



INSTITUTE FOR SOCIAL RESEARCH  
UNDER THE CABINET OF MINISTERS  
OF THE REPUBLIC OF UZBEKISTAN



*Empowered lives.  
Resilient nations.*

UNITED NATIONS  
DEVELOPMENT  
PROGRAMME  
IN UZBEKISTAN

# NEEDS OF THE POPULATION IN THE ARAL SEA REGION





REPORT

SOCIO-ECONOMIC SURVEY  
OF THE NEEDS  
OF THE POPULATION  
IN THE ARAL SEA REGION

Short version

---

# TABLE OF CONTENTS

INTRODUCTION	4
I. GENERAL CHARACTERISTICS OF THE REGION	5
II. DEMOGRAPHIC SITUATION	8
III. DEVELOPMENT OF AGRICULTURE AND ITS PRIORITY DIRECTIONS	9
IV. SOCIAL INFRASTRUCTURE	11
V. EDUCATION SYSTEM	14
VI. HEALTHCARE SYSTEM	15
VII. ECOLOGIC SITUATION	16
VIII. GENDER ASPECTS OF EMPLOYMENT	18
IX. SOCIAL RISKS AND SECURITY	19
X. CONCLUSIONS	20
XI. RECOMMENDATIONS	21

# INTRODUCTION



**Relevance.** Resolving the socio-economic problems of the territories affected by a major environment disaster caused by the Aral Sea drying remains one of the priorities for the Government of Uzbekistan and the international community. In this regard, it is important to identify the actual needs of the population through direct dialogue in the fields so that to take particular additional measures to address those needs.

**The goal of the survey** is to identify the key factors affecting the living standards and security of the population in the region of the ecological disaster.

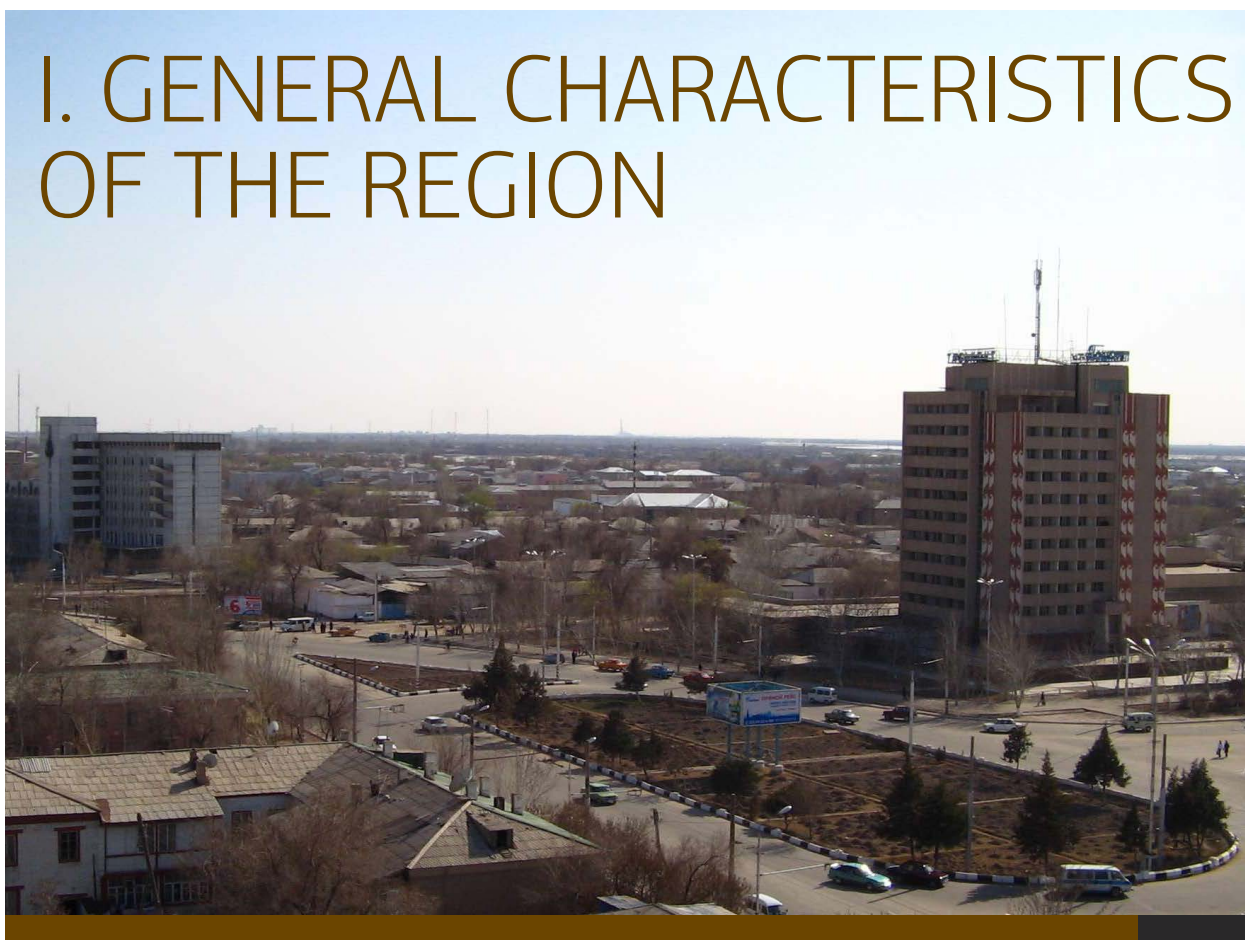
**The objectives of the survey** are to identify the systemic problems and their origins that affect the security of the population as well as to develop the proposals for mobilizing resources to

address the needs of the households residing in areas of the environmental crisis.

**The methodology** is based on conducting a social survey of the households and interviewing of focus groups. The survey was conducted in eight selected districts of the Republic of Karakalpakstan covering 116 mahallyas and 1600 households. Eight focus groups were organized in each region that covered 1600 respondents representing the local authorities and civil society.

**The survey outcomes** are of practical importance for the elaboration of additional measures for the socio-economic development of the surveyed areas, as well as for the preparation of the rationale and establishment of a multi-partner trust fund and attraction of donors.

# I. GENERAL CHARACTERISTICS OF THE REGION



**The structure of economy.** The Republic of Karakalpakstan, in terms of its area, ranks first among the regions of the country. More than 80% of its territory is occupied by desert dunes. The vast territory with a low population density and the direct vicinity of the Aral Sea affect the sustainable development of the region.

During 2010-2016 the gross regional product of the Republic of Karakalpakstan has increased 2.7 times (the share of GRP in the country's GDP is 3.3%). The GRP growth (over 10%) achieved in recent years is primarily related to the development of industry (the commissioning of the largest enterprises, such as the Kungrad Soda Plant and the Ustyurt Gas Chemical Complex). As a result, the share of industry in the structure of the economy increased from 14.6% in 2010 to 25.7% in 2016, while the share of agriculture decreased from 22.0% to 14.8%. Nevertheless, without taking into account these two large enterprises, the agriculture still occupies an important place in the structure of the economy, and the shares of industry and services sectors are inferior in comparison with the average for the country.

In spite of the measures being taken, the economic potential of the Republic of Karakalpakstan is significantly lower than that in the other regions of the country (according to 2016 data, Karakalpakstan is number 10 in terms of industrial production (per capita), the last – in terms of agriculture, GRP, and retail turnovers, and number 13 – in terms of production of consumer goods.

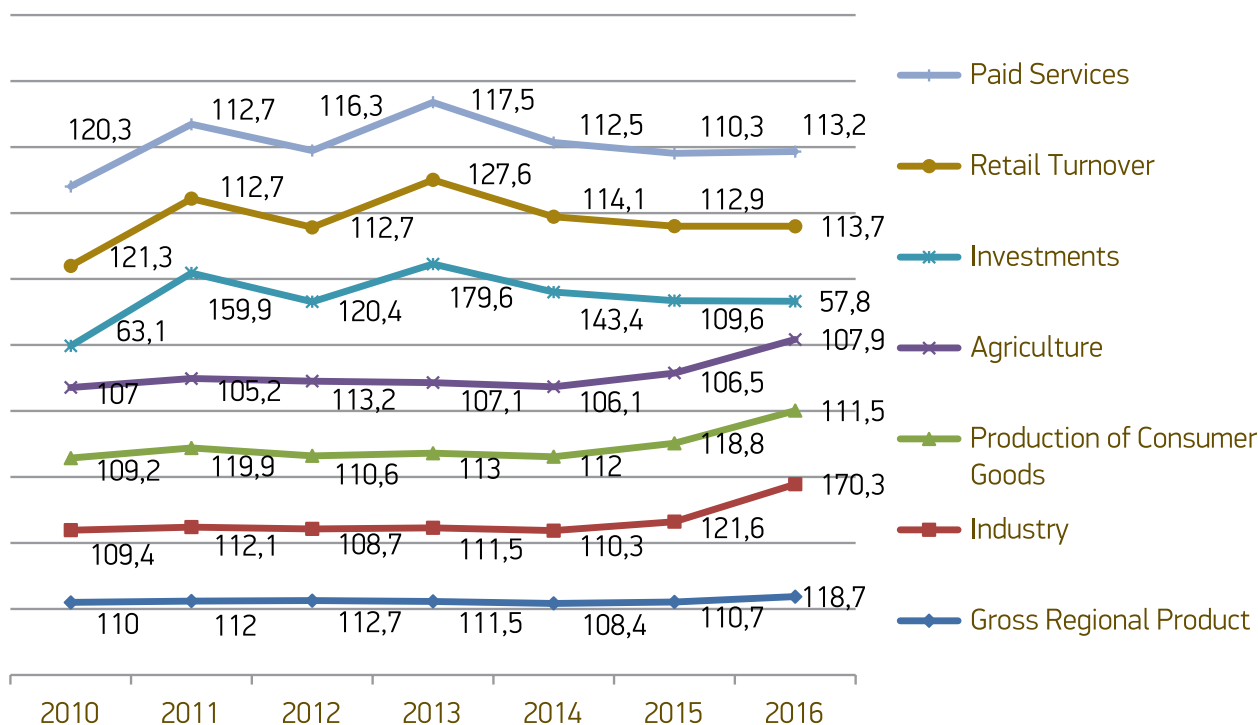
**Employment and labor market.** The employment issues in the Republic of Karakalpakstan are the most acute relative to the other regions. Ensuring employment of the population is ranked as the first one among the potential social risks identified during the survey.

There is a downward trend in employment – from 64.7% in 2000 to 61.0% in 2016. About 35.0% of the total number of employees is occupied in the informal sector, while the threshold level for this is 30.0%. In the structure of employment, the share of employment in the agricultural sector decreases, although the main part of the workforce is still involved in this sector (28.0%). The largest increase in employment falls on the service sector.

Figure 1.

**The dynamics of the macro-economic indicators of the Republic of Karakalpakstan**

(growth rates comparing to the previous period, %)



Source: the calculations are made on the basis of the data provided by the Department of Statistics of the Republic of Karakalpakstan.

Currently, the unemployment rate in the region is relatively high (5.4% versus 4.9% in the country, according to the Ministry of Employment of the Republic of Karakalpakstan and the Republic of Uzbekistan respectively). All the surveyed areas are classified as areas with a relatively tense situation in the labor market, where the unemployment rate varies from 5.8% to 10.4%, and youth unemployment is 12.5%.

Taking into account all the above, it is necessary to increase the effectiveness of the measures taken to create new jobs. Considering the natural, economic and ecological conditions of the region, along with traditional forms, non-standard forms of employment should be developed here.

**Incomes and expenses of the households.** In terms of real incomes per capita, the Republic of Karakalpakstan lags behind the national average by almost 1.4 times and ranks 12<sup>th</sup> among the regions. According to the results of the survey, 54.5% of incomes are generated from entrepreneurial activities, including 40.4% gener-

ated from private small holdings. As evaluated by the focus groups, 10-15% of the households live at the account of labor migrants' remittances.

The incomes of the population affect the consumption of the families. Food products prevail in the consumption structure (60.6 % after saving and mandatory payments), followed by non-food products (20.0%) and services (19.4%). The current irrational consumption structure is largely explained by the culture of the rural population that traditionally consumes less non-food products and services. Besides, it is common for the rural areas that the supply of non-food products and services is unavailable.

**Entrepreneurship.** The contribution of small business to GRP comprised 65.0% in 2016 versus 67.5% in 2006. In terms of the level of small business development the Republic of Karakalpakstan ranks 12<sup>th</sup> among the country's regions.

The objective regional factors hampering the sustainable development of entrepreneurship include: the transport remoteness of settlements and low population density, low potential of the

mineral resource base of rural areas, poor quality of land and water resources, as well as unpreparedness and low initiative of the rural population.

According to the results of the survey, only 25.9% of the respondents prefer to do business (versus 49.5% in the country in general). Based on the local initiatives, it is advisable to develop a targeted program of business organization at the level of local communities (auls and kishlaks) (30%), expand access to soft loans (29.5%), and provide trainings and re-trainings (17.1%).

It is recommended to create small rural co-operatives, develop cooperation with large enterprises and home production, collect and process medicinal plants, develop handicrafts and services at home.

**Food security.** Ensuring food security in the Republic of Karakalpakstan has its own specific features affected by the local environmental situation, poor quality of land and water resources, access to transport and the capacity of the food market.

According to the balance calculations, the level of provision with the main food products of own production is: for bread and bakery products - 33.2%, for meat and meat products - 75.0%, for milk and milk products - 81.0%, for fruit and berries - 65%. The imported products include sugar, vegetable oil, flour and confectionery.

The food products accessibility index calculated on the basis of the population earnings is relatively low, which affects the structure of rational nutrition. The nutritional adequacy ratio is relatively low on meat (71.0%), milk and dairy products (80%), eggs (87%), potatoes (86%), and fruits (57%). This picture demonstrates the irrationality of nutrition and, above all, the insufficient consumption of proteins and vitamins.

**Industrial infrastructure.** The level of road development is more than 4.0 times behind the average for the country. This is explained by the vast area low population density.

According to the survey, 43.2% of the population is not satisfied, and 24.3% is partially satisfied with the transport infrastructure facilities operations.

The key reasons for dissatisfaction include low quality of the local automobile roads, which need to be repaired (72.4%) and insufficient number of transport routes (16.3%).

In view of the needs of the population, it is necessary to address, as a matter of priority, the local roads issue and optimize the passenger operations taking into account the remoteness and inaccessibility of rural areas.

Large industrial infrastructure facilities, such as gas pipelines and electricity networks, operate in a relatively satisfactory manner.

#### **Market infrastructure and local budget.**

The market infrastructure facilities in general correspond to the available social and economic potential. According to the survey, 54.5% of the population is satisfied, 30.8% is partially dissatisfied, and 14.8% is fully dissatisfied with the services of banking and financial institutions. The main reasons for dissatisfaction include high loan interest rates (27.3%), bureaucracy (14.9%), lack of cash and unavailability of plastic card payment terminals (26.4%). The local needs in leasing of agricultural machinery, in modern insurance services, as well as in the market infrastructure facilities are not fully satisfied.

The Government of the country pays special attention to the integrated development of the regions through the strengthening of the financial base of local budgets. The budget of the Republic of Karakalpakstan is subsidized. Among 14 districts, only Kungrad and Muynak district budgets have no subventions. In order to increase the revenue base of the local budgets and reduce subventions, besides improving the economic capacity of the territories, it is necessary to implement a number of additional measures aimed at institutional transformation and consistent decentralization of inter-budgetary relations.



## II. DEMOGRAPHIC SITUATION

As of the beginning of 2017 the population of the Republic of Karakalpakstan comprised 1.82 mln. people or 5.7% of the country's population. In recent years, the region has experienced a decline in population growth (1.5% of annual population growth, compared to 1.7% in the country in general). The birth rate in 2016 was 22.0 ppm (versus 22.8 ppm in the Republic of Uzbekistan). In the surveyed districts there is a downtrend in birth rate and an uptrend in mortality.

The maternal mortality in 2012-2016 declined from 20.2 to 17.3 per 100,000 births, while infant mortality remained almost unchanged.

Despite a downtrend in population migration (from 23,000 in 2012 to 14,400 in 2016) to foreign countries, this indicator is the highest among the country's regions. In terms of labor migration the Republic of Karakalpakstan is also one of the first in the country. According to the survey, in average, 19.8% of households have a family member working abroad.

The processes of urbanization are slow in the region. For instance, in 2016 the share of urban population comprised 49.0% (versus 51.0% in the Republic of Uzbekistan). The share of urban population in Karauzyak district is only 29.9%, in Kanykul district – 24.4%, in Nukus district – 21.0%, and in Shumanay district – 26.2%. Low urbanization negatively affects the sustainability of the socio-economic development of rural areas.

An important feature of the Republic of Karakalpakstan is the existing population settlement pattern: the region's dominating form of settlement is a rural settlement with a population of up to 1000 people (the share of such settlements in Karakalpakstan is 73.8% against 47.8% in the Republic of Uzbekistan).

17.4% of the rural population resides in small rural settlements (versus 4.7% in Uzbekistan in general). At this, the share of settlements with a population of less than 1,000 people in Kegeyli district reaches 96.7%, in Karauzyak district – 95.0%, in Shumanay district – 93.5%, and in Chimbay district – 92.0%. This specific feature shall be taken into account when ensuring the safety and security of the population and, in particular, when optimizing the placement of social infrastructure facilities.

The trends in demographic behavior have an impact on the composition and the structure of the households. According to the results of the survey, the share of children under 16 is 26.6%, the share of people of working age is 61.8%, and the share of pensioners is 7.6%. This data generally coincides with the official statistics. A small difference in the age composition of the population of the Republic of Karakalpakstan from the national average is observed for pensioners (7.6% and 9.5% respectively) and children under 16 (26.6% and 28.4%, respectively).

The structure of the households in Karakalpakstan and the country as a whole is somewhat different. In particular, the households with 3-5 members make up 54.8% and 47.6%, respectively; single-family households account for 67.1% and 59.5%; the households with migrants comprise 19.8% and 15.6%; and the households having people with disabilities make up 9.8% and 9.1% respectively. The peculiarities of the composition and the structure of the households in the surveyed districts shall serve as a reference point in determining the action strategy for targeted social protection and demand-making for goods and services.





The development of agriculture in the Republic of Karakalpakstan has a number of features related to the need to adapt the production structure to the environmental situation, degraded land and water resources and climate change. At the beginning of 2017, the irrigated area in the Republic of Karakalpakstan comprised 509.6 thousand hectares with a total land area of 16.7 million hectares.

During 2010-2016, the volume of agricultural production increased 1.9 times. The agriculture development dynamics is unsustainable (average annual growth rate is 107.0%). There is a tendency for a decrease in the share of livestock (from 53.2% to 51.7%) and an increase in the share of crop production (from 46.8% to 48.3%). The dy-

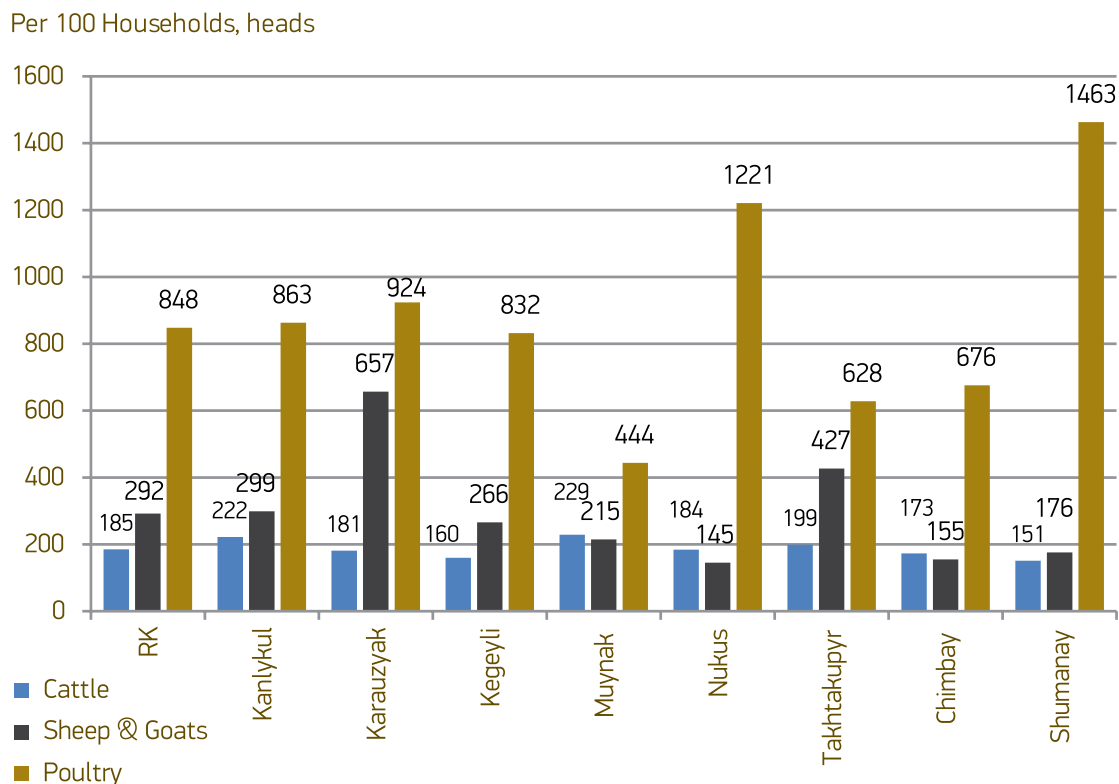
namics of production of basic agricultural products (cereals, rice, vegetables, fruits, meat, milk, eggs, etc.) is positive.

The survey has identified the potential for plant cultivation by the households (rice and legumes, potatoes, vegetables and melons, grapes and fruits). However, the gap between the surveyed districts in terms of household production of certain types of products is quite high. For instance, the gap per household between the districts is: for rice production – 2.6 times, for legumes – 11.5 times, for potatoes – 1.7 times, for vegetables – 9.2 times, and for melons – 5.1 times.

A similar differentiation was found in livestock production (livestock number, meat, milk, eggs).

Figure 2.

**The number of livestock and poultry in the surveyed districts of the Republic of Karakalpakstan**  
(survey results, August 2017 (heads per 100 households))



In terms of the availability of cattle, sheep and goats, horses and rabbits, the districts have a certain potential. The gap in their availability per 100 households is as follows: for cattle – 3.4 times, for sheep and goats – 4.5 times, for poultry – 1.5 times.

The condition of land and water resources has a negative impact on the effective use of the available crop and livestock potential. Half of the irrigated land is of low quality. In 2016, 73.4% of irrigated lands had a different degree of salinity, including 30.7% of low salinity, 35.7% of medium salinity, and 7.0% of high salinity. A high level of salinity is typical for Muynak (96.0%), Chimbay and Nukus districts (more than 80.0%).

The level of groundwater in irrigated areas re-

mains high, its depth is 1-1.5 meters (10.9%); 1.5-2.0 meters (64.0%) and 2.0-3.0 meters (14.0%). These waters have a high level of mineralization.

The dynamics of the actual water consumption exceeds the established norms of irrigation, which indicates the inadequacy of measures aimed at water use rationalization.

In view of the existing systemic problems, the key priorities for the development of agriculture should provide for cardinal changes in the crop structure based on a differentiated approach to each district and each farm and taking into account the natural, climatic and environmental conditions, as well as the transition to innovative water use technologies and improving the quality of land capacity.



## IV SOCIAL INFRASTRUCTURE

**Access to education.** The evaluation of the access to the education system has revealed that certain problems exist in terms of children coverage with pre-school educational institutions. In the surveyed districts the coverage of children by preschool institutions is identical to the national average (32.7%). However, in Shumanay and Muynak districts the access to pre-school institutions remains relatively low (16.7% and 29.1% respectively)

The main reasons for non-enrollment in kindergartens are: lack of demand (51.7%) and unavailability of the institution in the district (31.9%). The unavailability of kindergartens in certain settlements of Shumanay (58.8%), Karauzyak (38.6%) and Kegeyli (36.6%) districts are of particular concern.

In view of the existing problems it is advisable to develop a kindergarten dislocation chart in each district. The chart shall be based on the

district geographic position and the forming demand and followed by the implementation of the roadmap.

With regard to general education schools, lyciums and colleges, there are no systemic access, and the coverage of children is fully ensured. Individual reasons for non-attendance are mainly related to short-term illness (68.8%), as well as to travel and food expenses (9.3%). These reasons are typical for the surveyed areas.

**Access to the healthcare system.** The results of the survey confirmed that in view of the negative consequences of the Aral Sea crisis, there is a need to take effective measures to ensure that the healthcare system is accessible for the population. According to the survey, one third of the households regularly attend healthcare institutions, including family clinics (34.8%), rural medical centers (SVP) (29.9%), hospitals (27.1%), and private clinics (1.8%). The main reasons for

non-attendance of health facilities are the absence of such need (89.1%) and the remoteness of the institutions (2.6%).

In view of the existing problems (low quality of emergency medical care, inexperience of doctors, insufficient provision of medical equipment,

remoteness of medical institutions, and lack of narrow specialists) and their corresponding reasons, it is advisable to apply a differentiated approach while developing proposals for improving quality and expanding access to medical services for each district.

Figure 3.

### Satisfaction with the access to drinking water in the Republic of Karakalpakstan

(survey results, August 2017, %)

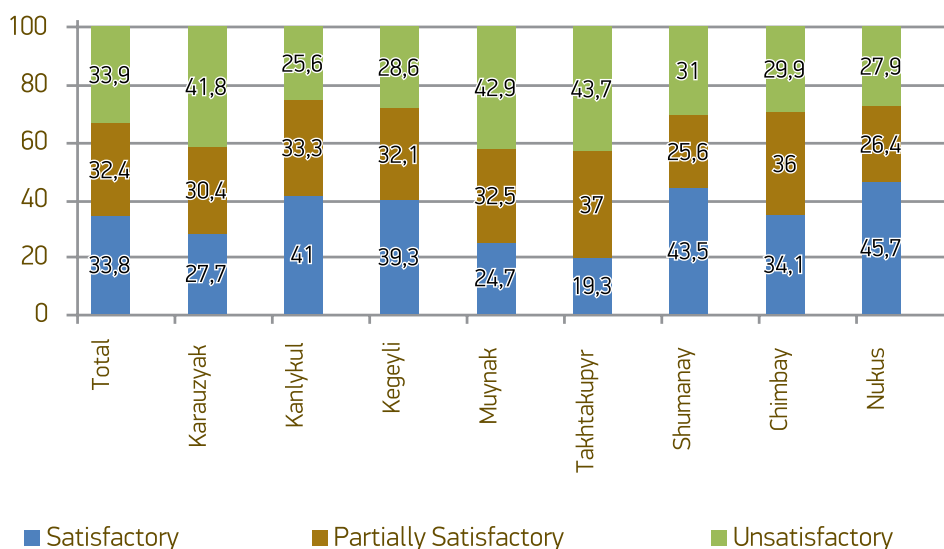
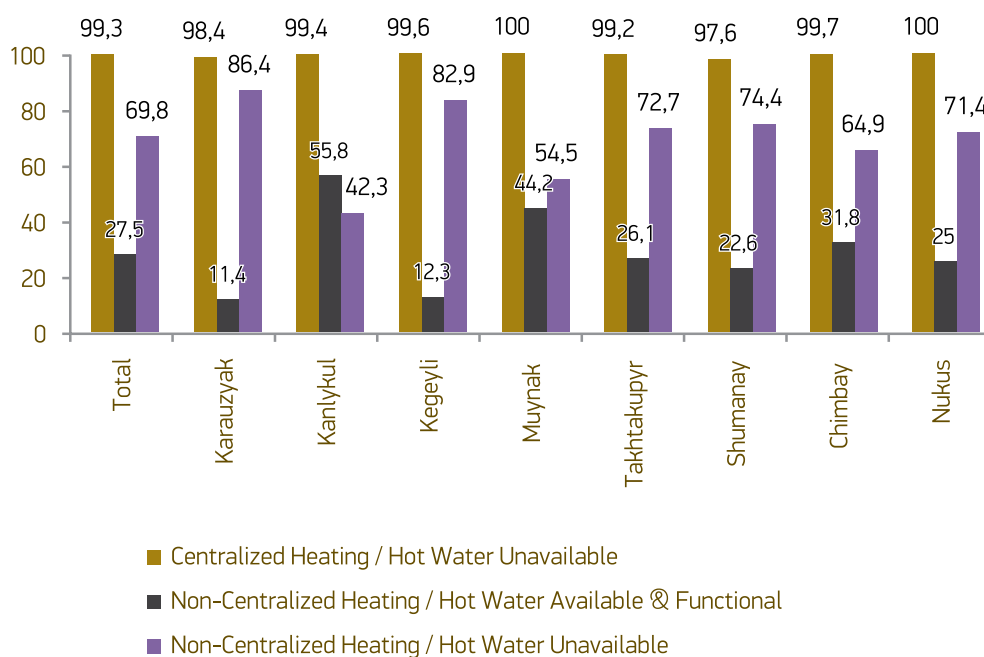


Figure 4.

### Hot water and heating supply in the districts of the Republic of Karakalpakstan

(survey results, August 2017, %)



**Access to public services.** The main reasons for dissatisfaction with the housing conditions are the issues related to allocation of land for construction (46.7%) and high cost of construction materials (40.0%). The latter has to do with additional transportation costs due to the remoteness of the rural settlements. The residential construction in rural areas has specific features associated with climate and ecology, which require the development of regional construction norms and a design system adapted to the local conditions.

The most relevant issue is the population access to quality drinking water. According to the survey, dissatisfaction in this sphere is 33.9%. The main reasons are irregular water supply (26.9%), poor water quality (37.8%), and long distance to the water source (19.0%). 60% of respondents in the surveyed areas noted the lack of water supply. The mentioned issues shall become important directions for managerial decisions aimed at securing the people's access to drinking water as the most necessary and socially significant resource.

In rural areas, in fact, there is no centralized hot water supply (99.3%), while decentralized supply is available only in certain households (27.5%).

Dissatisfaction of the population with the access to gas and fuel supply is associated with irregular gas supply and unstable delivery of liquefied gas cylinders. The population, in general, prefers liquefied gas in cylinders due to its ecological compatibility and transportability.

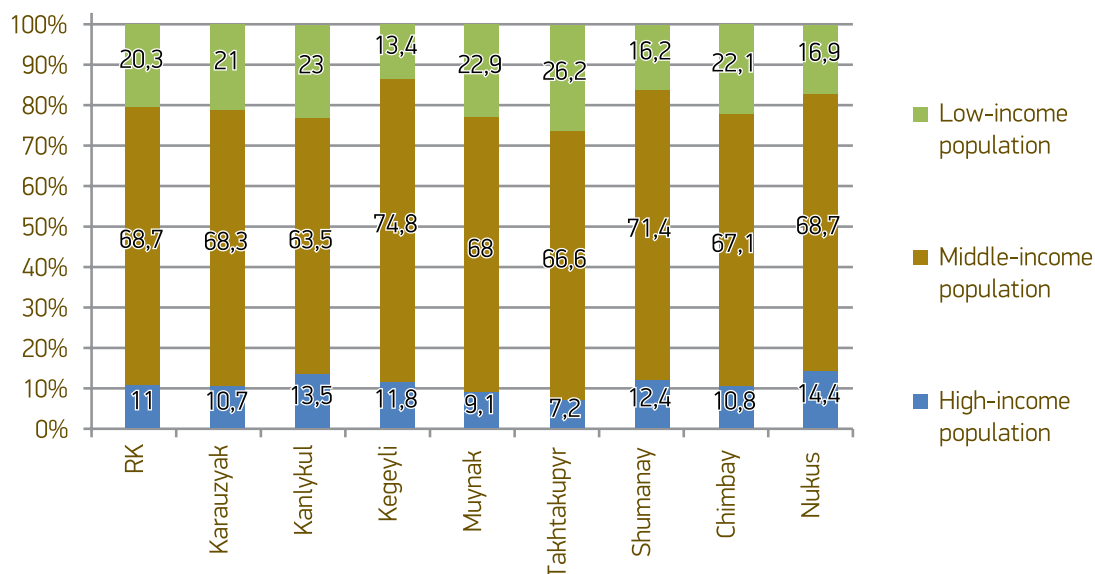
According to the survey, 79.1% of the households do not have a separate room for bathing and washing. This issue shall be addressed at the stage of construction or re-construction.

**Social security of the population.** In Karakalpakstan, the level of poverty is the highest in the country (27.0%). According to mahalla leaders, the level of poverty in the fields is slightly lower (20.3%). However, the poverty level is relatively high in such depressed areas as Takhtakupyr (26.2%), Muynak (22.9%), Kanlykul (23.0%) and Chimbay (22.1%), which requires a differentiated approach in applying the instruments of social protection to the most vulnerable segments of the population.

In this regard, targeted programs adapted to the district conditions shall be developed with the involvement of not only the government structures, but also the representatives of business and civil society.

Figure 5.

**The level of poverty in the districts of the Republic of Karakalpakstan**  
(survey results, August 2017, %)





## V. EDUCATION SYSTEM

**Pre-school education.** In spite of positive changes in provision of the population with pre-school education services, the region is facing with a number of systemic problems. The level of dissatisfaction with the pre-school education in Karakalpakstan is one of the highest in the country and comprises 40.3% in Karakalpakstan in general and 52.3% - in the surveyed districts. The main reasons for dissatisfaction are unavailability of pre-school institutions (51.9%), remoteness from the settlements (16.0%), and insufficient material and technical resources (6.9%). Lack of educators with higher education, the need to establish a staff position of pediatrician, the need for sports development and low salaries shall be also addressed as systemic problems.

Since the level of dissatisfaction with pre-school education is different and varies from 26.0% to 58.5% in the surveyed districts, a differentiated approach shall be applied when reconstructing the existing and constructing new facilities. Such approach shall take into account the needs of the population, the natural, climatic and ecological conditions, as well as the specifics of the population's settlement.

**General secondary education.** In 2017 the 11-year compulsory education system has been restored. According to the survey, at present 13.1% of the population are dissatisfied with general secondary education and 22.3% are partially satisfied.

The reasons for such dissatisfaction lie in the poor education quality (41.5%), insufficient sup-

ply of educational means (13.8%), remoteness from settlements (8.1%), and lack of qualified staff (4.1%). Gradual transition to a new form of education, preparation of school places, supplying the schools with modern equipment to inform the educational process are the priority tasks in this area. Moreover, it is crucial to raise the prestige of the profession of teacher, to organize free meals for students in the depressed districts, and to address the issue of school shuttles.

**Specialized secondary and vocational education.** Due to the transition to 11-year education, the number of lyceums and colleges in the republic has significantly decreased. The remaining lyceums and colleges will be mainly assigned to universities and large enterprises and company.

The level of dissatisfaction in the field of specialized secondary and vocational education is 12.7% and is explained by poor education quality (48.0%) and remoteness from the settlements (46.0%). The distance between the settlements and the educational institutions may reach 10-15 km.

The prospect for the development of this type of education largely depends on the quality of the teaching personnel, increasing the prestige of education, reforming the management system, expanding direct cooperation with profile enterprises and companies, creating favorable conditions for transportation of pupils from remote and hard-to-access areas, addressing the issue of school meals and some other factors.

## VI. HEALTHCARE SYSTEM

There are 38 inpatient and 141 outpatient clinics rendering medical services to the population of Karakalpakstan. Strengthening primary healthcare facilities (SSVP and district polyclinics) contributed to a 1.7-fold decrease in hospitalization during 1991-2017, while the number of visits of the polyclinic institutions increased in 2.1 times.

However, quality and accessibility of primary healthcare facilities are far from perfect, especially in rural areas.

Each fifth respondent (20.2%) evaluates his/her health as excellent; 62.6% answered their health is good, 12.4% believe their health is satisfactory, and 4.7% of respondents marked their health as poor.

According to the survey, the main causes of mortality are cardiovascular diseases. The second place belongs to respiratory system diseases. According to official data, tuberculosis incidence in Karakalpakstan in general is twice as high as the national average. In Muynak, Karauzyak and Takhtakupyr districts, the incidence of tuberculosis is two times higher than the average for the Republic of Karakalpakstan. 17.8% of respondents expressed their dissatisfaction with

the quality of the services provided. The main reasons for dissatisfaction are low qualifications of doctors (31.9%), poor provision of emergency care (14.0%), and remoteness of medical institutions (22.5%). It shall be noted that the service radius of the district healthcare associations in the surveyed areas varies and on average ranges from 30 to 50 km.

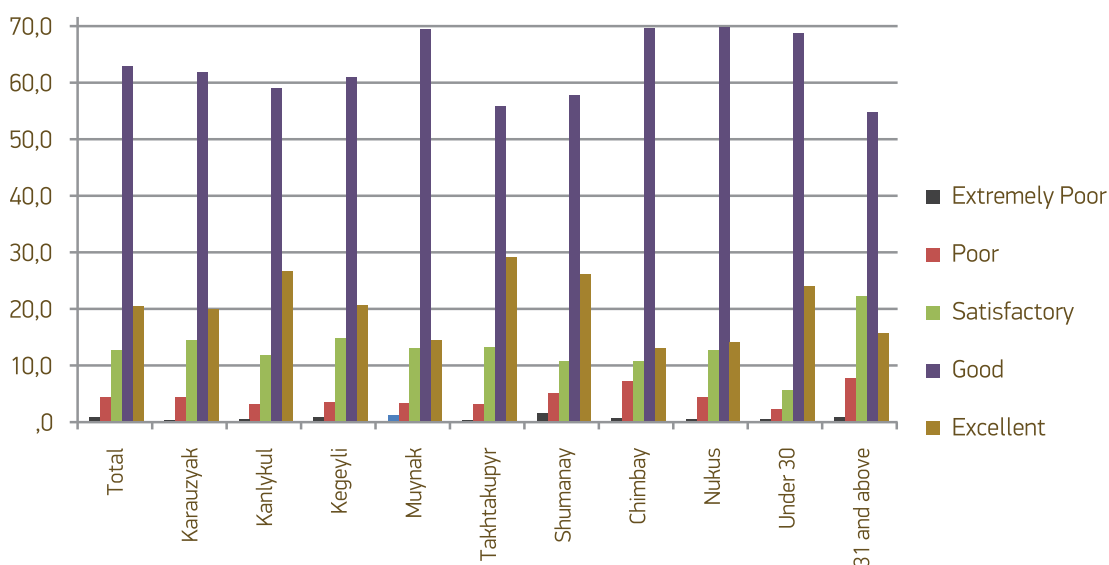
Thus, the key systemic problems that need to be addressed effectively are: remoteness of the healthcare facilities from the settlements, low qualification and lack of motivation among primary care physicians, low level of remuneration, low level of medical literacy, insufficient provision of modern medical equipment for primary healthcare facilities, lack of financial resources (which requires establishment of a special fund), etc.

The reforms in the healthcare system related to the optimization of the SVP network, the organization of rural family clinics, the extension of the work schedule of outpatient clinics to 12 hours, the improvement of the effectiveness of the patronage service, and the cardinal changes in the system of training and retraining of the staff fully correspond to the needs of the population.

Figure 6.

### Assessment of the health status of the population of the districts of the Republic of Karakalpakstan

(survey results, August 2017, %)





## VII. ECOLOGIC SITUATION

Despite the actively implemented measures to stabilize the environmental situation in the Aral Sea area, some systemic problems still remain unsolved. To address them, the countries of Central Asia region need to develop and implement a unified environmental policy.

According to the results of the survey, the main causes of environmental pollution are salt dust storms from the dried bottom of the Aral Sea, solid waste, pesticides and emissions from large enterprises. In turn, these processes lead to soil salinization and crop loss, as well as to deterioration of the quality of drinking water. Household waste is also a source of risk for the population.

The reforms in the healthcare system, the organization of rural clinics, the extension of the outpatient clinics to 12 hours, the improvement

of the effectiveness of the patronage service, and the cardinal changes in the system of training and retraining of the staff.

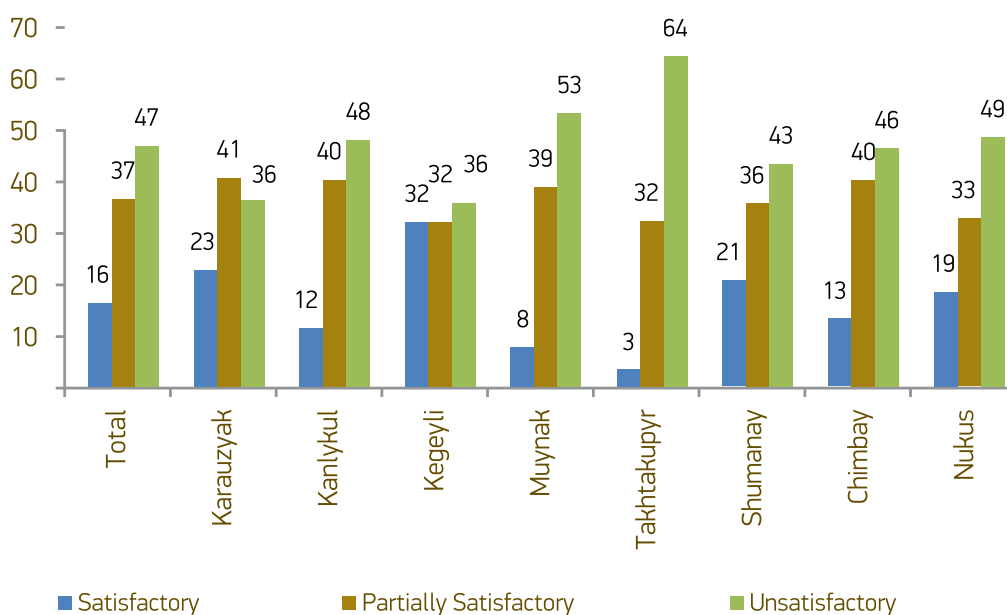
According to the survey, 46.9% of the respondents are not satisfied with the environment situation, which is a real threat to the life of the population. The level of dissatisfaction with ecology reaches 53.2% in Muynak, 64.3% in Takhtakupyr, and 48.6% in Nukus districts.

The reasons for such high dissatisfaction with the state of environmental protection are soil salinity (70.6%), air pollution (18.7%), water pollution (9.5%), and drought (6.7%). The residents of Muynak district suffer most from water (17.3%) and air (23.5%) pollution and drought (12.3%).

In order to improve the environmental situation, it is advisable to carry out systematic work



Figure 7.  
The level of satisfaction with the environment condition, % of respondents

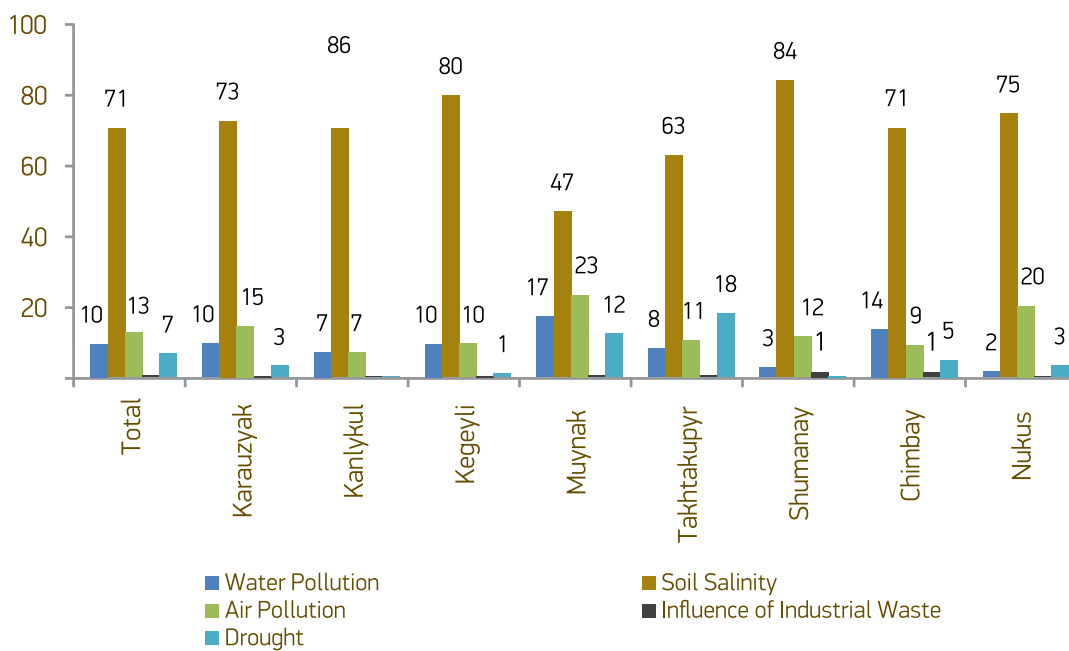


on environmental education (19.6%), install modern equipment for water treatment (15.3%), and recycle industrial waste on the ground.

In general, the main factors of ensuring en-

vironmental security are resolving complex strategic tasks for sustainable provision of drinking water as well as increasing yields by improving the land and water potential.

Figure 8.  
The main factors of dissatisfaction with the environmental situation, %



# VIII. GENDER ASPECTS OF EMPLOYMENT

Particular actions are being implemented in Uzbekistan to increase the social activity of women, ensure their employment, strengthen family relations, and protect motherhood and childhood. According to the survey, the share of economically active women was 48.1%. Women, generally, work as teachers, doctors, educators (in kindergartens), are occupied in trade and agriculture. In business, women are engaged in trade, sewing business, service sector, and production of confectionery. The only restriction for women's activity is the lack of jobs.

The accessibility of higher education for girls depends on such factors as the distance between the institution and the place of residence, affordability of paying a contract and gender stereo-

types in the family. The high cost of the contract is the main reason why the girls do not enter universities.

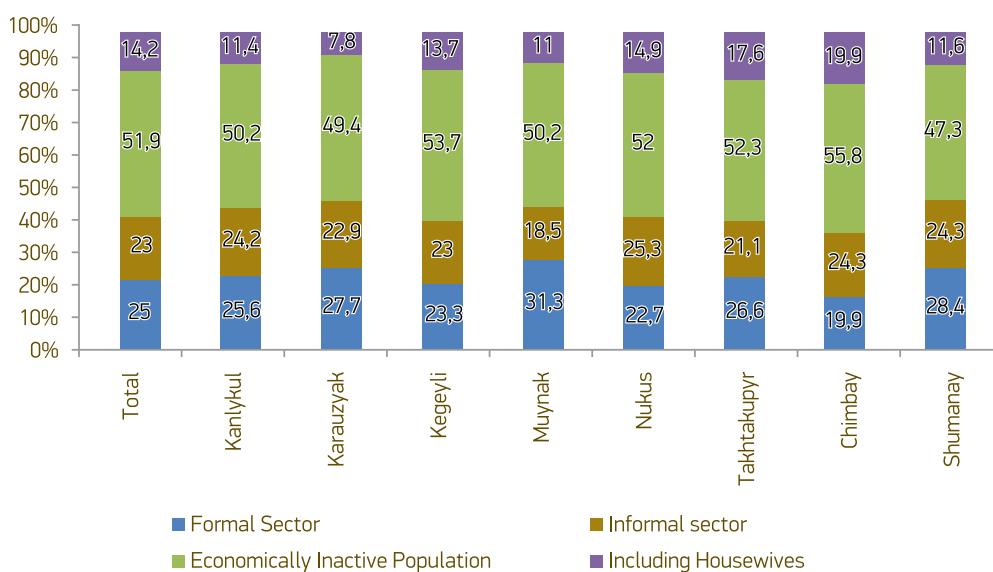
In the surveyed districts, a shortage of teachers in Russian and English, music, physics, chemistry, doctors and psychologists was observed.

The lack of jobs remains the main reason for the high unemployment rate among girls. Women make up about 1.0% among the labor migrants leaving for Russia and Kazakhstan. Mainly, these are women aged 30-40.

To increase the economic activity of women on the ground, it is recommended that they actively engage in entrepreneurial activities, participate in a permanent system of education, including enrollment in higher education institutions.

Figure 9.

**Employment of women in the districts of the Republic of Karakalpakstan**  
(survey results, August 2017, %)



# IX. SOCIAL RISKS AND SECURITY



The rating and the level of potential social risks are determined on the basis of a differentiated assessment of the households' satisfaction with the access and quality of social services by key components. The ranking of weight indicators made it possible to identify the social problems and risks at the level of individual components of the welfare of the population in the Republic of Karakalpakstan as a whole and district-wise.

According to the results of the survey, employment occupies **the first place** in the rating of the social risks of high tension (49.8% dissatisfaction). The main reasons for this risk are the lack of permanent jobs (76.2%) and low pay (21.6%).

**The second position** in the rating of risks is taken by the ecological situation (46.9%). The main reasons for this situation are soil salinity (70.6%), air pollution (12.7%), water pollution (9.5%), and drought (6.7%).

**Number three** in the rating is dissatisfaction with the state of the transport infrastructure (43.2%). The main reason for this risk is the need for major overhaul of the local mahalla roads (79.4%).

**The fourth place** among the potential risks of high tension is the population dissatisfaction with the provision of medications (41.3%). The situation worsens due to the remoteness of pharmacies (57.5%) and the high cost of medicines (37.6%).

**The fifth place** in the rating is occupied by pre-school education services (40.3%). The main reasons for dissatisfaction are the lack of institutions for children's preschool education (53.3%), their remoteness from the settlements (16.5%), high fees (6.7%), and the lack of appropriate conditions (material and technical base, etc.) (7.1%).

**The sixth position** is dissatisfaction with the provision of drinking water (33.9%). The main causes of this risk are poor (salty) water (42.6%), irregular water supply (30.4%), and large distance to water sources (21.4%).

**The seventh place** in the rating is occupied by consumer services (30.9%). The main reason for dissatisfaction is the large distance to the facilities (96.0%).

In the context of the districts, the first three places are occupied by Takhtakupyr (10.80 points), Kanlykul (12.05) and Chimbay (12.61) districts.



## X. CONCLUSIONS

The results of the survey of the households and focus groups with the participation of representatives of government and non-government structures testify to the presence of particular potential social risks and threats to the life of the population of the Aral Sea region. These risks belong to the following areas:

- Economic security, which is affected by such risks as low socio-economic potential of the agriculture-oriented region, insufficient income level of the population and the resulting imbalance in the food consumption structure, high unemployment rate and weak business activity, as well as dissatisfaction of the population with the condition of industrial infrastructure and, above all, with the condition of the local automobile roads;
- Food security arising from the de-grouped structure of the crop areas, deteriorating state of the irrigated lands and water resources, insufficient adaptation of the agricultural production to the consequences of the ecological crisis, and high level of food imports;
- Demographic security, which is affected by poor quality of life, increasing mortality and declining birth rate, low level of urbanization, large outflow of the population to other regions and foreign countries, and high levels of external migration;
- Social security, which is associated with insufficient targeted support to the poor, high level of dissatisfaction with the quality and access to education, healthcare, housing and communal services. The main social risks here

are the provision of quality drinking water and the need to strengthen targeted social protection for low-income layers of the population;

- Environmental security associated with the consequences of the Aral Sea crisis, the deterioration of the condition and the quality of land and water resources, air basin, water supply. These factors have a direct impact on the health and welfare of the population;
- Financial security arising from insufficient revenues of the local budgets that do not ensure integrated and balanced development of the Republic of Karakalpakstan and its regions, high level of centralization of allocated financial resources for the needs of the population, low level of business climate and investment attractiveness due to transport and geographic location and environmental factors.

In general, according to the assessment of potential social risks, the Republic of Karakalpakstan ranks second among the regions of the country. According to the results of the survey in 8 surveyed areas, the potential social risks of high tension (where dissatisfaction level is over 30%) are arrayed in the following order: #1) employment, #2) ecology, #3) transport infrastructure, #4) medicines, #5) pre-school education, and #6) drinking water. At the level of each district, the social risks are lined up in a slightly different order, but the prevailing risks for most of them are tension in the labor market and unemployment, unfavorable ecological situation, and provision of quality drinking water.



## XI. RECOMMENDATIONS

Based on the identified needs and demands of the population and the factors that affect the safety and security of its life activities, we propose a system of measures, which is largely built up on the local initiatives.

### **In the field of economic security:**

- consistent improvement of the districts' economy structure owing to the advanced development of small industrial enterprises and service sector;
- implementation of district factors applicable to the budget employees' wages in the depressed rural areas;
- expansion of benefits and preferences for the Aral Sea region in order to create favorable conditions for attracting domestic and foreign investors;
- along with traditional employment forms, expansion of non-standard forms of employment such as outworking, establishment of branches and workshops of large enterprises, family business, liberalization of informal employment;
- promotion of entrepreneurship through the system of continuous training, mobilization of the rural areas' capacity by development of rural cooperatives, collection and primary processing of agricultural raw materials, medicinal plants, development of innovative livestock complexes, etc.;
- strengthening the material and technical base of the local authorities to enable them to quickly address the issues of repairs and maintenance of the local roads;
- increasing the revenue base and reducing subventions through empowering the local authorities and decentralizing the local budgets.

### **In the field of food security:**

- ensuring sustainable development of agriculture with a focus on expanding the production of food crops adapted to the environmental conditions and land and water resources (with simultaneous reduction of cotton production);
- establishing a well-developed scientific and experimental regional base in the areas of specialization;
- wide introduction of new innovative technologies and achievements in water use and land quality improvement.

### **In the field of demographic security:**

- development of a long-term population settlement pattern that takes into account the trends in desertification processes, the adverse impacts of climate and ecology change, and the region's socio-economic development strategy;
- development of urbanization processes and foundation of new townships and urban settlements as examples of sustainable development of rural areas;
- targeted regulation of migration flows and expansion of official export of labor;
- improving the quality of the population through a system of continuous education and quality medical services.

### **In the field of social security:**

- development of kindergarten dislocation schemes in the context of each district, taking into account the geographical location and the population settlement pattern; designing typical kindergarten projects that meet modern architectural standards, local conditions and demand; development of family kindergartens in the rural areas;
- organization of transportation of pupils

by school shuttle buses, improvement of the material and technical base of the educational institutions, significant improvement in the level of qualifications and raising the prestige of the teaching staff;

- development of an optimal scheme to cover the population with the medical institutions and pharmacy network, which takes into account the population settlement pattern; establishment of the system of continuous training and retraining for nurses and doctors, foundation of branches of Russian medical centers reputable in key areas of morbidity, equipping the healthcare facilities with advanced medical equipment; and development of private healthcare sector;
- expansion of rural and urban housing construction based on modern typical projects that take into account the climatic and environmental conditions of the region and meet the needs and demands of the population;
- cardinal improvement of supply of quality drinking water through mobilization of all available water sources and implementation of the most advanced water desalination and purification technologies; setting up an efficient management system based on the best world practices;
- establishment of a new targeted social protection system for low-income segments of the population with the participation of government bodies and civil society organizations, development of minimum state-guaranteed social standards.

**In the field of environmental security:**

- regular monitoring and updating the population on the quality of drinking water, the state of soil and air basin;
- construction of small solid and liquid household waste processing plants, desalination stations and pasture wells;
- development of proactive measures to reduce the negative impact of climate change, drought periods and frequent dust storms;
- expansion of the scope of works on innovative reconstruction of the collector-and-drainage system.

The above priority directions for meeting the

needs and requirements of the population stem from specific local initiatives that are systematized in the database of recommendations and proposals in the context of each district. The data bank will be attached to the report in electronic form.

**The principles and the mechanisms of action.** The implementation of specific recommendations and management decisions should be based on the following general principles:

- the decisions shall be made based on the long-term consequences of the emerging potential social risks and threats to the population safety and security;
- when addressing the needs of the population, a differentiated approach shall be applied to each aul, kishlak, mahalla, and rural areas. Such approach shall be based on natural and ecological factors, and take into account the population distribution pattern and transport accessibility;
- development of a regional regulatory framework that takes into account the specifics (construction standards and rules, zonal infrastructure design, research base for sustainable development of rural areas) and minimum social standards;
- the region can become a testing ground for the implementation of innovative local initiatives and projects to address the most complex social and economic problems (integrated drinking water supply management system, the latest resource-saving technologies, development of water infrastructure and alternative energy sources, advanced information technologies in education, healthcare, agriculture, ecology, etc.);
- establishment of the most favorable treatment regime for the people's lives and welfare, as well as for attracting domestic and foreign investments (special funds, benefits and preferences);
- approbation at the regional level of the development of an adapted indicator system and a set of measures to implement the goals set in the UN Agenda for sustainable development until 2030, which coincide with the strategic goals and objectives of the Government of Uzbekistan.



**Tashent - Nukus  
2017**

