**Scientific and practical conference of schoolchildren**

**"Step into science" group "Junior"**

**Section: Linguistics**

**“Khilok district.Environmental problems.**

**Ways to solve.»**

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**Position: Englishteacher**

**Khilok 2019**

**Научно- практическая конференция школьников**

**«Шаг в науку» группа «Юниор»**

**Хилокский район. Экологические проблемы. Пути решения**

**Россия, Забайкальский край, г.Хилок, ул.Калинина 16**

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**Brief annotation**

Great is our homeland. Vast expanses of it. But for each of us, it starts from the homeland. My Motherland is ZabaykalskyKrai, Khiloksky District, Gyrshelun village, which are part of Russia. The territory of the region is located in Eastern Siberia. And since I live in the Khilok district and in my region there is a difficult environmental situation, I wanted to examine it more deeply and find possible solutions.

 In my work, the geographical location of the Trans-Baikal Territory and the Khiloksky District was investigated, and environmental problems were considered. A sociological survey of residents of the area was compiled and conducted, during which percentages were obtained about how people are aware of the environmental situation in the area. Also, in the English class with students, environmental sheets were issued, where possible ways of solving the environmental problems of the area were developed.

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**Annotation.**

Environmental issues are currently receiving special attention from the public, scientists, politicians. And this is not accidental, since global environmental problems require a depth of ecological knowledge and a responsible attitude to the environment. The mental and physical well-being of a person, his mood, business activity, health are crucially dependent on the state of the environment. The ecological state of our Fatherland depends on the state of the ecological environment, each, even a small settlement.

    “We create cities, villages, and they create us,” argued Aristotle. Unfortunately, today this famous expression will be more true if we rephrase it: “First we destroy the city, the village, and then they destroy us.” Psychologists now note a dangerous tendency - under conditions of impersonal rural development (pollution of landscapes, wastelands, “trash” lands, so-called psychological pollution occurs. It manifests itself in a decrease in aesthetic criteria, in addiction to the destroyed natural environment.

     We, the younger generation, growing in such environmental conditions, when we see that less and less islands of wildlife remain in the village, are perceived with great pain and resentment. Experts believe, not without reason, that hostility, mental disorders, terror, and crime are the reaction of people to serious deviations from the usual natural conditions in which a person developed as a species. Therefore, the theme of the work is the study and analysis of environmental problems of the Khiloka region, the search for solutions to these problems. The relevance of the chosen topic is that: It is important that each person understands the environmental problems, tries to make it suitable for their living, to cause as little harm to it as possible.

Objective: to study the environmental situation of the Trans-Baikal Territory and the Khiloksky District, to take an active part in improving the ecology of their area. To achieve the goal, specific tasks were set:

1. Consider the geographical location of the Trans-Baikal Territory and the Khilok District.

2. To study, using concrete examples, the peculiarities of the ecological situation in the region and region.

3. Identify the environmental problems of the area, on this basis, make simple, understandable for the residents of the area recommendations on the environmentally competent management and improvement of the environment of the area.

4. Encouraging students to understand not only global environmental problems, but also the environmental problems of a small homeland, instilling responsibility and striving towards solving environmental problems.

To implement the tasks, the following research methods were used.

1. Theoretical:

 collection of information;

 systematization of the material;

2. Practical:

 sociological survey;

Data compilation.

 drawing up environmental sheets.

We conducted our research in the following ways:

• work with scientific literature;

• Internet resources;

• polls on this topic;

• comparison of the found information.

The theoretical and practical significance lies in the fact that the ecological sheets created by students will be distributed among the residents of the area and adults will hear children's cries about environmental problems.

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**CHAPTER 1.ZabaykalskyKrai.**

1.1. **ZabaykalskyKrai.**

The Transbaikal Territory is located in Eastern Siberia, in the eastern half of Transbaikalia. **(Appendix 1)** The greatest length of the region from the north (the Kodar ridge) to the south (the Prionon Plain) is marked on the meridian 117 ° 08 '. and reaches almost 1000 km, from the west (Yablonovy Ridge) to the east (Argun River) along a parallel of 50 °. sh. The length is a little more than 850 km.

The first traces of human presence on the territory of the region belong to 150-35 thousand years ago. Early evidence was found on the surface of the ancient pebbles of the Gyrshelunki River (a tributary of the Khilok River), in the vicinity of the town of Chita (Sukhotino-1), in the Ust-Menzy region on the r. Chikoy.

The decree of Peter I, issued in 1703, promoted the consolidation of the population in the Agin trans-Baikal steppes, which determined the places of their nomads as well as the location of the border signs under the Bura Treaty with China in 1727.

In 1802, under the imperial decree of October 17, 1799 “On the colonization of the midday region of Siberia”, lands along the Ingoda, Chita, Ulunga (Olenguy) and Tura rivers previously inhabited by Buryats were transferred to immigrants arriving from the western regions of the country.

1.2.**The formation of the Transbaikal Territory**

On March 1, 2008, as a result of a decision on the basis of a referendum of the peoples of the AginskyBuryat Autonomous Region and the Chita Region, the Trans-Baikal Territory was formed.

On July 23, 2007, Russian President Vladimir Putin signed the federal constitutional law “On the formation within the Russian Federation of a new subject of the Russian Federation as a result of the unification of the Chita Region and the Agin-Buryat Autonomous Okrug”, adopted by the State Duma on July 5, 2007. and approved by the Federation Council on July 11, 2007.

The population of the region according to the Federal State Statistics Service is 1,072,806 people. (2018). The population density is 2.48 people / km2 (2018). The urban population is 68.22% (2018). The main part of the population lives in the southern and central regions of the region, the northern areas are poorly populated.

The entire population and the proportion of urban residents according to the all-Union and All-Russian censuses **(Appendix 2)**

1.3. **Khilok district.**

Khiloksky District, a municipality in the Trans-Baikal Territory. (Appendix 3) Territory - 14.8 thousand km2. The population is 33,434 people. The composition of the Khilok district.Includes 1 city of district significance, 1 village (Mogzon) and 29 rural settlements.Center - Khilok.

Formed in January. 1926 Included 14 rural Soviets, 148 settlements. It was abolished in 1932. The territory became part of the Khiloko-Khotsaysky, Petrovsk-Zabaykalsky, Krasnoyarsk areas. 2.2.1935 of 20 rural Soviets of the Ulan-Khiloksky, Petrovsk-Zabaykalsky, Krasnochikoisky districts of the Khiloksky district. created again.

The main orographic axis is the Yablonovy Ridge, to the south of it is the Malkhansky Ridge, to the north. - Tsagan-Hurtei, which has many loaches (Bugutui, Shantoy, Pious, etc.). There are: Areya manifestation of facing stone, Badinskoemordenite-clinoptilolite-containing rocks, Zhyphegen granite deposit, Taydut manifestation of facing stones, Khilokskoe sand deposit, Kholinskoe deposit of perlite-zeolite raw materials The main river - Khilok (with numerous tributaries) belongs bass. oz Baikal. Soils are predominantly mountainous permafrost-taiga podzolic, sod, mountainpodzolic, deep-frozen. Pine and larch-pine, grass-shrub, steppe pine, mountain larch and mountain larch-pine forests are widespread.

In the valley of the Khilokriver there is frozen meadow-chernozem soil. Here mountain-valley spruce-larch forests are common in combination with grass marshes and yerniki. The main arrays of arable land are located on lower parts of the slopes.

Live mainly Russians, Ukrainians, Buryats. The average population density is 2.6 persons / km2. Mostly rural population (55%). Old-timers in a number of villages (Alentuyka, Glinka, Ulyastui, Engorok) retain the traditional features of everyday life, clothing, and the family language.

The population of the Khiloka District performs the maintenance of the railway, which creates prerequisites for the harvesting and removal of wood, round wood, and sawn timber. Until the 1990s, about 15 large forest users operated in the Khilok District, including the BadinskyLespromkhoz, the ZagarinskyLespromkhoz, the SosnovskyLespromkhoz, the Kharagunsky Woodworking Plant, the KhilokiLespromkhoz, and the KhilokskyLestrankhoz. At the beginning XXI century.over 100 small enterprises, individual forest users are engaged in logging. Functioning: Badinsky forestry, Novopavlovsk forestry, Hiloksky forestry, Hiloksky rural forestry. Works JSC Burtuyskycoal mine. The main freight transport is carried out by road. The length of public roads is 354 km. Through .Yamarovsky tract passes.

1.4. **Gyrshelun village.**

Located on the Trans-Siberian Railway, in the central part of the Khilok District, on the right bank of the Khilok River, 17 km north-east of the city of Khilok. **(Appendix 4)**Received the name due to its location at the mouth of the river of the same name. From the Buryat gar Shulun (“stone-yurt”), the river was named after the shape of the mountain, from which it originates, resembling a yurt].

The settlement arose at the end of the 19th century as a stopping point, then as a station of the Trans-Baikal Railway. In 1905, a station settlement appeared, the population of which worked on the railway, as well as engaged in logging and farming. Since the 1930s, Gyrshelun was developed as a timber-loading station at Khiloksky LPH. In 1991, a high school, a house of culture, a library and a medical assistant acted in the village.

In the area of ​​the village there are several archaeological monuments - Gyrshelunsky stone, Gyrshelunki bed, ancient settlements of MastersKlyuch and Masters mountain.

**Chapter 2.Ecological problems.**

2.1. **Ecological problems of the Trans-Baikal Territory.**

Human impact on nature tends to disrupt the established balance of environmental processes. Humanity has come up against such problems that threaten its own existence. These include primarily atmospheric pollution, depletion and deterioration of the soil cover, chemical contamination of the water basin. Thus, a person as a result of his own activities came into sharp contradiction with the conditions of his habitat.

An acute awareness of the possibility of a global environmental crisis leads to the need for rational harmonization of the interactions in the system of machinery - man - biosphere. At present, the global nature of environmental problems requires a different way of thinking from a person, a new form of his self-consciousness — environmental consciousness. This means, first of all, that humanity must realize itself as a whole in its relation to nature.

Among environmental problems the central place is occupied by the state of the natural environment and natural resources, which is largely determined by the properties of natural systems. The landscapes of our Trans-Baikal Territory - with all their diversity, have some common features: low resistance to external influences, including anthropogenic, low productivity and slow self-healing. Among the reasons for this are the elevation of the territory above sea level and the mid-mountain relief, the location deep in the Asian continent, which causes a sharply continental climate. In the depths of the region a large number of radioactive deposits (uranium and thorium) and radon waters. There are geochemical anomalies that cause endemic diseases (Kashin-Bek’s disease, Keshan’s disease, Bazedov’s disease, etc.). All of the above contributes to environmental degradation and disruption of natural objects as a result of ill-considered economic and other activities.

The state of the environment and natural resources is largely determined by the properties of natural systems.

The reasons contributing to environmental degradation and disruption of natural objects as a result of economic and other activities:

• elevation of the territory above sea level and mid-mountain relief

• location deep in the Asian continent, which makes for a sharply continental climate

• landscapes of the Chita region are characterized by low resistance to external influences, including anthropogenic; low productivity and slow self-healing

• in the depths of the region a large number of radioactive deposits (uranium and thorium) and radon waters

• geochemical anomalies causing endemic diseases (Kashin-Beck disease, Keshan, Bazedov, etc.)

The potential of air pollution within the region is 1.5-2 times higher than in the European part of Russia.

Chita is in the list of cities (44) of the Russian Federation with the highest level of air pollution. **(Appendix 5)**

The region from the end of September — October to April — May is in the zone of action of the Siberian anti-cyclone. At this time, quiet, clear, frosty weather prevails, accompanied by air stagnation, temperature inversions and fogs. Conditions unfavorable for dispersion of pollutants in the air, especially in intermountain depressions, are emerging. This property of the atmosphere leads to the fact that in settlements with relatively low specific pollutant emissions (per resident), a relatively high level of air pollution can form.

Surface water in the Chita region.differ in low resistance to external influences, first of all to anthropogenic.

The reasons:

• long freezing,

• low summer temperature

• a sharp decline in river flow during the cold period

• freezing of many rivers.

Over 66% of the area of ​​the river has a low self-cleaning potential.

Surface waters are used to discharge wastewater and flush out pollutants; Gold, sand and gravel are mined in river beds. All this leads to their pollution.

The quality and condition of the forest resources of the region are significantly affected by illegal logging and fires in the Khilka, Chikoi, Ingoda, Shilka and Argun basins **(Appendix 6.7)**

The area of ​​forested land decreases not so fast, because natural regeneration occurs and artificial reforestation is carried out, but the condition of the forests is deteriorating. Coniferous areas and stocks are decreasing, while small-leaved ones are increasing. The number of low-grade and low-coniferous stands is growing.

**2.2 Environmental problems of the Khilok region.**

The Khilok district of the Chita region is included in the buffer zone of the Baikal natural territory, characterized by the presence of large reserves of forest resources and a rich variety of flora and fauna. The ecosystems of this territory perform the most important environment-forming functions, therefore the ecological well-being of the territory is of paramount importance.

  The Transbaikal Hydrometeorology and Environmental Monitoring Department (ZabUHMS) conducted studies of the air basin and surface waters in the Khilok river basin. The city’s air basin is polluted mainly by dust, nitrogen dioxide and phenol. The content of these substances exceeded the MPC by 1.3-1.5 times. Accordingly, the following indicators can serve as indicators reflecting the state of air in the Khilok district:

• Number of days per year with dust content in the atmosphere> 0.15 mg / m3;

• The number of days per year with a nitrogen dioxide (NO2) content in the atmosphere> 0.04 mg / m3;

• Number of days per year with phenol content in the atmosphere> 0.003 mg / m3.

The specified limit values ​​of the content of pollutants in the atmosphere correspond to the average daily maximum allowable concentration for these substances.

The results of studies of surface waters showed that, despite the general decline in economic activity, the waters of the r. Khilok steadily are moderately polluted (water quality class III) An indicator reflecting the state of the surface waters of a territory may be

• The length of the rivers (km) in with water quality class II (clean water) and better.

The problem of the quality of drinking water is very acute in the Khilok district. The specific weight of water samples from reservoirs of the first category that did not meet hygienic standards was 20.9%. Under the influence of water containing high concentrations of nitrates, there were 1201 people. An indicator can be used for groundwater resource

• The proportion of drinking water samples that do not meet the requirements of hygienic standards for sanitary and chemical indicators (%).

In the area there is an acute problem of littering of land by unauthorized dumps. According to 63 landfills, 40 are unauthorized. How rationally used land resources indicator shows

• Huge areas of land occupied by unauthorized dumps. **(Appendix 8)**

About 79% of the territory of the Khilok District is covered with forest. Forest fires have the greatest negative impact on the state of forest resources. **(Appendix 9)** The forests of the region were in the zone of catastrophic effects of forest fires, as a result of which large damage was caused to the preservation of landscapes, wildlife, and the economy and public health. The peak of the incidence of respiratory diseases in the general population and children is in 2016. This may be due to large concentrations of pollutants released during combustion into the environment.

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**Chapter 3. Research Part**

**Research plan**

Having studied in detail the environmental problems of the region and the region, we faced the problem of the need to find out how much the residents of the district realize the urgency of the ecological situation.

The basis of my research is the hypothesis: if we study the ecology of the Khiloka region, we will get a complete picture of the level of awareness of this topic by the inhabitants. We will also get percentages, and find out how much the inhabitants of the country are aware of the ecological situation and work out possible solutions.

The object of the research is the Khilok district and the objects surrounding it.

    On the pages of my research work, I tried to consider (as far as my possibilities allow me) from an environmental point of view, many environmental problems in our area related to the ecological illiterate behavior of people. Every person should behave in relation to nature so as not to disrupt the natural bonds.

    Today, many residents violate the laws not on purpose, but out of ignorance. The ecology of the village suffers from all this, it is destroyed as a historically established natural complex.

    If we explain to the population that the environmental management of the economy is beneficial primarily to them, then the situation can be changed and the village environment can be improved as ecosystems.

Subject of research: measures to improve the environmental situation of the Khilok District

And so to prove our hypothesis, we need to get a complete understanding of the inhabitants of the area about the environmental situation. To do this, we compiled a questionnaire "The environmental situation in the area" **(Appendix 10),** and conducted a sociological survey **(Appendix 11)** as a result, it was found out

1) What do you think is the main source of environmental pollution in the Khilokdistrict:

a) Elemental landfills - 42%

b) illegal logging - 33%

c) both - 25%

**(Appendix 12)**

2) Do you have containers for organized garbage collection in your yard:

     a) yes - 29%

     b) no - 71%

**(Appendix 13)**

3) There are spontaneous dumps in the vicinity of your city (district):

     a) yes - 89%

     b) no - 11%

**(Appendix 14)**

4) How do you feel about the spontaneous dumps in the village, the city and its surroundings:

     a) negative - 98%

     b) it doesn't matter (I don't care) - 2%

**(Appendix 15)**

5) Who is responsible for these dumps:

    a) administration - 46%

    b) residents - 54%

**(Appendix 16)**

6) Who, in your opinion, is to blame for a large amount of garbage on the roadsides and at bus stops:

    a) youth - 49%

    b) drivers - 35%

    c) everything - 16%

**(Appendix 17)**

7) How to deal with it:

    a) fine - 69%

    b) conduct explanatory work - 19%

    c) put more litter bins - 12%

**(Appendix 18)**

8) Where does your family throw household garbage:

    a) takes it to an organized landfill - 100%

    b) where it is necessary - 0%

**(Appendix 19)**

9) Do subbotniks need for garbage collection:

    a) yes - 100%

    b) no-0%

**(Appendix 20)**

10) Who should participate in these subbotniks:

      a) residents - 89%

      b) schoolchildren - 11%

**(Appendix 21)**

11) Were subbotniksbe held in your town, village:

A) yes-76%

B) no-22%

B) I do not know-2%

**(Appendix 22)**

12) Did you take part in the cleanining-ups:

A) yes-88%

B) no-12%

**(Appendix 23)**

In total, 90 residents of the district took part in the survey; these were students, teachers and support staff of School № 10.

Analyzing the results, we can conclude that all those who took part in the survey see acute environmental problems. I have analyzed this survey and made charts. With the results of a sociological survey, we went to students 7 "in" class MBOU Secondary School No. 10. **(Appendix 24)** Students of the class were asked to develop solutions to these environmental problems. At the English lesson, students compiled environmental sheets, which reflected ways to solve the environmental problems of the area. **(Appendix 25**) These environmental sheets with the help of students were distributed to residents of the Khiloka region**. (Appendix 26)**

**Conclusion:**

Green world - this is how I want to see the planet and my small homeland. Nature is our common property and common home. Lately, it has become more and more difficult to live in this house. Everything in our polysyllabic world is interconnected, nature is fragile and vulnerable, and the consequences of a rude, insane attitude to the animal and plant world can be disastrous. But we have one planet, one for all earthlings and the other will not. Each resident is responsible to all of humanity for the preservation of nature for the present and future generations.

       This work was devoted to the environmental problems of the Khilok district. The aim of our work was to study the environmental situation in the Trans-Baikal Territory, the Khiloksky District, and also to take an active part in improving the environmental situation.

        In the course of our study, we were able to study and analyze the ecological situation of the area. We found the necessary evidence for our hypothesis that the residents of the area are acutely aware of the ecological situation.

        According to the results of the research part, conclusions were also made that students are aware of environmental problems and even see ways to solve these problems, which once again confirms the relevance of our chosen topic.

Thus, in the course of the study, all the tasks were performed.

The goal of the work has been achieved, since we studied the environmental problems of the area and developed ways to solve these problems.

          The ecological list developed by us is distributed among the residents of the district. And we hope. That the children's cry of the soul must be heard by adults and our neighborhood will become a little cleaner. And on the felled hills, seedlings will turn green

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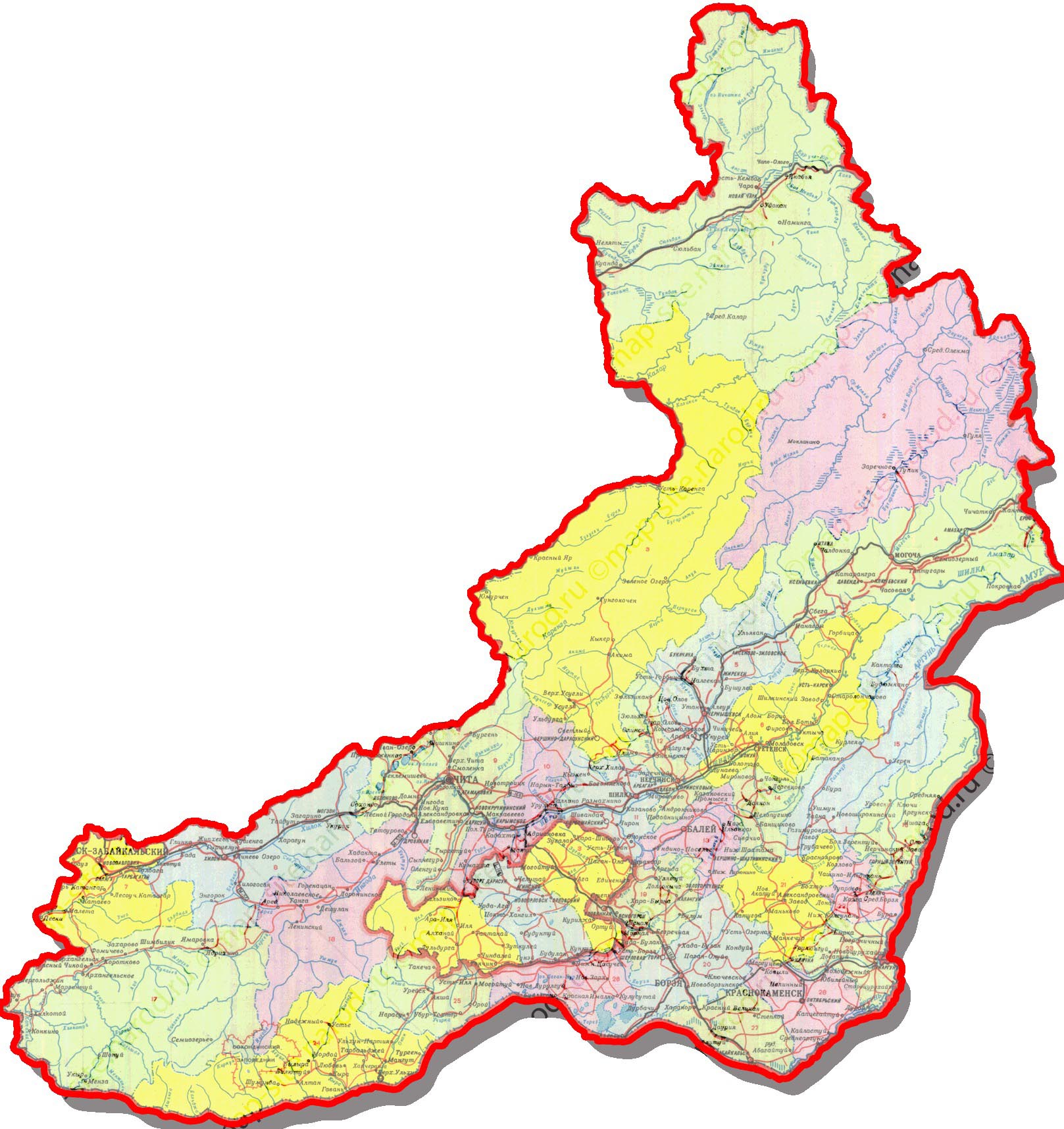
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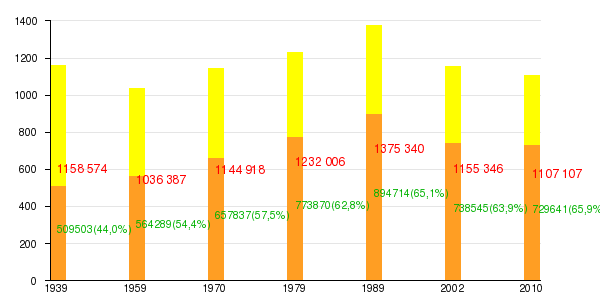
**Appendix 1**

**Map of Zabaikalskykrai**

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**Appendix 2**

**The population**

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**Appendix 3**

**The map of the Khilok district**

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**Appendix 4**

**The map of Gurshel**

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**Appendix 5**

**City of Chita in winter**

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**Appendix 6**

**Forest fire**



**Appendix 7**

**Cutting the forest**

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**Appendix 8**

**Dumps in Khilok district**



**Appendix 9**

**Forest fires in Khilok district**



**Appendix 10**

**The Survey**

1) What do you think is the main source of environmental pollution in the Khilokdistrict:

a) Elemental landfills - 42%

b) illegal logging - 33%

c) both - 25%

2) Do you have containers for organized garbage collection in your yard:

     a) yes - 29%

     b) no - 71%

3) There are spontaneous dumps in the vicinity of your city (district):

     a) yes - 89%

     b) no - 11%

4) How do you feel about the spontaneous dumps in the village, the city and its surroundings:

     a) negative - 98%

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5) Who is responsible for these dumps:

    a) administration - 46%

    b) residents - 54%

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    a) youth - 49%

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8) Where does your family throw household garbage:

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9) Do subbotniks need for garbage collection:

    a) yes - 100%

    b) no-0%

10) Who should participate in these subbotniks:

      a) residents - 89%

      b) schoolchildren - 11%

 11) Did subbotniks be held in your town, village:

A) yes-76%

B) no-22%

B) I do not know-2%

12) Did you take part in the cleanup:

A) yes-88%

B) no-12

**Appendix 11**

**The questioner**

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**Appendix 12**

1) What do you think is the main source of environmental pollution in the Khilokdistrict:

**Appenddix 13**

**Are there in your yard containers for litter?**

**Appendix 14**

**There are spontaneous dumps in the vicinity of your city (district):**

**Appendix 15**

**How do you feel about the spontaneous dumps in the village, the city and its surroundings:**

**Appendix 16**

**Who is responsible for these dumps:**

**Appendix 17**

**Who, in your opinion, is to blame for a large amount of garbage on the roadsides and at bus stops:**

**Appendix 18**

**How to deal with it:**

**Appendix 19**

**Where does your family throw household garbage:**

**Appendix 20**

**Do subbotniks need for garbage collection:**

**Appendix 21**

**Who should participate in these subbotniks:**

**Appendix 22**

**Were subbotniksbe held in your town, village:**

**Appendix 23**

**Did you take part in the cleanining-ups:**

**Appendix 24**

