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PROBLEMS OF POPULATION CAUSED BY AN ECOLOGICAL CONDITION OF INDUSTRIAL ZONES (on an example of Kaspi)

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The city of Kaspi is one of the largest producers of building materials in Georgia. A number of industrial enterprises and educational, cultural and health establishments function in Kaspi. According to the official statistical data, 15,8 thousand residents were registered in Kaspi in 2011. According to the most recent census of the population (in 2002), the ratio of children aged <15 of the gender structure of the population was 22%. The ratio of the able-bodied citizens was 64%, and 14% of the total population was older the working-ability age.

The study aimed to investigate the people's opinion of the ecological conditions in the city of Kaspi. A sociological survey was organized in the months of February and March of 2011, by interviewing. The survey questionnaire was developed and the set of population to be interviewed was selected; the training about the questionnaire specifics and interviewing techniques was held with three local interviewers. Total 80 respondents were interviewed. We divided them into three age groups (<30, 30-59 and 60+).

57,5% of the interviewed evaluated the situation in Kaspi as heavy (Table 1) and about fifth of the interviewed think the ecological state in Kaspi is extremely heavy. The respondents thinking that the ecological conditions in the city are good were few in number (3,8%).

It should be noted that 53,5% of women evaluated the ecological situation of the city as heavy. Of the same opinion are 57,5% of the interviewed men. The results of the survey among the respondents thinking that the ecological situation is extremely heavy are opposite, with the percentage of women (26,5%) exceeding that of men (18,8%). The ratio of the respondents estimating the ecological situation of the city as fair was low among both, men and women.

Table 1. Evaluating the ecological situation by sex of interrogated (%)

	Male	Female	Both sexes
Good	5.4	2.3	3.8
Satisfactory	21.6	18.6	20.0
Heavy	62.2	53.5	57.5
Extremely heavy	10.8	25.6	18.8

Approximately one-third of the respondents think that the ecological situation in the city of Kaspi has deteriorated in recent years. This position was supported by 35,6% of women and 28,6% of men. In the opinion of the one-fourth of the interviewed, the ecological situation in the city has improved in recent years (Table 2) . Of the same opinion are 26,7% of women and 22,9% of men. Almost a half of the latter (48,6%) thinks that the ecological situation has not changed in Kaspi in recent years and remains the same. The same indicator among the women fell 10,8 points back that among the men and amounted to 37,8%.

Table 2. Respondents' opinion about the changes in the ecological situation in the city of Kaspi in recent years (%)

	Male	Female	Both sexes
Improved	22.9	26.7	25.0
Remains the same	48.6	37.8	42.5
Deteriorated	28.6	35.6	32.5

Interesting results were gained through the analysis of the respondents' self-estimate of their state of health. According to the respondents' self-estimate, 14,8% of the respondents have good to extremely good state of health, amounting to 25% for men what exceeded the same indicator for women by 10,2 points. Over half of the interviewed women estimated their state of health as satisfactory what is 12,2 points more than the same indicator among the men. According to the respondents' self-estimate, approximately 40% of the interviewed men and women had poor health. 42,2% of the interviewed women think they have poor health what is 6,1 points more than the same indicator among the men (Table 3).

Table 3. Respondents' self-appraisal of their state of health (%)

	Male	Female	Both sexes
Extremely good	5.6	0.0	2.5
Good	19.4	6.7	12.3
Satisfactory	38.9	51.1	45.7
Bad	36.1	42.2	39.5

Quite often, the respondents explain their satisfactory to poor health by irritation or excitation. This reason was named as number one by equal numbers of men and women. In the opinion of one-fifth of the respondents, their poor health was evidenced by **their headaches. This response was given by more or less equal numbers of men and women. Such symptoms, as weakening and insomnia** were named by 18,1% of the respondents of both sexes as the evidence of their satisfactory to poor health (Table 4).

Table 4. Respondents' opinions of the symptoms evidencing their satisfactory to poor health (%)

	Male	Female	Both sexes
Headache	20.8	19.8	20.1
Weakening	18.9	17.7	18.1
Dullness	11.3	13.5	12.8
Irritation or excitation	24.5	25.0	24.8
Insomnia	18.9	17.7	18.1
Other reason	5.7	6.3	6.0

83,5% of the respondents of both sexes named the following reasons as the ones causing their health problems: air pollution (36,1%), noise (25,6%) and water pollution (21,8%). A significant part of the interviewed (12,8%) name the soil pollution as the reason for their poor health.

It should be noted that the above-listed reasons among men and women with their values coincided with the general trend. However, there was certain difference in the responses of both sexes. For example 41,9% of men named as the major reason for their poor health exceeding the same number among the women by 8,5 points (Table 5). As for such reasons, as noise and water pollution, the female respondents naming them as the reasons for their poor health amounted to 3,4 exceeding that of men by 4,7 points.

Table 5. Distribution of the respondents across the reasons causing their health problems (%)

	Male	Female	Both sexes
Air pollution	41.9	33.3	36.1
Water pollution	18.6	23.3	21.8
Soil pollution	16.3	11.1	12.8
Noise	23.3	26.7	25.6
Other noise	0.0	5.6	3.8

Most of the respondents of both sexes (63,0%) having various diseases named the ecological state as the major reason for their diseases. 66,7% of women and 58,1% of men shared this opinion.

According to the duration of their illness, the respondents' answers were as follows: 40,8% of the interviewed complain about their illness for 5 or more year; 33,8% complain about 3 to 5 years of illness; 19,7% complain about 1 to 2 years, and 5,6% complain about their illness lasting for up to 1 year. The analysis of the interviewed of both sexes gave the same results (Table 6).

Table 6. Distribution of the respondents according the duration of their illnesses (%)

	Male	Female	Both sexes
up to one	3.6	7.0	5.6
1-2 year	25.0	16.3	19.7
3-5 year	32.1	34.9	33.8

5 year	39.3	41.9	40.8
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The analysis of the respondent's self-estimate of the plants named as the reasons for the respondents' illnesses gives interesting results.

75,1% of the interviewed thought „Heidelbergcement” and other cement plants in the city of Kaspi as of the major reasons for their illnesses making 84,4% and 84,1% among men and women, respectively. 11,7% of the respondents think the flour mills as of the major reason for their illness. The proportion of „Tskalkanali” and cellular telephone tower was over one-tenth of point (Table 7).

Table 7. Distribution of the plants in Kaspi thought in terms of the major reasons for the illnesses by the respondents (%)

	Male	Female	Both sexes
Heidelbergcement	34.4	42.2	39.0
Wheat flour mill	6.3	15.6	11.7
Cement plants	50.0	24.4	35.1
Cellular telephone tower	3.1	13.3	9.1
Tskalkanali	6.3	0.0	2.6
Saqcementi	0.0	2.2	1.3
non indicate	0.0	2.2	1.3

Despite a number of positive changes in recent years in the city, if considering the results of the population survey, the ecological situation can be assessed as poor in the city of Kaspi. The above-cited problems can be regulated only through active preventive measures to be accomplished by the local authority and relevant enterprise managements.

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ინფსტრიული ზონების ეკოლოგიური მდგომარეობით გამოწვეული მოსახლეობის პრობლემები (ქასპის მაბალითზე) /მელაძე გ.გ./ საქართველოს ტექნიკური უნივერსიტეტის ჰიდრომეტეოროლოგიის ინსტიტუტის შრომათა კრებული-2013.-ტ.119.-გვ.316-319-ინგლ., რეზ. ქართ., ინგლ., რუს.

ქასპი სამშენებლო მასალების ერთ-ერთი უმსხვილესი მწარმოებელია საქართველოში. ოფიციალური სტატისტიკური მონაცემების თანახმად, 2011 წლის მონაცემებით ქასპში 15,8 ათასი ადამიანი ცხოვრობდა. გამოკვლევის მიზანს წარმოადგენდა ეკოლოგიური მდგომარეობის ზეგავლენა მოსახლეობის ჯანმრთელობაზე. ჩვენი გამოკვლევა შეიცავდა ხუთ ურთიერთდაკავშირებულ ეტაპს: 1. გამოკვლევის მომზადება; 2. პირველადი სოციოლოგიური ინფორმაციის მოგროვება; 3. მოგროვილი ინფორმაციის მომზადება დასამუშავებლად; 4. დამუშავებული ინფორმაციის ანალიზი; 5. გამოკვლევის შედეგების ანგარიშის, დასკვნებისა და რეკომენდაციების მომზადება.

პროექტი განხორციელდა ეკოლოგიური სამართლის ცენტრის მიერ, ევრაზიის თანამშრომლობის ფონდის თანამშრომლობით. ქალაქ ქასპში გამოკვლევა ჩატარდა 2011 წლის 15 თებერვლიდან 31 მარტის ჩათვლით. ინტერვიუების პრინციპით გამოკითხულ იქნა 80 ადამიანი (37 მამაკაცი და 43 ქალი). რესპონდენტები დაყოფილნი იყვნენ სამ ასაკობრივ ჯგუფად (30 წლამდე; 30-59; 60 და უფროსი ასაკის). გამოკვლევის შედეგებმა გვჩვენა, რომ გამოკითხულთა 59 პროცენტი ქალაქის ეკოლოგიურ მდგომარეობას თვლიდა როგორც მძიმეს, ხოლო 18 პროცენტი აფასებდა როგორც ძალიან მძიმეს. დაახლოებით 40 პროცენტი თავიანთ ჯანმრთელობის მდგომარეობას აფასებდა როგორც ცუდს. გამოკითხულთა აზრით, ზემოაღნიშნული პრობლემების ძირითადი მაპროვოცირებელი ფაქტორებია: ჰაერის დაბინძურება და ხმაური.

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Kaspi one of the largest producer of building materials in Georgia. According to official data population of the city in 2011 was 15.8 thousand. The purpose of this research was studying of influence of an ecological condition on population health. Our research included 5 interconnected stages: 1. Research preparation; 2. Gathering of the primary sociological information; 3. Preparation of the collected information for processing; 4. The analysis of the processed information; 5. Preparation of reports by results of research with conclusions and recommendations.

The project has been carried out by the Centre of Ecological Justice with support of fund of the Eurasian Partnership Foundation. In the city of Kaspi research was carried out to the period from 15 February to 31 March 2011. By a principle interview 80 persons (37 men and 43 women) have been interrogated. Respondents have been divided into 3 age groups (<30 years, 30-59 and

60 years and more). Results of research have shown that 59 percent interrogated considered that city's ecological condition has been heavy and 18 percent believed that very heavy. About 40 percent of respondents estimated the condition of their own health as bad. According to interrogated, provoking factors above mentioned problems basically are: air pollution and noise.

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ПРОБЛЕМЫ НАСЕЛЕНИЯ ВЫЗВАННЫЕ ЭКОЛОГИЧЕСКИМ СОСТОЯНИЕМ ИНДУСТРИАЛЬНЫХ ЗОН (НА ПРИМЕРЕ Г.КАСПИ) /Меладзе Г.Г./ Сб. Трудов Института Гидрометеорологии Грузинского Технического Университета Грузии. -2013.-т.119.-с.316-319 - Англ., Рез. Груз., Англ., Рус.

Каспи один из крупнейших в Грузии производителей стройматериалов. По официальным данным 2011 года в городе проживало 15,8 тыс. жителей.

Целью данного исследования являлось изучение влияния экологического состояния на здоровье населения. Наше исследование включало 5 взаимосвязанных этапов: 1) подготовка исследования; 2) сбор первичной социологической информации; 3) подготовка собранной информации к обработке; 4) анализ обработанной информации; 5) подготовка отчетов по результатам исследования с выводами и рекомендациями. Проект был осуществлён центром экологической справедливости при поддержке фонда Евразийского сотрудничества. В городе Каспи исследование проводилось в период с 15 февраля по 31 марта 2011 года. По принципу интервьюирования было опрошено 80 человек (37 мужчин, 43 женщин). Респонденты были разбиты на 3 возрастные группы (до 30 лет, 30-59 и 60 лет и старше).

По результатам исследования 59 процентов опрошенных считали что экологическое состояние города тяжёлое а 18 процентов полагали что очень тяжёлое. Около 40 процентов респондентов состояние своего здоровья оценивали как плохое. По мнению опрошенных, провоцирующими факторами вышеуказанных проблем в основном являются: загрязнение воздуха и шум.