important social problems of your village
(according to the results of the poll, per cent)**

Unemployment	42.8
The difficult financial situation of the population	38.5
The condition of roads	6.8
Power supplies	0.9
Drinking water problem	6.8
Gas supplies	4.3

The socio-cultural requirements of the local population are higher than those of displaced persons. Unlike displaced persons, local residents are more critical of the work of medical, educational and cultural institutions in the villages. Of polled local residents, 35.2 per cent (14.3 per cent of displaced persons) are displeased with the work of cultural centres, 34 per cent (6.5 per cent of displaced persons) - medical institutions and 43.1 per cent (8.1 per cent of displaced persons) - educational institutions.

Due to the enormity of the socioeconomic problems which they face, 47.9 per cent of local residents said they intended to leave their villages and move to other regions of the country or even go abroad. This is a very surprising result for Azerbaijanis who had special links to their homeland and were distinguished by the insignificant proportion of them who migrated during Soviet times. Most of the respondents said that the main reason for their desire to migrate was the difficult socioeconomic situation, the bad environmental situation in the region, the loss of the traditional lifestyle typical of Absheron villages and the fact that they did not see any prospects for their children in these villages.

It is characteristic that one third of the respondents have left the village with their close relatives and friends and settled in other places. Of them, 39.2 per cent moved to central districts of Baku, 11.2 per cent to other regions of Azerbaijan and 49.7 per cent went abroad.

Family

Family is one of most important indicators of changes in any traditional lifestyle. Many social problems of society - population growth, the socialization of people, formation of their main qualities and so on - are directly related to the family and are realized with the help of the family. From this point of view, it is especially interesting to obtain empirical information about social developments in families in the modern period. This information could greatly help society manage these developments. Family research also makes it possible to identify changes that have happened in social life in recent years and the correlation of the traditional and the modern in the modern lifestyle of the population.

The drastic changes that happened in Azerbaijani society after the collapse of the Soviet Union also affected the family. Quite contradictory processes are taking place in this sphere. On the one hand, a number of tendencies which were not typical of the Azerbaijani mentality have emerged and developed. For example, historically Azerbaijanis have disapproved of the birth of illegitimate children and have regarded this as a disgrace.

From this point of view, it is impossible to ignore the fact that the number of illegitimate children has sharply increased in Azerbaijan in recent years. If in 1991, 7,137 children born in Azerbaijan were illegitimate, in 2004-2005 this figure exceeded 26,000. Thus, if in 1991 illegitimate children comprised 3.8 per cent of all new-born babies, in 2005 this figure was 18.4 per cent. In other words, one child in five born in Azerbaijan in recent years is illegitimate.⁴⁷

At first sight, this situation shows a weakening of the family in Azerbaijan. However, there are also counter-processes going on in the country, and they show that the family is strengthening, primarily due to a fall in the number of divorces. If in 1990, 147,000 divorces were registered, in 1997 this figure dropped to 5,800 and in 2001 - to 5,300. As a result, if there were 20.9 divorces per 1,000 people in 1990, in 2001 this figure was 0.65 and in 2005 - 1.1.⁴⁸

Thus, if the correlation of marriages and divorces was two to one in 1990, in 2001 this indicator was 10 to one. However, recent years have again seen an increase in the number of divorces. For example, in the



first three months of 2008 alone, 2,000 divorces were registered in Azerbaijan. This means that the correlation of marriages and divorces is currently eight to one.⁴⁹ It seems reasonable to assume that the socioeconomic difficulties typical of the transitional period are one of the main reasons behind such a change. In

this situation, the family acts as a kind of psychological and economic asylum. In a situation when Azerbaijani society is experiencing drastic socioeconomic and political changes and there are no well-established state institutions, the family is of special importance to people.

Statistical reports show that in the post-Soviet period, the reproductive function of the family has been falling steadily. For example if in 1991 there were 26.6 births per 1,000 people in Azerbaijan, in 2001 - this figure dropped to 13.8.⁵⁰ In other words, the birth rate halved in Azerbaijan during the first 10 years following the collapse of the USSR.

However, there has been some discernible growth in this sphere in recent years. For example, in 2005 the number of births per 1,000 was 17.2, while in 2006, 17.8 births were registered. However, as we can see, this indicator is still much lower than the level of the early 1990s.⁵¹

For comparison purposes, we have to say that in the 1960s, 42.6 births per 1,000 people were registered in Azerbaijan.⁵²

The strengthening of the family in Azerbaijani society in the post-Soviet period is also interesting because the family, which is one of the most conservative social institutions, is usually late in responding to certain developments in society, and in general, these developments cannot be sensed within the family. Even the Soviet system, which tried to control all aspects of social development in society, was unable to exert an influence on the family.

Although we do not deny certain modernist tendencies in the development of the Azerbaijani family under Soviet rule, we think it important



to note that the main aspects of the traditional Azerbaijani family - the special etiquette within the family (the husband's exaggerated influence in the family, respect for elders and so on), the complicated genealogical composition of the family and its many members, the rule of dividing family responsibilities and so on un-

derwent very few changes during this period.

From this point of view, though the sociological poll that was conducted among residents of Balakhani, Surakhani and Sabunchu showed that the process of transformation in family life has intensified significantly in the post-Soviet period, this survey confirmed once again that patriarchal traditions have retained their importance and influence in the lifestyle of the Azerbaijani family. The results of the poll (Table 7) show that 65.3 per cent of respondents were born and grew up in patriarchal families where the head of the family had the final say and where parents strictly controlled their children. Some 32.1 per cent of respondents come from families ruled by the traditions of collectivism where "all issues are solved together". Only 2.6 per cent of respondents grew up in families ruled by the principles of individualism where "everyone lived for themselves and where parents did not really take care of their children".

Table 7**Family affiliation (according to the results of the poll, per cent)**
What was typical of the family in which you grew up?

What was typical of the family in which you grew up?					
Patriarchy		Collectivism		Individualism	
1	2	3	4	5	6
28.0	37.3	23.2	8.9	1.6	1.0
1. Strict parental control over children 2. The head of family has the final say 3. Important family issues are solved collectively 4. Trust and mutual assistance 5. Everyone lives for themselves 6. Parents do not really take care of their children					

The results of the sociological poll show that unlike local residents, the number of people who grew up in patriarchal families is higher among displaced persons. If the number of local residents who grew up in patriarchal families is 64.6 per cent, this figure is 74.2 per cent among displaced persons.

However, the most important result is that the sociological poll shows that most of the local residents and displaced persons adhere to values typical of patriarchal and collectivist families. Some 89.4 per cent of respondents want their families to be like their parents' family and only 10.6 per cent reject the principles dominating their parents' family (Table 8).

According to ancient Azerbaijani tradition, when children marry, the parents have the final say in selecting the groom or the bride. The modern residents of the villages under review are faithful to this tradition. For example, 79.3 per cent of respondents believe that their parents' consent is essential for their marriage, while 18.5 per cent regard this as desirable. Only 2.2 per cent of respondents flatly rejected their parents' interference in this issue.

Table 8

**Your attitude to your parents' family
(according to the results of the poll, per cent)**

Would you like your own family to be like your parents' family?					
Yes			No		
Very much	To some extent	Total	Very much	To some extent	Total
53.2	36.2	89.4	9.9	0.7	10.6

The poll also showed that displaced persons are more loyal to these traditions. For example, 91.9 per cent of displaced persons believe that a parental blessing is essential when starting a new family, while this indicator was 72.9 per cent among local residents. Interestingly, while 2.3 per cent of local residents think that there is no need to inform parents about their decision to marry, not a single refugee takes this view.

These facts do not mean that developments in society have had no impact on families and the everyday life of the population of the villages. Though the family acts as a kind of lifestyle "battery", the drastic changes taking place in the modern world have also had their impact on the very conservative sphere of family relations, and Balakhani, Surakhani and Sabunchu are no exception.

Experts who study family relations note the existence of two main family types - traditional and modern. For the first type of families, it is typical to have many children and keep a great number of relatives together. Apart from that, a traditional family has a hierarchical structure where every member of the family has his or her own place and role. In such a family, the man, who is also the head of the family, has unlimited powers to resolve all family problems. He is the one who has the leadership and control functions in the family. In such families, the woman's role is to take care of the household and look after her husband, children and other family members. In such families, the nature of relations within the family is determined by traditional norms that have been preserved in people's consciousness and behaviour.

On the other hand, a "modern" family is the opposite of this "traditional" model. Such families are usually not so big and consist of the

husband, wife and their children. It is typical for this structure to ensure the democratic nature of family life, with the husband and wife enjoying equal rights and sharing duties and a division of family tasks according to people's skills and abilities.



There is no doubt that both family types are a scientific abstraction and do not exist in a pure form in real life. Specific families have, to varying degrees, features typical of both the "traditional" and the "modern". From this point of view, the families we studied in the villages of Balakhani, Sabunchu and Surakhani are no exception.

Novelty and a complex synthesis of traditions are typical of family relations in these villages. One of the main purposes of this research, in fact, was to study the features of the mutual influence of innovations and traditions on family life in the villages.

The results of the research prove that the material aspects of family life in these villages - flats, furniture, household goods and so on - have become very uniform as choices in this sphere are limited to mass-produced products.

In this situation, ethno-cultural specific features manifest themselves in the structure of family relations. This structure represents unity and relationships between the elements that form it. The following are the main elements that form the basis of family relations and are the subject of our research: the division of roles within a family, including the functions of the head of the family; the involvement of members of the family, primarily the husband and the wife, in the settlement of family problems; the division of responsibilities in management of the household and in the upbringing of children as well as the spiritual-moral values that shape relations within the family.

There is no doubt that these spheres of family life are gradually moving away from "traditionalism" to "modernism". From this point of view, one of the main purposes of the research was to look into the

pace and main directions of this evolution on the basis of the example of family life in Balakhani, Sabunchu and Surakhani.

One of the most important elements of family relations is the head of the family. Surveys allow us to say that authoritarian tendencies are gradually being replaced by greater egalitarianism in this area of family relations, although first impressions suggest that the man's role as head of the family is strong enough (Table 9).

Table 9

**Who solves the most important issues in your family?
(According to the results of the poll, per cent)**

Husband	52.8
Wife	9.2
Mother-in-law and father -in-law	4.2
Husband and wife together	33.8

The number of families where the man who is head of the family solves all the important issues is higher among displaced persons - 59.3 per cent. In general, a woman was head of the family in only 74 of the 807 families studied in Balakhani, Surakhani and Sabunchu, and only 17 of these were married women.

However, the idea of the "head of family" has also undergone drastic changes in the modern Azerbaijani family. Currently, the husband who is head of the family is not the only owner of family property, and his leading role in the family is based not on ownership rights as was the case in the past, but on spiritual values - his personal influence and other family members' respect for him. In most families like this, relations between members of the family are established on a democratic basis.

The unequal position of women in the past manifests itself only to some extent in family etiquette. For example, the woman tries by her behaviour to exaggerate the authority of her husband - the head of the family. Though the husband and wife have absolutely equal ownership rights in the family, she remains loyal to the tradition and maintains respect for her husband in front of guests and strangers, takes special care of her mother-in-law and father-in-law, etc.

Another important point here is that structural elements should be studied as a whole and in the context of mutual relations. Attempts to characterize any event on the basis of its separate elements may lead to incorrect conclusions. Although some elements of the structure of family relations among residents of the villages can be described as traditional, conversely, others stand out as novel. For example, a traditional division of household responsibilities between the man and the woman is typical of most of the families in these villages (Table 10). From this point of view, there are no great differences between the local population and displaced persons.

Table 10

Division of family responsibilities between the husband and the wife (according to the results of the poll, per cent)

	Husband	Wife	Both
Shopping	60.2	27.3	12.5
Cooking	1.7	95.1	3.2
Washing and ironing	1.1	97.5	1.4
Bringing up children	18.2	36.1	45.7
Cleaning work	1.9	97.0	1.1
Minor refurbishment work	95.0	3.1	1.9
Gardening	81.8	9.5	8.7
Looking after domestic animals	68.2	17.6	14.2

Despite the preservation of this traditional division of responsibilities between the woman and the man in the family, it would be wrong to characterize these families as "traditional", ruled by authoritarian-hierarchical relations, because they lack many other elements that are typical of "traditional" families. For example, in many families with a traditional division of responsibilities, both the husband and the wife are regarded as heads of the family. On the contrary, in families where the husband is the only head of the family, the division of responsibilities is not always traditional because the husband actively helps his wife to carry out household tasks.

Respondents had a positive attitude to women's involvement in public work and education (Table 11), though women are more involved



in household work, which is why their public activity is not as great as that of men. Such a positive attitude is more common among local residents than displaced persons. For example, if 10.9 per cent of local residents have a negative attitude to women's involvement in public work, this indicator is 16.1 per cent among displaced persons.

Attitude to women's education and involvement in public work (according to the results of the poll, per cent)

Positive	70.4
Negative	11.2
As she wants	18.2

Ethical traditions and innovations in family life also manifest themselves in the composition of the family and in the number of family members. It is known that having many children is characteristic of Azerbaijani families, as is the family's complex genealogical composition. The Russian ethnographer M. M. Kovalevski, who studied the traditions of Absheron Tats, including residents of Surakhani, in the 1880s reported that it was natural for four or five brothers to live in the same house.

Though this is not common now, two or three brothers may still live in the same house. In general, in modern times there is a tendency for the average size of the family to decrease and for its genealogical composition to be simplified. Surveys show that these changes are related not just to the fall in the birth rate, but also to the process of complex families splitting up into several families which prefer to live separately. In the modern period, families consisting of representatives of two generations (parents and children) are dominant (Table 12).

Table 12**The genealogical structure of the family
(according to the results of the poll, per cent)**

Family types	
Representatives of one generation	6.5
Representatives of two generations	66.4
Representatives of three generations	23.4
Others	3.7

However, the number of families which include representatives of three generations (husband and wife, their parents and children) is still high (23.7 per cent). It is interesting that the number of families which include representatives of three generations is twice as high among displaced persons as among local residents. For example, this indicator is 12.6 per cent among local residents and 24.1 per cent among displaced persons.

Presumably, if young families did not have problems with accommodation and child care, the formation of families including representatives of only two generations would accelerate. This is also proved by the fact that most of the young families polled would prefer to live separately from their parents. The young families attribute this desire to live separately to the fact that the difference between the values typical of different generations causes psychological tensions and conflicts between parents and young people.

In this regard, unlike in the recent past, it is no longer vital in modern families for children to provide financial assistance to their parents. Surveys show that parents now give their children more financial assistance than children give to their parents.

In general, a complex combination of innovations and traditions is typical of the structure of family relations among the population of Balakhani, Surakhani and Sabunchu.

Our surveys also proved that, according to their main parameters, families of Tat origin in Balakhani and Surakhani do not differ from families of Turkic origin in Sabunchu, which is not surprising given that

even in the recent past there was no great difference in family and everyday relations between Tats and Azerbaijani Turks.

Religion

Historical experience shows that interest in religion usually increases during transitional periods in the life of society. From this point of view, the role of religion in public-political life during the last decade of the 20th century has attracted the attention of researchers. No one can deny that people's view of religion underwent drastic changes after the collapse of the USSR, and this process is still continuing.

These changes manifest themselves mainly in two directions: the older population, which previously held atheistic views, is now changing its position and the young have a growing interest in religion. In this society there is no longer a stratum of aggressive atheists who consider the fight against religion to be important. In recent years, the influence of religion on people's behaviour has increased considerably. The role of religious ideology in the system of the nation's general cultural values has also changed significantly.

Even though outwardly the positions of religion are growing stronger in public life, a number of issues have yet to be clarified. For example, the results of the opinion poll showed that though religion is being actively promoted, the number of mosques is rising in Azerbaijan and government agencies are trying to win over the religious elite, in general, "limited religiosity" is characteristic of Azerbaijani society. In other words, people who claim to be religious do not follow through on this in their everyday actions.

Apparently, marking various religious holidays and mourning dates is a sign of piety for them. For example, 85.8 per cent of respondents mark the festival of sacrifice – *Gurban Bayram*, 47.6 per cent - the month of fasting – *Orujlug* and 70.1 per cent - the month of mourning – *Maharram*. As for daily rituals that are compulsory for every Muslim believer, the situation is the opposite. For example, only 14.1 per cent of respondents pray, whereas *namaz* is one of the five compulsory commandments for Muslims.

The results of the poll also prove that the present-day religiosity of Azerbaijanis is mainly declarative in nature (Table 13). According to those results, most of the residents (61.2 per cent) go to the mosque either sometimes or during religious festivals, while 26.5 per cent of respondents could not answer this question and only 8.3 per cent said that they go to the mosque regularly (every day or every week).

Thus, though religious views have become common among the population in the post-Soviet period, for a considerable proportion of people, especially for the young, this religiosity is superficial in nature.

Table 13

**How often do you go to mosque?
(According to the results of the poll, per cent)**

1. Every day	5.5
2. Every week	3.9
3. Once a month	35.6
4. Sometimes	25.6
5. Only during religious festivals	26.5
6. Don't know	2.8

That there are some positive aspects to the declarative nature of Azerbaijani attitudes towards religion. For example, this attitude prevents the spread of orthodox religious trends, first of all Wahhabism, in the country. Most of the residents polled in Balakhani, Surakhani and Sabunchu have quite a negative attitude towards Wahhabism. Some 61.2 per cent of them regard Wahhabism as a threat to the traditional religious views of Azerbaijanis, while 37 per cent could not answer this question and have a neutral attitude towards Wahhabism, and only 15 per cent support the spread of this religious trend in Azerbaijan.

Along with this growing interest in religion among Azerbaijanis in recent years, various components of pre-Islamic trends, such as fortune-telling, witchcraft and magic, have retained their popularity or have even slightly strengthened their positions.

In fairness, the convergence of Islamic values and pre-Islamic beliefs, including faith in spirits and other supernatural forces, have always been typical of Azerbaijanis' religious views. Our surveys proved that various primary pre-Islamic beliefs have survived among residents of Balakhani, Surakhani and Sabunchu.

Our observations show that not only have traces of these primary beliefs survived among residents of these villages, they have also become more common. In our opinion, this is due to the socioeconomic difficulties of the transitional period. In situations like this, faith in various miracles can serve to reduce psychological tensions.

The survey also proved that signs of primary animistic faiths and faith in various spirits have survived to this day. In the everyday life of the villages under review, myths about evil forces (jinni and devils) are still common. According to these myths, an encounter with evil forces may cause various problems for people, such as disease, accidents or setbacks in their personal lives. For this reason, various preventive measures are taken to avoid encounters with evil forces.

For example, people are advised to avoid spraying hot water in the courtyard, letting young women and children go out after dark, approaching sources of water after dark, burning onion or garlic skins, which serve to cloak evil forces, dumping garbage at the entrance to a house and so on.

It is notable that the purifying power of fire is used to keep out evil forces. For example, people try to frighten the jinn and accelerate the healing of a wound by touching it with a hot spoon. Apparently, some ethnographers link this custom to fire worship because it was fire worship that linked the existence of humans and other living creatures on earth to the heat and light produced by fire.⁵³

Myths about Guleybani are common in all the villages of Absheron, without exception. Guleybani is like a brownie and usually rides a horse at night to the point of exhaustion. Guleybani's visit is obvious not just from the sweating of the horse, but also from the dishevelled mane of the horse. In order to catch Guleybani, people keep the horse saddled at nights and spread kir on the saddle. It is assumed that it is possible to catch Guleybani if he gets stuck to the saddle thanks to the kir and cannot get off the horse.

Until recently, there was another custom in Balakhani which reflected ancient animistic views. For example, in order to kill an enemy, people made a waxwork of him. A fuse was attached to the head and hands of the waxwork and it was set on fire on an old grave in the cemetery. It was believed that this action against the waxwork would affect the enemy as well.⁵⁴

Residents of Balakhani say that another custom related to magic - "cutting of chilla" - has survived to this day. It is believed that a woman can be affected by "chilla" within 40 days of marriage. As a result of this, the woman will lose weight and may not be able to have children. In order to save the woman from "chilla", a "chilla-cutting" ceremony is held.

In this ceremony, one bucket of water, dough made on seven graves and an empty bottle are used. The woman is taken to the cemetery together with these items. The woman sits down and seven hairs are pulled from her head. A magician mixes the hairs with the dough, pulls them tight like strings and cuts them above the woman's head, saying: "I am cutting you and freeing you from the dog, cat, jinn and devil." After that, the water in the bucket is gradually poured onto the woman's head, and the magician "cuts through" the water with scissors and repeats the same words. After that, the magician suddenly slams the bottle on the ground so that the woman does not see it. The woman starts with fear and gets rid of her illness.

The "Musallah" ceremony, which was held in Surakhani until the beginning of the last century, is another pre-Islamic custom. This ceremony was related mainly to agriculture and its purpose was to ask God for rain during a drought. The Musallah ceremony was often held near fields or on hills. During the ceremony, the whole population of the village, led by the akhund and elders, went to the site of Musallah and asked God for rain and help. Animals were sacrificed, halvah was made and pilaf was cooked at the site.⁵⁵

While talking about such primitive views, which were common among residents of the villages under review, we cannot fail to mention traces of the ancient stone cult. This cult reflects the very first stage in the development of human consciousness. It was believed that the human spirit was hidden in stones which had magic power. In Absheron villages, it is still common to put a black stone in the place from which

the body of a deceased person is taken. It is believed that the stone should be left in the cemetery after the spirit of the deceased moves into that stone.

Conclusion

The facts we have cited regarding the three Absheron villages allow us to say that the developments which have taken place in the economic and political life of Azerbaijani society in the post-Soviet period have brought about certain changes in the institution of the family. The following are the most important of those changes: a gradual fall in the birth rate, the fact that most Azerbaijani families consist of representatives of two generations, the acceleration of women's involvement in public work and the fact that egalitarian relations have started to dominate in families.

However, the most important tendency observed in the development of the Azerbaijani family is the disruption of the correlation between the two important functions of the family - reproductive and social functions.

As a result of these processes, the average size of historically large Azerbaijani families is decreasing. In the 1980s, 31.1 per cent of Azerbaijani families consisted of seven or more people.⁵⁶ The results of the 1999 population census show that the number of such families has fallen by 16.3 per cent in Azerbaijan. The most common families now have four or five members. In 1999, the average number of family members in Azerbaijan was 4.7.⁵⁷

The sociological poll we conducted once again confirmed this tendency. For example, most of the families in the three villages under review, or to be more precise, 56.8 per cent of them, consist of four or five people. The number of families which have six or more people accounts for only 17 per cent.

Not only quantitative, but serious qualitative changes are also taking place in the Azerbaijani family. For example, against a backdrop of undeniable facts that show the weakening of the family's reproductive function, the importance of family identity is increasing. Thus, contrary

to the idea which is widespread in foreign ethnology and anthropology that the institution of the family is undergoing a crisis in the modern period and will gradually disappear, the Azerbaijani family is neither collapsing nor disappearing. It is simply being re-established by taking on new features. The centre of gravity of the functions typical of families is moving from the reproductive to the social sphere.

In fairness, it must be noted that socio-emotional functions have always played a special role in the traditional Azerbaijani family. The reason is that drastic social changes have occurred in society in recent years. Firstly, individualism and competition are getting stronger in society due to the switch to the market economy. Secondly, the trust of most of the population in government agencies has fallen sharply, causing a fall in social capital. Thirdly, Azerbaijanis have limited historical experience of using the freedoms that are now available.

In this situation, against the backdrop of the many difficulties of the transition period, the family has become the most reliable institution for many people. This choice is not related to ethnic or religious factors, but directly to the family's rational functions. An increase in people's trust in family-marriage relations compensates for the fall in social capital, which is an indicator of citizens' trust in the state.

The strengthening of family identity in the system of society's major values also shows the weakness of the state and the imperfections of civil society in Azerbaijan. Furthermore, it proves that the modernization of the family during the Soviet period was temporary in nature, and the poll proves that Azerbaijanis' attitudes to the family remain quite conservative.

However, this does not mean that the difficulties of the transitional period affect the family only in these ways. Statistics prove that families in regions outside Baku are collapsing because the menfolk are migrating to work in neighbouring countries. It is clear that the relatively satisfactory situation of families in the villages surrounding Baku can be attributed to the fact that they are closer to the labour market of the capital and the level of migration among the population of Absheron is lower than that among people from the provinces.

Researchers also say that the role of religion in Azerbaijani society is not as great as is assumed. The population's religiosity is primarily

declarative. For example, most people rarely go to the mosque and do not even follow religious rituals regularly. From this point of view, religion is losing its functional importance as a sphere of collective activity for the population of the villages. The fact that true believers do not maintain close communicative relations weakens religion's integrating role in society.

There is another factor at play here. The population's growing interest in religion in various countries of the world, for example the Catholic countries of Southern Europe and Latin America and the Shintoists and Buddhists of Japan, is accompanied by a fall in the spiritual authority of the official church.⁵⁸ This situation is also characteristic of Azerbaijan. For example, against the backdrop of the growing interest in Islam in Azerbaijan in recent years, the authority of the official religious body - the Spiritual Department of Muslims of the Caucasus and its leader - has reached its lowest point. This is one of the main factors behind tendencies towards non-traditional trends of Islam, such as Wahhabism and the Nurcu sect, among Azerbaijanis.

Also, as the Tats maintained contacts with Azerbaijanis for centuries, lived side by side with them and appropriated customs from them, the material and spiritual culture of these two ethnic groups is almost identical today. For this reason, they are bearers of the same Azerbaijani ethnic identity.

On the whole, the study of the role of religion in the modern lifestyle of the population has shown that the widespread idea about religious fanaticism in the Absheron villages is groundless. When people conduct various religious ceremonies, this is related to their allegiance to their traditions and is patriarchal in character rather than being a manifestation of religious fanaticism.

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Environment of the Absheron Peninsula: The Communities' Survival in the Oldest Oil fields

The Landscape and Climatic Characteristics of the Absheron Peninsula

The Absheron peninsula, where the villages of Surakhani, Ramana, Sabunchu and Balakhani are situated, is characterized by the vertical and horizontal ruggedness of its relief and by the presence of depressions that are below sea level (Picture 1). Of the 584,700 ha. which make up the total area of Absheron, 100,200 ha., or 17.1 per cent, are situated from 28 to zero metres below sea level, while 246,200 ha., or 41.1 per cent - from zero to 200 metres above sea level. The rest of its territory reaches a height of up to 500 metres.¹

The modern landscape of Absheron was formed mainly during the Pleistocene and the Holocene periods, though some of its elements (especially common features of the relief) took shape during the Pliocene period. The rejuvenation of the landscape can be clearly seen from west to east and as the land becomes lower.

The landscape of the district took shape as a result of mutual interaction between a number of components of the physical-geographical environment, in which the climate, relief and lithology of the rocks which form the surface of the earth are the leading factors. The influence of the Caspian Sea on climatic conditions and the landscape also played a great role here.

In general, the Absheron peninsula has two types of landscape: arid steppes and semi-desert, while the Caspian coastal strip also has a desert landscape with characteristic sand-drifts.

The arid steppe landscape is characteristic of a limited area in the southeastern and central parts of the peninsula where the average temperature is 23 degrees Celsius in July and August, while the average

temperature in January is from -2 to +2 degrees Celsius. The amount of precipitation here is 200-300 mm per year.

The arid steppe landscape is represented by ephemers from cereal and leguminous associations that grow on grey-brown soil on rugged and terraced lowlands. Ephemeral-wermuth arid steppes are more common on weak rugged submontane and upland plains with sierozem.

Semi-desert landscapes are common on the same heights in adjacent areas of Gobustan and in the submontane strip of the Kura-Araz lowlands.

Dry grain and cucurbitaceous farming, sheep-breeding and irrigable vegetable-growing are developing within the arid steppe landscape.

The semi-desert landscape is more common on the Absheron peninsula, and this results from the hypsometrical and low-lying relief, the arid climate and argillo-arenaceous deposits, with a great coefficient of water-permeable ability. In this landscape, the average temperature in July and August reaches 25-26 degrees Celsius and +3 degrees Celsius in January, while the annual amount of precipitation does not exceed 150-200 mm per year, of which only 8-10 mm fall in summer.

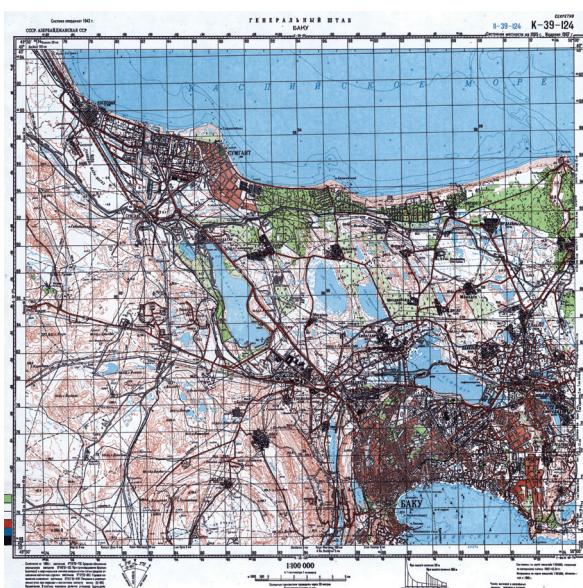
Wermuth-ephemeral vegetation, with a mixture of pea shrub, glasswort and kengiz, is more common on sierozem in the lowlands. On mountainous and littoral plains, as well as in hollows, pea shrub and camel's thorn are more common. Sandy and saline soil is characterized by sporadic pea shrubs and most of them have no vegetation.

On the Absheron peninsula, which is regarded as an independent single landscape region, there are eight landscape subdistricts.²

- Zira - Pirallahı semi-desert subdistrict on marine accumulative plains;
- Gala - Pirshagi semi-desert subdistrict on marine abrasion-accumulative plains;
- Subdistricts of semi-desert and arid steppe landscapes in the Fatmai-Surakhani lowlands;
- The subdistrict of semi-deserts in the Boyuk Shor-Lokbatan system of drainless hollows (Picture 2);
- The subdistrict of semi-deserts and arid steppes in the depressions of synclinal Jeyranbatan-Chalaeri hollows;

- The subdistrict of semi-deserts and arid steppe landscapes that are common on the inverted relief of the Baku and Guzdek plateau;
- The subdistrict of the semi-desert landscape in the Uchtepe-Shabandag-Kerkes lowlands;

The Jeyrankechmaz semi-desert subdistrict is located on intensively rugged lowlands.



Picture 1. The map of the central part of the Absheron peninsula Source www.map.ru

Zira - Pirallahi semi-desert subdistrict on marine accumulative plains. This area includes Shah's spit, the Zira marine accumulative plain and Pirallahi Island. This subdistrict is situated mainly below sea level. The highest heights reach 40 metres in the north. Along the coastline and on Shah's spit, the landscape is very young and changeable, which is due to the youth of the relief (this is related to the regression of the Caspian Sea). This zone is affected by the sea, which is why there

are no conditions for the formation of a steady soil and vegetable cover.

Aeolian relief forms - uneven sands and dunes - are quite common here. In some place, sources of lime form rocky heights.

Sandy and saline soils and sierozem are dominant here and licorice, glasswort, camel's thorn and ephemers are quite common. Grapes, figs and other fruits are cultivated here where the soil conditions are favourable.

Gala - Pirshagi semi-desert subdistrict on marine abrasion-accumulative plains. The relief of this subdistrict consists of a hilly-ridged plain with absolute heights ranging between 10-40 metres. The Gala anticline forms a hollow-inflated ridge in the relief, complicated by small hollows that release loose argillo-arenaceous deposits. These hollows are occupied by lakes shaped by underground (ground) sewage and formation (drilling) waters. On some parts of the ridge, lime stones emerge directly on the surface or lie at a depth of only 0.5-1 metre.

In the Pirshagi plain and in the northern part of the Hovsan plain, shallow and small hollows occupied by lakes are quite common. They feed mainly on ground waters and atmospheric precipitation and most of them dry up in summer.

In the central part of the subdistrict - on the Shuvalan-Dubendi-Turkan meridian, ancient Aeolian forms - dunes and sandy ridges which are loose and mobile in some places - occupy a wide strip.

The subdistrict has mainly sierozem, which is more saline in some places (in lower areas). Along the coastline, primitive sandy soil is common. Vegetation is dominated by ephemers, including glassworts, pea shrub (in lower and lowland areas) and wormwood (at heights, on ridges and in places where lime stones emerge). Camel's thorn and thistle are common in tilled areas.

Grapes, figs, almonds and other subtropical crops are cultivated along the coastline and on sandy soil. Saffron was cultivated on an area of about 30 ha. After the Absheron canal was put into operation, considerable areas of land were occupied by vegetables (tomatoes, aubergines, cucumbers, etc.).

Subdistricts of semi-desert and arid steppe landscapes on the Fatmai-Surakhani lowlands. The highest hypsometrical points (100-130 metres) are located in the northern part of the subdistrict. The relief gradually levels out and becomes cooler in the southern part. Meridional elongated anticlinal ridges and ranges with synclinal valleys and hollows situated between them are common here.

Almost all the depressions are occupied by ephemeral lakes with extremely saline waters (most of them dry up in summer) and alkaline soil. The hollows of the lakes that dry up in summer are subjected to deflation, and their products collect around the periphery in the form of

hilly sand dunes. In the northern part of the subdistrict there are long extinct or weak mud volcanoes.

Brown and grey-brown soil is more characteristic of higher areas. Sierozem is common on the slopes of ranges and heights and on the mountainous plains, while alkaline soil is more common in depressions.

The vegetation is represented by ephemeral-wermuth (on heights, ridges and ranges) and by ephemeral associations (on the plains), while camel's thorn is common on tilled areas.

Grapes, figs and other subtropical crops are cultivated on the sandy soil of terraced slopes in the northern part. Dry farming grains (wheat and barley) are cultivated on the even higher part and on the terraced slopes of ranges and ridges. Since the construction of the Absheron irrigation canal, vegetables and cucurbitaceous crops have been cultivated here.

The subdistrict of semi-deserts in the Boyuk Shor-Lokbatan system of drainless hollows. The hollows are occupied by lakes that feed on atmospheric and ground waters. In summer, most of them dry up and turn into alkaline land and salt. The thin sandy-slimy material that settles is driven out by northern winds and forms accumulative sand masses south of the hollows with a characteristic relief of hilly sands tightened by treelike glassworts. On saline sierozem around the periphery of the hollows, there is ephemeral-halophytic vegetation, while wermuth-ephemeral vegetation is common on the primitive sierozem of the slopes. This subdistrict is the main territory of the central part of the Absheron peninsula where all the surveyed villages are situated. Along with that, part of the surveyed territory is at the junction of various subdistricts and the uniting factor here is the Boyuk Shor Lake. All the surveyed villages are situated in close proximity to this lake. The direct landscape characteristics of the surveyed area are given below.

The subdistrict of semi-deserts and arid steppes in the depressions of Jeyranbatan-Chalaeri synclinal hollows. Most of this subdistrict is occupied by the Jeyranbatan reservoir, formed by water coming from the Samur-Devechi irrigation canal. Its southern part consists of accumulative formations (mainly marine formations) and forms a plain slightly inclined to the north. Natural vegetation is represented by ephemers, with camel's thorn being the most common on grey-brown soil.

The lowland (southern) part is used for industrial and residential construction, as well as for the cultivation of vegetables and cucurbitaceous crops. Around the reservoir there is a green protected zone which has Eldar pines and bushes (Girgan acacia, white acacia, etc.).

The subdistrict of semi-deserts and arid steppe landscapes common on the inverted relief of the Baku and Guzdek plateau. Both plateaus have a synclinal structure and consist of High Pliocene Quaternary lime stones, clays, sands, sandstones and their conglomerates. The Baku plateau is shaped like a terraced amphitheatre looking towards the Bay of Baku. Its absolute height ranges from 28 to 150-180 metres.

The Guzdek plateau has remained totally intact in the relief. On its edges are clusters of boulders, while its central part bends inwards, looking towards the southeast, and to some extent it is divided. The dominant heights are 100-250 metres high (sometimes up to 350-400 metres). Wermuth-ephemeral associations are common on primitive and sandy sierozem. Along the ravines, treelike glassworts are more common on its divided southwestern part.

The territory is being used as pasture. Dry farming grain is cultivated in its northern part. There are stone quarries on the edges of the plateau where lime stones can be seen.

The subdistrict of the semi-desert landscape in the Uchtepe-Shabandag-Kerkes lowlands. The relief is dominated by intensively divided lowland anticlinal ridges, ranges and monoclonal crests, reaching absolute heights of 230-400 metres. In loose sandy formations in the northwestern part, there are hollows occupied by salt lakes, alkali-line soil and saline lands. The lakes dry up in summer and the hollows are subjected to deflation. The expelled material makes the soils of the southern outskirts of the hollows very saline and forms hilly sands.

The vegetation consists of ephemers, wormwood, pea shrub and glasswort, which are common on grey-desert and grey-brown soils. This subdistrict is used as winter pasture and sometimes for cultivating dry farming wheat.

The Jeyrankechmaz semi-desert subdistrict is located on intensively divided lowlands. Territorially, it coincides with a depression bearing the same name. The lowest hypsometrical sites located along the val-

leys of the Jeyrankechmaz River and its upland tributaries are flat and partly terraced plains and flat-bottomed and half-closed hollows with inclined slopes. They are occupied by wermuth-ephemeral and saltwort-ephemeral landscapes, with a mixture of pea shrub that is common on grey-brown and sometimes on alkaline soil. Wermuth-ephemeral semi-deserts are common on washed out grey-desert soil on anticinal and monoclinal heights, while synclinal plateaus that are covered with sandstones and lime stones and grey-brown soils are dominated by kengiz-ephemeral and wermuth-ephemeral semi-deserts.

The Landscape of the Surveyed Area

The surveyed territory occupies an old industrial area which previously went by the name of the Balakhani-Sabunchu-Ramana-Zabrat district. The area of this district is about 45 square kilometres, stretching from north to east for about 7-7.5 kilometres and from west to east for about 15 kilometres.³

The eastern boundary of the district passes through the Ramana height and the village of Ramana (Photo 1).



Photo 1. The Ramana tower and height (The photos here and below in the text are taken by the author).

The southern boundary crosses the village and Bulbula Lake, the Baku-Sabunchu railroad, the Baku-Mardakan road and an old Orthodox graveyard in the village of Sabunchu on the coast of Boyuk

Shor Lake (Photo 2) and along the coast of the lake, it reaches the western boundary.



Photo 2. The old Orthodox graveyard in Sabunchu

The western boundary crosses the village of Balakhani and reaches Mount Segar-Tapa. In the north and northwest, the boundary is the Zabrat alkaline land area and Zabrat Lake.

The surface of the district is an upland area with heights that sometimes reach 25 metres above sea level. It goes down in the north and joins the Zabrat alkaline land area. Subsoil waters lie at a depth of one to three metres here. In some places, especially in hollows, they come to the surface and wash away the foundations of old houses.



Picture 2. The Boyuk Shor Lake and the surveyed villages

The Boyuk Shor Lake

The Boyuk Shor Lake is situated in the centre of Absheron, and its level is only four metres higher than the level of the Caspian Sea. The lake borders on the Binagadi, Sabunchu and Narimanov administrative districts of Baku. The villages of



Photo 3. A view of Boyuk Shor Lake

Sabunchu, Balakhani and Ramana are situated on its shores, while Surakhani and Amirjan are close by. Photo 3.

The area of the water is 1,300 ha., while its volume is 47.3 million cubic metres. The lake was historically formed by ground and rain waters. Then its level started rising thanks to industrial and sewerage waters from enterprises and population centres sit-

uated on its shores. Currently, the lake receives sewage from 32 sources, with a total volume of 23,590 cubic metres. The lake is very polluted and mineralized (Table No 1). According to the Ministry of Ecology, the concentration of contaminating substances is as follows:⁴

- Oil products - 20.3 mg/l;
- Suspended solids - 52 mg/l;
- Absorbed oxygen - 85.72 mg/l;
- Ammonia nitrogen - 0.74 mg/l;
- Synthetic surface-active agents - 1.3 mg/l;
- Heavy metals - 10 times more than the maximum permissible concentration

Table No 1**Boyuk Shor Lake, (17 May 2002)**

Ingredients	Unit of measurement	Maximum permissible concentration	Sanitary sewage from the villages	Sanitary sewage from the lake	Sanitary and industrial sewage
1	2	3	4	5	6
PH		6.5-8.5	10.3	9.8	9.9
Electro-conductivity	Cm/cm		16	1.86	1.5
Turbidity			2	9	1
H/O O ₂	mg/l	4.0 summer -6.0 winter	1.6	4.3	3.4
Temperature	C		19	19	19
Salinity	%		0.9	0	0.1
NO ₂	Mg/l	0.2	0.034	0.04	0.08
HO ₃	Mg/l	45	traces	traces	traces
NH ₄	Mg/l	0.5	256	0.32	3.52
Biological oxygen demand	Mg/l	3.0-6.0	400	110	325
Chemical oxygen demand	Mg/l	10	35.28	3.14	7.84
Synthetic surface - active agents	Mg/l	0.5	1.3	0.25	2.4
Suspended solids	Mg/l	0.25 of the background	18	26	16

Source: The Ecological Condition of Baku and Absheron Peninsula. Report of the State Ministry of Ecology and Natural Resources, Baku, 2005.

Boyuk Shor Lake, (17 May 2002)

Ingredients	Unit of measurement	Maximum permissible concentration	Reservoir water from the Binagadi Oil and Gas Extraction Department. after purifying installations.
1	2	3	4
GH		6.5-8.5	9.6
Electroconductivity	cm/cm		29.3
Turbidity			2
O/O O ₂	Mg/l	4.0 summer - 6.0 winter	2.7
Temperature	C°		19
Salinity	%o		7.8

HO ₂	Mg/l	0.2	0.45
HO ₃	Mg/l	45	Traces
HO ₄	Mg/l	0.5	4.28
Biological oxygen demand	Mg/l	3.0-6.0	38.9
Absorbed oxygen	Mg/l	10	105.8
Synthetic surface -active agents	Mg/l	0.5	1.2
HM water	Mg/l	0.5	11
Phenol, water	Mg/l	0.001	0.005
Solid particles	Mg/l	0.25 of the background	25.4
Chloride	Mg/l	300	10,989.5
Iodine	Mg. equivalent/litre		12.87

Boyuk Shor Lake, (17 May 2002)

Ingredients	Unit of measurement	Maximum permissible concentration	Agro-industrial complex, solid domestic waste	Slate factory, solid domestic waste
1	2	3	4	5
HM ground	Mg/g	Traces	0.82	0.77
Зн	Mkg/g	0.01	54.05	31.04
Жу	Mkg/g	0.01	170.5	83.45
Ни	Mkg/g	0.01	41.8	51.40
Пб	Mkg/g	0.03	17.65	0.35
Мн	Mkg/g	0.1	48.0	180.0
Аэ	Mkg/g	0.05	1.98	0.19
Жд	Mkg/g	0.005	0.148	0.149
Жр	Mkg/g	0.05	16.5	30.75
Жо	Mkg/g	0.01	40.2	4.55
Фе	Mkg/g	0.05	1,211.5	20,517
Ал	Mg/g	0.5	>200	27.7
Ас	Mkg/g	0.05	16,172	687.0

Source: The Ecological Condition of Baku and Absheron Peninsula. Report of the State Ministry of Ecology and Natural Resources, Baku, 2005

The Boyuk Shor Lake receives 23,600 square metres of sanitary and industrial sewage per day, while the annual receipt of contaminated water is 8,614,000 square metres. According to its level of water mineralization (120 g/l), the lake belongs to the group of salt lakes. The

level of oxygen dissolved in the water is insignificant, which is due to the oxidation of sanitary sewage entering the lake. The level of biochemical activity in the lake is four times higher than the norm. As a result of all this, the oxygen regime of the lake is almost totally disrupted, comprising 1-2 mg/l while the norm is 4 mg/l.

The sewage coming into the lake has a significant influence on the mineral composition of the water. This results in marked growth in the concentration of anions and cations.

The concentration of calcium is 45 times greater than the maximum permissible concentration (MPC), magnesium - 15 times, chloride - 205 times and sulphates - three times. The lake has a high level of oil and phenol contamination and, therefore, the level of contamination exceeds the MPC by 66 and 20 times respectively. Moreover, the concentration of synthetic surface-active agents exceeds the MPC by nine times. Heavy metals, such as copper and cadmium, have been discovered in the lake (the concentration exceeds the MPC by six times and one time respectively).

In order to lower the level of water in the lake, pumping station No 12, with a capacity of 12 cubic metres per day, was put into operation in 1983. Since then, the Bakkanalizatsiya production association has discharged water from Boyuk Shor Lake into the Hovsan canal. In 1994, pumping station No 4 was put into operation to collect sanitary sewage from the settlements of Rasulzada, Bilajari and Khyrdalan and divert it to the Hovsan purifying station.

These measures have helped to stabilize the level of the lake and have considerably reduced the discharge of sewage into the lake. At the same time, the level of contamination there remains extremely high, aggravating the ecological situation in the central part of the Absheron peninsula. Moreover, climate change and increasing precipitation raise questions about the further preservation of the level of the lake. If the level of the lake increases, all the surrounding territories may be flooded, including the Baku-Mardakan road connecting the city to the airport.

Table 2

The chemical composition of Boyuk Shor Lake in the last 10 years

Date of sampling	Total mineralization on mg/l	Ionic composition , mg/l						Ph
		HCO ₃ ²⁻	SO ₄ ²⁻	Cl ⁻	Na+K ⁺	Mg ²⁺	Ca ²⁺	
V-1990	9,758	549	613	4,840	3,460	90	64	8.7
VI-1991	7,960	414	711	3,830	2,812	100	62	8.6
V-1992	8,319	604	551	3,940	2,629	200	86	8.0
XI-1993	3,590	500	759	1,160	633	359	58	8.2
V-1998	9,742	428	577	5,218	3,484	124	90	7.6

Source: The Ecological Condition of Baku and Absheron Peninsula. Report of the State Ministry of Ecology and Natural Resources, Baku, 2005

The littoral part of the lake and the coasts are excessively contaminated by industrial and domestic litter (Photo 4-5)



Photo 4-5. Litter on the coast of Boyuk Shor Lake

The Influence of the Contamination of the Territory and the Lake on Public Health

Lakes situated on the Absheron peninsula, primarily Boyuk Shor Lake, have a considerable effect on the population's health.⁵ The cor-

relation between health and proximity to the lake can clearly be seen from the statistics of Baku's sanitary agencies.

In summer, together with evaporating water, a great amount of toxic substances is discharged into the atmosphere, including hydrocarbon, acids, aromatic compounds, phenol, etc. These substances can cause various diseases, depending on microclimatic features and the direction of the wind. (Table 2).

Over the last 10 years, the number of chronic diseases has increased by 460 per cent among older age groups of the population, while the number of respiratory diseases has increased by 174.5 per cent.

Table 2

The incidence of malignant tumours among the population (per 1,000 people)

№	Groups of diseases depending on the location of the tumour	Intensity				
		High		Average		Low
		1	2	3	4	5
1	Cancer of the respiratory organs	Sabayil	0.57%	Nizami, Surakhani Yasamal	35% 0.31% 0.33%	Nasimi 0.21% Khatai 0.29% Narimanov 0.26% Azizbeyov 0.28% Garadag 0.16% Sabunchu 0.24% Binagadi 0.20%
2	Stomach cancer	Sabayil	0.16%	Nizami Narimanov Surakhani Yasamal	0.13% 0.11% 0.11% 0.10%	Binagadi 0.08% Sabunchu 0.09% Garadag 0.05% Azizbeyov 0.08% Khatai 0.08% Nasimi 0.07%
3	Liver cancer	Sabayil	0.10%	Azizbeyov Nizami	0.08% 0.06%	Nasimi 0.020% Khatai 0.04% Narimanov 0.05% Surakhani 0.04% Yasamal 0.04% Garadag 0.04% Sabunchu 0.02% Binagadi 0.02%
4.	Cancer of the larynx	Sabayil	0.29%	Nizami Narimanov Surakhani Sabunchu Binagadi Azizbeyov Nasimi	0.19% 0.15% 0.11% 0.13% 0.13% 0.11% 0.10%	Garadag 0.073% Khatai 0.078%

5	Bone cancer	Sabayil Garadag	0.067% 0.52%	Khatai Surakhani Yasamal Sabunchu	0.032% 0.03% 0.02% 0.02%	Nasimi Nizami Narimanov Azizbeyov Binagadi	0.015% 0.12% 0.006% 0.005% 0.014%
6	Intestinal cancer	Narimanov Surakhani	0.03% 0.02%	Nasimi Nizami Sabunchu Yasamal	0.015% 0.12% 0.019% 0.013%	Binagadi	0.009%
7	Skin cancer	Nizami Garadag	0.031% 0.031%	Binagadi Azizbeyov Surakhani Narimanov Yasamal Nasimi Sabayil	0.02% 0.017% 0.02% 0.02% 0.02% 0.015% 0.013%	Sabunchu Khatai	0.004% 0.009%
8	Breast cancer	Sabayil	0.53%	Nasimi Yasamal Narimanov	0.23% 0.21% 0.22%	Sabunchu Binagadi Garadag Azizbeyov Surakhani Khatai Nizami	0.09% 0.017% 0.11% 0.18% 0.17% 0.16% 0.16%
9.	Cancer of the brain	Nasimi	0.24%	Narimanov Sabayil	0.047% 0.06%	Khatai Binagadi Sabunchu Garadag Azizbeyov Yasamal Surakhani Nizami	0.036% 0.03% 0.023% 0.031 % 0.01% 0.03% 0.029% 0.025%
10	Leukaemia	Nizami Garadag	0.09% 0.10%	Binagadi Azizbeyov Sabayil Khatai	0.06% 0.059% 0.06% 0.0%5	Sabunchu Yasamal Surakhani Narimanov Nasimi	0.042% 0.04% 0.017% 0.047% 0.03%
11	Cancer of the genito-urinary organs	Sabayil Nasimi	0.36% 0.30%	Nizami Azizbeyov Binagadi Sabunchu Yasamal Surakhani Khatai Narimanov	0.20% 0.24% 0.19% 0.19% 0.14% 0.13% 0.14% 0.11%	Garadag	0.083%
12	Kidney cancer	Nasimi	0.17%	Sabayil Nizami Sabunchu	0.06% 0.031% 0.03%	Binagadi Garadag Azizbeyov Khatai Surakhani	0.01% 0.02% 0.017% 0.018% 0.29%
	Oncology, in total	Sabayil	2.04%	Nizami Yasamal	1.04% 1.04%	Binagadi Sabunchu Garadag Azizbeyov Surakhani Narimanov Khatai Nasimi	0.85% 0.53% 0.69% 0.93% 0.88% 0.94% 0.85% 0.81%

Source: Statistical Indicators of Azerbaijan Republic, State Statistics Committee of Azerbaijan Republic, Baku,2001.

The presence of lands and lakes heavily contaminated with oil has a negative impact on the whole population of Absheron. If the average incidence of cancer in Azerbaijan is 6-8 people per 10,000, in Absheron this figure is several times higher (Tables 2 and 3). The influence of oil contamination on health has been studied quite comprehensively. At the same time, the overall level of pollution in Absheron does not permit this correlation to be clearly identified.

Table 3**Incidence of disease per 100,000 people (Azerbaijan)**

Diseases	1997	1998	1999	2000
Tumours (Average)	74	78	102	79
In Absheron	82	102	109	101
The number of patients diagnosed for the first time as having a malignant tumour	5,253	4,838	4,658	4,804

Source: Statistical Indicators of Azerbaijan Republic, State Statistics Committee of Azerbaijan Republic, Baku, 2000

One of the main reasons for the resettlement of the population from oil field areas in the 1970s and 1980s was the high incidence of allergic diseases and malignant tumors.⁶ Soil in most of the industrial regions of Absheron has degraded significantly and requires major improvement measures.⁷ One of the primary polluters of the environment on the Absheron peninsula is oil since more than 13 per cent of the land has been polluted during over 100 years of oil extraction. Its ubiquitous presence and negative impact on soil and vegetation, atmospheric air, surface and underground waters, ecological systems and health can be observed at all stages of oil development - from drilling to industrial processing, the liquidation of equipment and delivery to the consumer. The rapacious use of irreplaceable natural resources and inefficient processing results in a great deal of waste which pollutes the atmospheric air, water and soil and causes a sharp increase in health problems triggered by the environmental situation.⁸

While 10 year ago pollution by oil and oil products was regarded as an impact soil pollution, in recent years, due to the growing rate of extraction, processing and transportation of oil and oil products, the pollution of the environment by oil hydrocarbons has become an issue not just for Azerbaijan, but also for all developed countries of the world.⁹ Though this problem is topical, many issues related to assessment of the danger of oil-contaminated soil have yet to be considered.

Oil in the soil can turn into more toxic substances which may be absorbed or which can accumulate in the soil. Polluted soil can become

a source of toxic substances that may affect people through the trophic chain: soil-plants-food, soil-ground water-people and soil-atmospheric air-people, which increases the possibility of diseases caused by the environment.

Literature about oil pollution of the soil is related mainly to waste products from enterprises and the reclamation of land in areas of emergency oil spills.¹⁰

There is almost no information about the hygienic assessment of oil pollution of the soil, patterns of oil migration in the environment and transformation with an assessment of the products of degradation.¹¹ Taking into account that the reaction of various types of soil to oil depends on a number of factors (precipitation, temperature, concentration of humus, the granulometric composition of soil and so on), it is extremely difficult to develop single indicators and criteria. The problem of the transformation of substances in the environment remains quite topical. It is difficult to forecast the behaviour of organic substances under the influence of natural physical-chemical factors in conditions of environmental pollution, specifically soil pollution.¹² Methodical approaches and methods of controlling oil in the soil need to be developed. There is no information about the hygienic assessment of oil pollution of the soil.

From the point of view of hygiene, the high contamination of the soil of the surveyed villages by oil hydrocarbons is of particular concern because the contaminated areas comprise up to 25 per cent of their territory. Polluted soil in the villages becomes a source of the permanent indirect inflow of oil hydrocarbons through multiple trophic chains, which increases the risk of diseases that are related to environmental factors from an etiological point of view.

However, the available literature contains almost no information about hygienic assessments of man-made soil pollution, patterns of behaviour or processes of the migration of oil hydrocarbons and the extent of the possible negative influence of such soil on living standards and on people's health. The state healthcare service has no such information either.

The Influence of Oil on the Environment

In order to understand the influence of oil and its components on the environment, it is necessary to know the composition of oil and its fractions. Oil is a flammable and oily liquid which is quite common in the sedimentary membrane of the Earth and it is an important mineral resource. Oil is a complex mixture of organic compounds, mainly hydrocarbons whose composition is different in oil from different deposits. Oil contains more than 1,000 individual organic substances which hold 83-87 per cent of carbon, 12-14 per cent of hydrogen, 0.5-0.6 per cent of sulphur, 0.02-1.7 per cent of nitrogen and 0.005-3.6 per cent of oxygen and a small mixture of mineral compounds. The ash content of oil does not exceed 1-2 per cent. There is light oil (0.65-0.87 grams per cubic centimetre), average oil (0.871-0.910 grams per cubic centimetre) and heavy oil (0.910-1.05 grams per cubic centimetre). Methane carbohydrates of the light fraction in soil, water and air have a narcotic and toxic influence on living organisms. These carbohydrates dissolve better in water, easily penetrate the cells of organisms through the membrane and disorganize the cytoplasmic membrane of the organism. The toxicity of normal alkanes is weakened in the presence of nontoxic carbohydrates which reduce the total solubility of the alkanes.

The concentration of light fractions in oil from different deposits and even in different productive horizons of the same deposit varies significantly. Cycloalkanes and aromatic hydrocarbons (arenas - C_nH_m) are of special importance in the composition of oil.¹³

Aromatic hydrocarbons are the most toxic components of oil. A concentration in water of only one per cent is enough to kill all water plants; oil containing 38 per cent of aromatic hydrocarbons considerably suppresses the growth of superior plants. The herbicidal activity of oil increases together with its aromaticity. Low-boiling arenas such as benzol, xylene, toluol and others are the most active and fastest toxic substances. Many aromatic carbohydrates are characterized by their clear mutagenicity and carcinogenicity. The group of polyaromatic hydrocarbons is the most dangerous. The concentration of one of the most toxic substances - 3.4 benzpyrene in oil fluctuates from 250 to 8,050 one billionth per litre. One of the most important components of oil is solid

methane hydrocarbons (paraffins) whose concentration may reach 15-20 per cent. Paraffins are contained in almost all oils. Oil can be divided into three groups in terms of the concentration of paraffin: low-paraffin oil (up to 1.5 per cent of paraffin), paraffin oil (1.5-6 per cent) and high-paraffin (more than 6 per cent). Phenanthrene, chrysene, pyrene, benzpyrene and tetraphene have been discovered in oils. Non-hydrocarbon components of oil are pitches and asphaltenes which play a very important role in the chemical activity of oil. Their concentration ranges from 1-2 to 6-40 per cent. Most of the microelements of oil are related to these groups of compounds. The harmful environmental effect of pitches and asphaltenes results not just from the fact that they are chemically toxic, but also that they change water and the physical properties of soil. Some heavy metals contained in pitches and asphaltenes have a toxic effect. The latter are difficult to access for microorganisms and usually remain in the soil in the form of a solid organic-mineral complex. The concentrations of V and Ni are the highest, and in individual deposits there is a high concentration of Hg and As in oil and hydrocarbon gases.

Tarry substances are not very susceptible to elementary oxygen. Tarry oil quickly thickens and loses its mobility in the air. If oil penetrates from above, its pitch and asphaltene collect mainly in the upper humus horizon, sometimes solidly cementing it. The pore space of oil decreases. Pitch and asphaltene are hydrophobic. They envelop the roots of plants and sharply reduce the flow of water to them, causing the plants to wither.

From an ecological point of view, the components of oil are compounds of the sulphur contained in it (elementary, hydrosulfuric, sulfide and sour sulphur). Usually, oil is divided into three types according to the concentration of sulphur: low-sulphur (up to 0.5 per cent), sulfurous (0.5-2 per cent) and high-sulphur (more than 2 per cent). Azerbaijani oil is low-sulphur.

Another non-hydrocarbon component of crude oil is mineralized stratal water. The composition of stratal water, which is extracted together with oil, the concentration of salt and the correlation of ions in it, and therefore, the degree of ecological danger they represent varies. Stratal water, which is separated from extracted oil during the prelimi-

nary preparation process, comprises the main volumes of waste from deposits - about 82-84 per cent. As the term of the exploitation of deposits increases, the volume of waste constantly increases, while their mineralization falls.¹⁴

An analysis of literary sources shows that among the man-made factors that emerge in the process of exploiting oil and gas deposits, chemical pollution due to oil spills and mineralized water with drilling waste are the most aggressive and devastating factors for the environment. Most surveys focus on this.¹⁵ Currently, what is required is complex research into a hygienic assessment of oil and gas extracting facilities, oil and gas enterprises as sources of pollution for various objects of the environment (atmospheric air, water basins and soil) and also an assessment of changes in the hygienic features of the latter.¹⁶

From a hygienic point of view, soil is a component of the environmental complex which is in permanent interaction with the human organism. Unfortunately, as has already been stated, most surveys focus on emergency oil spills. There has been little study the patterns of circulation of high-sulphur and light oil products in the environment. No hygienic research has been conducted on the impact of oil and oil hydrocarbons. Field research has shown that oil pollution causes significant changes in the morphological and agrochemical properties of soil. Structural parts stick to each other and this disrupts aeration, creates anaerobic conditions and disrupts the oxidizing-reconstructive potential. Soil loses its ability to absorb and hold moisture. The concentration of carbon in the soil increases sharply owing to oil carbon, which results in the correlation between carbon and nitrogen being disrupted. Quite significant changes occur in the concentration of absorbed cations of calcium and magnesium. As a result of all this, oil pollution reduces the extent of base saturation and, especially, the absorption volume. Contaminated soil has a low nitrifying ability and a low concentration of nitrate nitrogen, removable phosphorus and exchangeable potassium. Surveys have established that soil loses its fertility due to the direct herbicidal impact of light fractions of oil and due to the aggravation of the agrochemical, agrophysical and biological properties of soil following the hydrophobization of soil contaminated with fuel oil.¹⁷

The oil pollution of soil causes deep changes in the properties of the soil and damages its fertility. It damages the water-air and physical-chemical properties and absorption capacity of soil and reduces the concentration of mineral elements that feed plants. Surveys show that about 40-50 per cent of chemical polluters remain in the soil. Their remains combine with humus. An analysis of published data shows that oil spills kill humus in the soil, which makes the soil dead, and the fertility of the soil is restored only several years after soil pollution. Though the viscosity of oil is low, it can cover large areas of the earth with a thin film and influence the oxygen regime of surface layers. The saturation of soil with oil and oil products suppresses the activity of ferment of hydrocarbon and phosphorus exchange, specifically, phytase, which is an indicator of the intensity of the mineralization of the phosphorus of phytine and other inosine phosphates. The low level of phytase activity in soil slows down the mineralization of organophosphorous compounds, which reduces the concentration of mobile phosphorus and causes an accumulation of these organophosphorous compounds in the soil. All this has a negative impact on the intensity of microbiological and biochemical processes in the self-cleaning of soil. Soil becomes rich in carbon bisulphide, and the amount of aerobic and spore formers sharply increases. The results of surveys have shown that the contamination of chernozem by highly-mineralized drilling waste initially turns the ecosystem into a man-made desert. Vegetation dies completely and mesofauna disappears, while the number of small arthropods (micro-arthropods) and the biological activity of the microflora sharply decrease.

The problem of protecting sources of drinking water is closely related to the sanitary protection of soil. The quality of underground waters depends on the absorption capacity of the soil and is secured by the filtering properties of soil. The delivery of oil by surface waters and its ability to migrate in soil pose a great threat. Depending on the extent of pollution, oil products may penetrate to various depths, causing changes in both the upper and lower horizons of soil. Experiments have established that when oil spills, it penetrates the ground, goes down vertically under the influence of gravity and at the same time, expands sideways, penetrating ground pores, reaching ground waters and moving for long distances on the surface. The vertical movement of oil prod-

ucts causes a chromatographic effect which leads to differentiation: in humus-accumulating horizons high molecular components which contain tarry-asphaltene and cyclic compounds are absorbed; light hydrocarbons penetrate lower mineral horizons where they can remain for a long time in an anaerobic condition. A significant amount of pollution disrupts the ecological balance. This manifests itself in changes in soil-forming processes and biocoenosis over a period of centuries. In some cases, these changes have irreversible consequences - the death of vegetation, micro-inhabitants of soil, etc.

Penetrating living organisms, oil hydrocarbons destroy cell membranes and easily infiltrate through the lipoproteid barriers of seaweed, causing metabolic and morphological disruptions. Big molecules of polycyclic aromatic hydrocarbons immediately infiltrate into a cell and dissolve in the lipids of the cell membrane, which ultimately kills the cell. The results of surveys of soil contaminated by oil have shown significant suppression of the number of the main systemic groups of soil micro-organisms (bacteria, mushrooms and ray fungi) and a fall in the activity of oxidizing-reconstructive fermentations. However, after a certain period of time, not only is the number of micro-organisms in oil-contaminated soil restored, it also exceeds the initial level, which indicates the biodegradation of oil and the use by micro-organisms of simpler carbon-bearing compounds as a source of food and energy. Oil contamination has a negative impact on almost all groups of soil invertebrates. However, the degree of this influence varies. The worst impact is on big invertebrates (insects and worms), while arthropods are more resilient, but they are also subjected to considerable suppression. Protozoa are more tolerant of pollution. This information makes it possible to draw the conclusion that both big and small soil animals can be used as biological indicators of soil pollution.

The Ecological Characteristics of the Surveyed Villages

The territory where the surveyed villages are situated belongs to the area of the oldest oil fields in Azerbaijan. Almost all these villages are situated on oil strata where development began at the end of the 18th

century. The oil boom in Baku began in 1872, when Russian Tsar Alexander II authorized free oil extraction. By 1878, more than 300 oil rigs had been built and 10 million poods of oil had been extracted. Oil fountains yielded great revenues, but also posed a great threat because of fires and pollution. The oil gusher from a well that belonged to I. A. Vermishev reached a height of 611 metres and lasted for 13 days, covering a large territory with oil.¹⁸

During the survey, we examined the territory of old oil wells drilled between 1908 and 1930. At the beginning of oil development in Absheron, oil was extracted from open wells or oil holes. A great deal of the territory of these old fields can be described as a graveyard for oil wells (Photo 6-10). Some of these old wells are still being used.



Photo 6-10. The frames of old wells

Currently, the whole territory of the old fields is heavily polluted by oil products. Oil-contaminated land near the villages of Sabunchu, Ramana, Surakhani and Balakhani comprises from 12.5 to 17.5 per cent of the total area (2,500-3,000 ha. of 10,000 ha. in Absheron). Oil at these fields was kept in the earth and open pools (holes) which polluted the soil, while oil transportation was carried out on the ground or by cart.

Oil has been extracted in Absheron since ancient times, and the territory of Amirjan and Surakhani is regarded as one of the first areas of oil extraction. In order to extract oil, wells or simply holes were dug in ancient times to extract oil with the help of winches and special water-skins. The ground in this area is clayey, which is why there was no need to reinforce the edges of the wells. Only the mouths of the wells were reinforced with stonework. These wells reached a depth of 80 metres. The diameter of oil-rich wells could reach several metres. Many wells, especially those where "white oil" was extracted, had their own names. Historical sources report that a well named Khalafi was built in the early 17th century. In 1823, when the well was being restored, workers found a stone with the date of its construction - this is one of the most ancient wells in Absheron. The name of the builder of another ancient wells, with a depth of 35 metres, which was built in 1594, is also known. It was a resident of Balakhani, Mammadali Nur.¹⁹

Oil was delivered from the fields to special depots. These depots were big arched underground rooms which had staircases on both sides. The roofs of these depots had ventilation holes and pipes into which the oil was poured. Oil was transported by caravans of donkeys and camels in waterskins made of goat or seal skin. Once railways and shipping appeared, it was transported in wooden barrels. It was very expensive to make so many barrels. Someone came up with the idea of building an oil tanker with isolated metal compartments in order to make the vessel steadier. The first oil tanker in the world was the Zoroastr, built by the Nobels. This tanker was designed by Ludwig Nobel, built in Sweden and delivered to the shores of Baku in 1878.

A Faberge clock which was ordered by the Nobels in St Petersburg "to mark the extraction of the one billionth pood of oil by the Nobel Company in 1879-1906" was sold at auction in Stockholm in 2006. The body of the clock is shaped like the building of Ateshgah in Surakhani. It is made of grey and red granite, while the flames are made of rhodonite. The base of the body is decorated with silver figures and a plaque. On this clock is a map of Absheron and portraits of father and son - Ludwig and Immanuel Nobel. The swastika that decorates Ateshgah was installed above the face of the clock.²⁰

The construction of the first pipeline by the Nobel Brothers Petroleum Company significantly improved the environmental situation.²¹

After open earth depots, oil containers (tanks) buried in the ground were used. They offered better oil storage (Photo 11).



Photo 11. Old oil containers in Surakhani.
According to the information available,
these containers belonged to Nobel.

In general, the oil boom was accompanied by the intensive planting of trees in and around the city. Ludwig Nobel made a special contribution to this by building Villa Petrolea and a park. In one of his letters home, Ludwig Nobel wrote that he had laid out a settlement in order to surround himself with greenery, but "alas, my hopes have not come true due to the lack of water, and we have only managed to lay out flowerbeds and a

small garden", and "I hope that next year we will be able to have more water in store and then my dream of a green Villa Petrolea and a small paradise in Baku will become a reality".²²

The shortage of drinking water forced people to take measures. In some homes, Absheron residents dug wells, while all villages used public water pipelines - "ovdans" and "kahrizes". Ovdans were small wells in rocky ground where rain water was collected. Residents of Absheron carried and stored water in special vessels - copper jugs "goyyums", "sahangs" and "farshes". There were special water carriers who delivered water in jugs - "goyyum carriers" and in waterskins - "tulugs" by cart and by donkey.

An ovdan is regarded as a better architectural installation than a well. An ovdan is an underground depot to collect and store ground, spring and rain waters. It was dug in rocky ground and covered with a stone roof, with a staircase leading to a square pool. The entrance to the ovdan was decorated with a portal with a lancet arch [19.].

Oil extraction rapidly developed on the surveyed area on the basis of extensive technology. The oil boom of the early 20th century first of all

helped develop easily accessible deposits, especially those which provided high quality oil (white). White oil (the light fraction that was equal to kerosene) needed almost no processing and could be immediately placed on the market (Photo 12).



Photo 12. One of the oil "white" oil wells

In the period 1930-1950, Absheron remained the main supplier of oil for the Soviet state:

During this period, oil extraction developed with almost no regard for the environment. All the ecological problems existing today date back to that period:

Oil pollution of the land; the formation of highly mineralized lakes; a high level of hydrocarbon atmospheric air pollution; industrial detritus on the territory

Oil Pollution of the Land

Since oil strata are exploited for a long time, the composition of the extracted product varies. If during the first period the concentration of oil reaches 80-87 per cent, the amount of oil starts falling as the measures are developed and the amount of water increases. All the oil wells still operating on the surveyed territory extract only 3-7 per cent (12 per cent maximum) of oil, while the rest is stratal water (up to 85 per cent) and sand (3-5 per cent). Since old oil fields are not profitable from an economic point of view, there is no money for the modernization of equipment. For this reason, last century's technology of the passive separation of oil from water is still being used there (Photo 13).

The equipment for this technology consists of a metal container into which the blend extracted from the well is pumped. Oil rises to the surface, while water and sand accumulate at the bottom. A worker opens the tap manually and releases the water from the container into open discharge channels. First, the water that is discharged has a high level



Photo 13. An oil pit at an old oil field.
The process of releasing water

of oil contamination (up to 0.5-1.5 per cent), and second, the sand and silt are not purified and accumulate in the discharge channels, increasing the level of contamination. Leaks and accidents at old wells are an everyday occurrence, which has resulted in almost the entire territory of the fields being covered with fuel oil and oil lakes with shores and water that are heavily contaminated by oil waste. (Photo 14-15).



Photo 14-15. The territory of old fields in Surakhani and Sabunchu



At the foot of the Ramana tower (in the village of Ramana), a lake has formed in place of the old oil fields, and it is a pit for stratal waters (Photo 16).

Photo 16. Ramana Lake (the territory of the old oil fields)

The Formation of Highly Mineralized Lakes

The water that is pumped out of old oil strata is heavily mineralized and contains various inclusions, ranging from iodine to radon. In modern oil extraction technologies, stratal waters are usually pumped back into the strata in order to increase pressure. Since 1980, all stratal water has also been pumped back at the old oil fields. However, due to the great volume of accompanying stratal waters, extremely worn-out equipment and various leakages, most of the stratal waters flow into oil collectors and the nearest hollows in the relief (Photo 17-18), forming lakes.



Photo 17. Pipeline leakage



Photo 18. Lakes of stratal waters

Highly-mineralized stratal waters evaporate in summer, forming alkaline lands with sedimentary material that can easily be driven out to pollute territories adjacent to the oil fields and the atmospheric air with salts (including heavy metals).

The High Level of Hydrocarbon Atmospheric Air Pollution

The existence of extensive oil-polluted lands, the high concentration of oil products in stratal waters and technologically backward oil separation technology furthers high air pollution both at the oil fields them-

selves and on adjacent territories, including the villages.

The situation is especially difficult in the summer when it is very hot. The hydrocarbons of light fractions evaporate at a temperature of 15-18 degrees Celsius, increasing sharply as the temperature rises to 25 degrees Celsius. At this temperature, the average fractions of oil start evaporating as well. Thus, at summer temperatures (the average indicators for July-August are 25-27 degrees Celsius), the level of hydrocarbon evaporation exceeds the maximum permissible concentration by 20-50 times and on hot days - by up to 100 times. The level of atmospheric air pollution has high indicators even if we exclude hydrocarbon pollution. (Table 4).

Table 4

The dynamics of emissions into the atmosphere from stationary sources (thousand tonnes)

Emissions	1993	1995	1997	1998	2002
Total	1,533.3	878.6	389.6	442.7	217.4
Solid substances	61.5	22.7	22.0	21.2	29.4
Gaseous	1,471.8	855.9	367.6	421.5	188.0
SO ₂	57.7	50.0	37.8	35.2	13.6
NOx	31.6	31.6	26.2	25.3	26.3
CO	38.1	21.6	22.7	21.4	18.2

Source The State Report on Ecological Conditions. Baku, 1997.

As we can see from Table 4, atmospheric emissions are clearly falling, which is due to the decline in Azerbaijan's production potential. Many industrial enterprises are not working or are working at 15-25 per cent of their capacity. These statistical figures do not include emissions of oil hydrocarbons from oil-polluted lands and from the surface of newly-formed lakes as no such monitoring is being conducted.

The Impact of Atmospheric Air Pollution on the Population's Health

Population centres are situated in close proximity to roads with heavy traffic. According to the Ministry of Ecology, traffic is responsible for 60 per cent of atmospheric air pollution. Taking account of the high level of pollution from the oil fields, the total level of pollution considerably exceeds the national level and reaches its most contaminated level for the Absheron peninsula.

Ordinary carbon monoxide is also an unburned gas, and certain amounts of it form in any place where something is set on fire. The exhaust fumes of a vehicle that works using normal petrol and in a normal mode contain an average of 2.7 per cent of carbon monoxide. When the speed falls, this share increases to 3.9 per cent and at a slow speed - to 6.9 per cent. Carbon monoxide, carbonic gas and most other gas emissions from engines are heavier, which is why they all collect near the ground. Exhaust fumes also contain aldehydes, which have a pungent smell and an irritant effect. They include acrolein and formaldehyde; the latter has an especially powerful effect. Car exhaust fumes also contain nitric oxides. Nitric dioxide plays a major role in forming products that transform carbohydrates in the atmospheric air. Exhaust fumes also contain undecomposed fuel hydrocarbons. Among them, unsaturated ethylenic hydrocarbons, specifically hexene and pentene, play a special role. Due to the incomplete combustion of fuel in a car engine, some hydrocarbons turn into soot. This soot contains gumming substances. Excessive soot and pitch is released if there is a technical fault in the engine or when the driver puts too much pressure on the engine by reducing the correlation of air and fuel, trying to obtain the so-called "rich blend". In such cases, the car emits a visible tail of smoke which contains polycyclic hydrocarbons, specifically, benzpyrene. On the whole, given the level of gas emissions in the city, steady concentrations of two types of pollution appear - aerosols of transport origin which remain in the atmosphere for a long time, absorb carcinogenic substances and penetrate airways together with air. They are capable of accumulating in an organism, penetrating it not just through airways, but also through the skin. These compounds attack

the central nervous system and blood-producing organs. Given the high level of oil pollution on the surveyed territories, total atmospheric air pollution here is the highest and most stable. In order to understand the impact of high air pollution on the population's health, it is necessary to cite information about the consequences of the impact of various contaminating substance on health.

The Impact of Discharge Gas on the Population's Health

Air pollution poses a serious threat to the population's health and reduces quality of life. According to the US Environmental Protection Agency, the impact of toxic substances that pollute the air causes from 1,700 to 2,700 types of cancer every year.²³ Recent years have seen a growth in the incidence of cancer, leukaemia and other life threatening diseases. Air pollution is the cause of six per cent of deaths in the world, say experts of the World Health Organization. As has already been stated, the level of cancerous diseases in the surveyed villages considerably exceeds the national level.

The exhaust pipes of cars release more than 200 chemical substances into the atmosphere. Compounds of heavy metals have the most toxic impact on living organisms and, among them, the most dangerous substance is lead, which accumulates within a range of 100-200 metres from any road.

Many old oil fields have also turned into sites of solid domestic waste. This waste becomes a source of high risk because it often catches fire and pollutes the atmospheric air even more (Photo 19-20).

The problem of recycling solid domestic waste is quite topical in Baku, where up to one million cubic metres of domestic waste are generated every day. Surveys of the volume and structure of solid domestic waste carried out in the dormitory suburbs of Baku in 2000-2001 (the Nizami and Khatai districts of Baku by the Society for Steady Development with the support of the British and Norwegian embassies) showed that considerable changes have occurred in the structure of waste. If in the 1970s and 1980s, more than half of the waste was the



Photo No 19-20. Domestic waste on the territory of old fields

remains of food and paper, in the 21st century the waste is dominated by packaging materials, most of which are synthetic and polymeric materials. Moreover, the volume of waste has also increased significantly - from 150 to 350-400 cubic metres. Calculations show that up to 10-15 tonnes of polymeric materials (polyethylene, polypropylene and plastics) and 3-3.5 tonnes of plastic dishes from polyethylene packing and other materials, which have a special value as secondary raw materials and must be recycled, are dumped every day. Instead of being recycled, all these valuable materials are taken to the city dump and set on fire, just like hundreds of tonnes of paper and cardboard. The burning of solid domestic waste, which is the main method of disposal, has long been banned in developed countries. The burning of solid domestic waste creates extremely dangerous and harmful substances that pollute the atmosphere and cause serious diseases. The burning of polymeric materials is actually regarded as an ecological crime because it forms permanent organic polluters, including virulent poisons - dioxins.

The Baku city dump which is located on the shores of Boyuk Shor Lake, near the village of Balakhani, poses a permanent threat to the residents of Baku. In the early 1970s, a combustion plant was purchased to dispose of waste, and it worked for a limited period of time. The main problem at the plant was the lack of preliminary waste separation. The plant was designed to dispose only of inflammable materials - food waste, paper, cardboard, etc., whereas everything was put into the furnace - from glass to metals. The rest of the world uses preliminary waste separation technology, putting waste into special con-

tainers (depending on the type of waste). Unfortunately, even commercial companies (joint ventures and foreign companies) that carry waste from Baku are still using the long obsolete technology of using only one type of dustbin and taking litter to the city dump where it is burnt. The handover to commercial (including foreign) companies of the right to collect and dispose of waste without clear-cut and tough conditions for its safe disposal has made the problem of solid domestic waste more and more acute for the Baku metropolis.

When transnational companies (Coca Cola, Pepsi Cola) and others were issued with licences for their commercial activity, no conditions were set to ensure the collection and disposal of empty packages (bottles and other polyethylene packaging) which pose the greatest danger among all the polymeric materials used for packaging. Polyethylene packaging hardly decomposes at all in a natural environment and it releases a large amount of highly toxic substances when burnt. In developed countries, these companies are financially liable for disposing of their waste products. Currently, the executive bodies of Baku are considering obtaining a new combustion plant. It should be pointed out that, firstly, the equipment on offer is obsolete because Western countries have totally given up the practice of burning litter (even pyrolysis is considered a dangerous recycling process from an environmental point of view), and secondly, there is no point in buying any equipment until drastic changes are made in the process of collecting and disposing of waste.



Photo 21. The destroyed infrastructure of old wells

The Industrial Contamination of Territories

Old oil fields also contain a great deal of obsolete and totally worn-out oil equipment, primarily field equipment (the infrastructure of wells). A visit to old fields gives one the impression that the wells and their infrastructure have not been dismantled for more than 100 years (Photo 21-22).



Photo 22. Totally worn-out oil equipment

The Comparative Characteristics of the Environmental Situation in Balakhani-Sabunchu-Ramana- Balakhani Over the Last 100 Years

Research carried out in the 1920s showed that soil on vast territories of fields was excessively soaked with oil. The air in this district was heavily polluted with soot and dust, while there is no information about the level of hydrocarbon air pollution because no research into this

has been carried out. The presence of soot in the air can be attributed to the use of oil heating in homes and industrial enterprises. In that period, a considerable number of houses were located either on the oil fields themselves or on adjacent territories. Most of the courtyards were open areas surrounding residential buildings. Oil rigs, crude oil depots and equipment were often installed in these courtyards. In 1925, there were 389 courtyards here (in what was formerly the Lenin district of Baku). Of these courtyards, only 8.9 per cent were paved while the rest were not. Some 24.2 per cent of all courtyards were waterlogged. More than half of the surveyed homes were in an unsatisfactory sanitary condition. Surveys paid particular attention to the problem of sewage. In that period, villages used cesspits for liquid sewage and sewers for sewage from toilets. It was noted that one third of registered courtyards did not have cesspits and the sewage was simply discharged into the nearest hollows in the relief.

Liquid sewage was disposed of in open artificial gutters which were first made only to discharge drilling and atmospheric waters. These gutters were open ditches where, some time later, settling-vat water and household waters were discharged. The ditches collected waters from the whole district and carried them to the Caspian Sea via two gutters: one collected waters from the eastern half of the district and passed between the villages of Bina and Surakhani through Ramana Lake and a tunnel in the Ramana range; the second collected waters in the western half of the district and passed by Boyuk Shor Lake through the fac-

tory-and-workshop district. It is clear that with this method of disposing of domestic and communal sewage, the general sanitary situation was extremely bad.

The Greater Baku Sewerage System was put into operation in the 1960s, and the villages of Ramana, Sabunchu and Surakhani were connected to it. At first sight, the sewage situation was resolved. During the same period, a decision was taken to resettle the population living in gas-polluted areas. This decision had a favourable effect on the working population of the villages who lived in barracks in close proximity to the fields. However, the indigenous population of the villages became hostages in their own homes. Even today, a considerable number of houses are still located in close proximity to the fields. Many houses from which people were resettled were taken over by migrating workers from distant rural districts of the republic or refugees. Many old houses still do not have a sewerage system and continue discharging sewage into the open ditches that run through the fields (Photo 23).



Photo 23. An open ditch on the territory of a field

The situation regarding the disposal of solid domestic waste is also unsatisfactory. Almost all the old fields are waste dumps to some extent or another. Local residents use these territories as dumps. The main reason for this is that the collection and disposal of rubbish is very badly-organized. Special dustbins installed near houses are emptied only once or twice a week. They quickly fill up, and rubbish falls out of them, littering the surrounding territory.

The situation is significantly aggravated by the fact that the lakes (Boyuk Shor, Ramana, Bulbula and others) continue to be contaminated by stratal waters and oil. Their level is subject to notable fluctuations. These waters have a negative impact on ground waters as well, contaminating and mineralizing them. The territory is located on a fault line (the Ramana plateau) and a further rise in the water level in these lakes (primarily Boyuk Shor) could have catastrophic consequences for the whole central lowland part of Absheron.

Moreover, all oil fields are under the jurisdiction of (and are used by) the State Oil Company of Azerbaijan, which has no means to clean or reclaim them. Municipalities which have been given public land have no means to exert pressure on government agencies. Given that the municipalities of Absheron villages are short of their own land and most of them have no public recreational areas and an extremely low level of vegetation, it is very important to solve the issue of old oil-polluted land. Even if these municipalities mobilize the public and ensure the clearing and reclamation of this land, they will remain under the jurisdiction of the State Oil Company and there is no guarantee that they will not be polluted again in the future.

Specialists are particularly concerned about the situation in the oil sector. On the one hand, there is the problem of 17,000 ha. of oil-polluted land which has become a source of air pollution. The level of hydrocarbon pollution of the atmospheric air in almost all the densely-populated districts of Absheron is several times in excess of permissible (safe) concentrations. The rapid and chaotic growth in the private construction business on the outskirts of Baku has resulted in oil-polluted land (Surakhani, Amirjan, Balakhani, Sabunchu, Gala and others) being developed. During construction work, this land is not cleared of oil and new soil is simply placed on oil-polluted ground. In a very short time, the hydrocarbons start evaporating through the new layer of ground, contaminating it and poisoning the air in residential buildings and courtyards. Hydrocarbons are not just allergens, but also cause tumours. Thus, the legal and illegal development of oil-polluted land will result in a sharp increase in the incidence of allergic and cancerous diseases in the future.

The intensive development of the oil sector and the large-scale reclamation of old and new oil areas has exacerbated another problem - the disposal of drill cuttings and other waste produced by oil extraction.

The Impact of Other Factors

Research carried out in the USA has proved that dust containing radium which is spread around by the wind and the radioactive gas radon pose the greatest danger to people's health in areas where oil is or has been extracted. American ecologists have concluded that even if you fill these areas with soil and build houses on them, people in these houses will continue to be subjected to the influence of radon, which causes lung cancer.²⁴ According to ecologists, places where the stratal waters accompanying oil extraction are discharged are dead areas where not even plants and animals can exist, never mind people.

If we take account of the conclusion of ecologists, then almost the entire territory of the surveyed villages can be described as a "dead area", while oil wells are often installed in the courtyards of residential buildings and stratal waters form numerous puddles, lakes and springs. The natural radiation background in Azerbaijan should not exceed 50 mcR/h, whereas specialists of the Republican Centre for Hygiene and Epidemiology have registered a radiation background of 800 mcR/h on the territory of the Surakhanineft Oil and Gas Production Association. This level rises to 1,200-1,300 mcR/h on territories where oil has been extracted for more than 100 years.²⁵

"The problem of radiation safety is high on the agenda now," says the chief radiation safety specialist of the Azerbaijani Ministry of Health, F. Aslanov. Research carried out by the centre has shown that at all stages - from oil extraction to oil storage - technical equipment and territories are badly contaminated by radiation and workers are exposed to radiation as well. An examination of oil workers revealed leukoplakia - a precancerous lesion - of the oral cavity. An examination of enamel and teeth showed that the dose of radiation in them was equivalent to the dose of radiation in the enamel of the teeth of people living in the Chernobyl disaster zone.²⁶

Other surveys carried out by the laboratory of the Azerbaijani National Scientific-Research Institute for Medical Prevention discovered a decrease in the immunological status of workers working at oil fields.

These surveys indirectly confirm that people living in the villages of Surakhani, Amirjan, Ramana and others are in a zone of high risk and are constantly under the influence of a whole range of unfavourable ecological factors.²⁷

Proposals to Improve the Situation

Recommendations need to be drawn up regarding the procedure for the handover of cleansed land to municipalities for use as public territories (parks, plants, cultural-health centres and so on). This will make it possible to improve the environmental situation and reclaim these territories.

In the first instance, it is necessary to set up a network of greenery around the perimeter of oil-polluted territories and secure the complete disposal of stratal waters. Such work should be carried out initially on territories that are of cultural-historical importance (the territory between New and Old Surakhani, the spurs of Ramana heights, the shores of lakes and so on). The creation of such green sanitary zones will help preserve the landscape-cultural environment and improve the population's health as well as being attractive for the residents of Baku. The handover of this land to municipalities will also make it possible to preserve monuments of historical and architectural importance and to restore the oil industry monuments which are currently being allowed to decline.

To conclude, it is important to implement the following proposals:

1. To draw up and adopt a programme on the reclamation (cleansing) of oil-polluted lands at old fields. A pilot project to cleanse oil-polluted lands at the Balakhani fields, financed by the World Bank, should be expanded to include the entire territory of the old Balakhani-Sabunchu-Ramana-Surakhani fields;

2. To draw up and adopt a programme to dismantle the old worn-out equipment of oil rigs, wells and other infrastructure at old oil fields. This programme should be directed at preserving and restoring the whole old infrastructure of oil fields and architectural monuments and at setting up a museum on the history of the oil industry in Absheron;

3. To ensure the updating and maintenance of equipment to separate oil from water and to prevent the discharge of oil-polluted drilling waters into open ditches and hollows;
4. To make an inventory of the discharge of sewage into drainage ditches and ensure that all gutters are connected to the village sewerage system;
5. To expand the existing green sanitary zone and create new ones around old oil fields in order to hand them over to local communities to be used as territories for public rehabilitation and health.

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CONCLUSIONS

The history of Baku oil confirms the complexity of relations between natural resources on the one hand, and people's welfare on the other.

First of all, the case study in this book illustrates the controversial character of the influence of oil extraction on politics and its institutions. While the period of the first oil boom at the end of the 19th and beginning of the 20th century culminated in 1918 in the formation of a parliamentary republic with liberal European-type legislation, the second oil boom, which followed the collapse of the Soviet Union, coincided with growing super-presidentialism and consolidated autocratic rule. At the same time, history shows the importance that the timing of reforms can have on the ultimate effect the oil industry has on the state, democracy-building and, in the final analysis, on the wellbeing of the population. The two oil booms in Azerbaijan, separated by an interval of 100 years, allow us to compare the advantages and disadvantages of different institutional frameworks and the pace of reforms under which oil extraction took place. In this regard, there were significant differences in the character of the benefits and problems for the people of Azerbaijan in both periods in terms of the opportunities which opened up and social protection.

First of all, these two periods of Baku history demonstrate the dual nature of Russian colonial rule. On the one hand, the reforms of Alexander II created relatively liberal economic conditions, which extended to the oil industry as well as ensuring the protection of private property and business. On the other hand, it was the initiative and entrepreneurial vigour, talent and commitment of the people of the Muslim periphery of tsarist Russia which was crucial. Despite discrimination, they managed to take advantage of these reforms and create

opportunities for the realization of their best business, cultural and creative potential.

This study also testifies to the controversial character of the Russian reforms in the 19th century. In this regard, the first and second parts seem, to some extent, to contradict one another. On the one hand, thanks to the open sales of land the underprivileged classes, including the simple peasants of the Baku villages, gained access to the oil riches, as described in Part One. On the other hand, it was not uncommon for the rights of local communities, particularly their land property rights, to be violated when they came into conflict with the interests of big business, supported by the interests of the state. The archive letter in Part Two reflects the dramatic struggle of the local communities against resettlement plans, or to force the state or individual oil magnates to pay compensation for damage to property. Yet this serves as the best possible proof of the complexities and controversies of the diverse social impacts of the commercial production of oil.

The most interesting aspect of the historical comparison is the outcome of the oil booms given the different types of ownership found in the oil industry in terms of economic opportunities on the one hand, and stability and social protection of the population on the other. The first oil boom at the end of the 19th century created the conditions for vast swathes of the population, including local communities, to get involved in oil extraction as owners. This was due to "privatization" of the oil industry, the low cost of lands, open sales and the relative rule of law and an independent judiciary. This not only greatly enhanced the contribution local producers made to the oil economy, but had a significant social, political and cultural impact. These were simple peasants from the Baku villages, transformed into oil magnates, who turned the city into the modern European centre of the Caucasus with theatres, movies, operas and schools. The philanthropic activities of the oil industrialists, such as Taghiyev, Naghiyev and Asadullayev to name but a few, led to modernization in all areas of life; support for the secular education of women, the publication of reform-oriented periodicals in Azerbaijan and abroad and a chance for intellectuals, poets, philosophers and writers to flourish.

At the same time, it is true that conflict and inequality accompanied the development of industrial capitalism and the liberalization of the economy in 19th century Russia. The history of Baku oil has more than its fair share of dramatic and bloody pages. But instability - the Armenian-Azerbaijani clashes in 1905 and 1918, political assassinations of imperial governors and terror against foreign managers in the early 20th century - coincided with deep political changes and the decline of the Russian Empire. In 1918, the newly-established states of the South Caucasus could not avoid territorial disputes and wars as a result of the collapse of the empire, but the inclusive composition of the first Parliament of the Azerbaijan Democratic Republic, shown in Part One, proves that the young state was on the right path towards accommodation of the cultural and confessional pluralism of the country.

Economically speaking as well, there was more sense and rationality to the behaviour of the private owners of the oil resources in the 19th century than was seen 100 years later, during the post-Soviet period, when they were owned by state. Although smartly utilized by the leadership as a foreign policy tool and to strengthen their power domestically, the oil and gas resources of Azerbaijan of the 90s could not reach the local communities in the same way as they did a century before, in spite of the creation of the State Oil Fund. Our historical comparison shows that the stability which some observers argue is the major advantage of state ownership of oil during periods of transition does not seem to relate to the type of ownership of the oil but rather to the culture and institutions of consensus and cooperation, reflected in the existence of associations of oil industrialists, producers, workers, peasants and charity organizations, along with the inclusive structure of the legislative body, as far back as the end of the 19th early 20th century.

Budget spending in the post-Soviet era, which is highlighted in Part Three, follows the pattern of spending in Nigeria in the 70s, the author argues. According to available data, spending in Azerbaijan is running ahead of the accumulation of oil revenues. Taking into account the infamous instability and conflict in Nigeria and the vulnerability of the Azerbaijani economy to external shocks, this could serve as a warning of potential threats to stability in the country.

Finally, economic trends and budgetary expenditure policies hint rather strongly that no intentions to effectively manage oil revenues, and their effect on state-building, will succeed unless there are mature institutions of public control, such as a strong parliament, civil society and a free media.

Analysis of the complex demographic and immigration trends of the Baku villages shows that the nature of the conflict over ownership of oil-bearing lands a century ago transformed or moved from the actual and geographic to the potential and largely political. While competition for land is still an issue in the Baku villages, it is no longer driven by the existence of oil resources as oil extraction moved offshore in the 1940s, but by the scarcity of land due to mass migration from regions closer to the capital Baku - the country's major job market. Although there is still competition between the local villagers and big owners, between locals and refugees, it is far from the intensity of the conflicts over Absheron lands during the first oil boom. The trend of outward migration, however, which can be seen in the survey by the authors of Parts Three and Four, are clearly related to the lack of opportunities, inequality, deficiencies in communal services, fierce competition for jobs, accommodation, land and water. The concentration of political power and control over the oil resources in Baku on the one hand, and the social problems of the periphery, such as the Baku villages on the other, determine the political nature of the conflict in the post-Soviet era on the oldest oil lands.

Oil booms and labour migration affect the social and cultural structure of the oil-bearing geographical areas and settlements, but in rather a complex way. The oldest oil-producing villages of Surakhani and Balakhani, in spite of demographic changes related to two major oil booms, Soviet modernization and a century of assimilation trends, demonstrate the persistence and sustainability of local traditions, language and habits, reflecting diverse cultural experiences. At the same time, the results of the survey revealed fairly flexible attitudes to the role of women and to religion. According to the author of Part Four, this is similar to many other regions of Azerbaijan and runs contrary to conventional wisdom.

The life of local communities on the oldest oil-bearing lands bears many legacies. One of the most dramatic and visible is the environ-

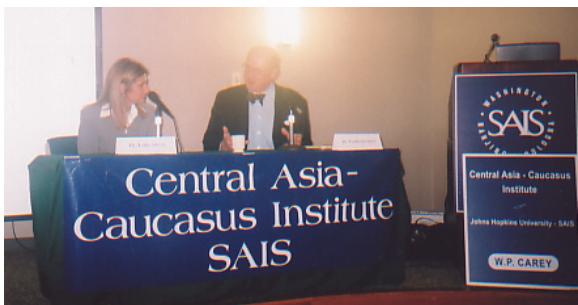
mental degradation of the area. The photos of the modern landscape of the depleted onshore oil fields and the data in Part Five demonstrate the environmental outcome not only of technological evolution, but primarily of the interrelated contractual relations between the producer, the community and the state, reflecting the nature of the economy during the two centuries of the industrial development of oil.

These are only a few conclusions of this study which has sought to contribute to the exploration of the influence which natural hydrocarbon resources have on the wellbeing of communities, focusing on the history of the population of the villages who are the real owners of the oil riches of the Absheron peninsula on the Caspian.

Leila Alieva

Attachment 1

**Presentation on the Open Air Oil History Museum Project
Central Asia Caucasus Institute, SAIS, Rome Auditorium,
Johns Hopkins University. Washington DC (October 27, 2004)**



Attachment 2

**Presentation of the project Open Air Oil History Museum
Azerbaijan National History Museum (Tagiyev's House),
Eastern Hall, Baku (March 22, 2005)**







Attachment 3

**One of the book authors, archeologist Idris Aliyev
at the excavations of the Bronze Age barrows
(Turkan, Absheron peninsula, 2004)**



Attachment 4

The map – plan of the Open Air Oil History Museum



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A HISTORY**

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