ATLAS
OF SOCIO-ECONOMIC AND ENVIRONMENTAL INDICATORS IN THE ARAL SEA REGION OF UZBEKISTAN

(DEVELOPED ON THE BASIS COMPREHENSIVE NEEDS ASSESSMENT OF THE POPULATION IN EIGHT DISTRICTS OF THE REPUBLIC OF KARAKALPKASTAN MOST AFFECTED BY THE ARAL SEA CATASTROPHE)
INTRODUCTION

The Atlas has been developed on the basis of the socio-economic survey conducted in 2017 by the Institute for Social Research in 8 districts of the Republic of Karakalpakstan (Kanlikul, Karauzyak, Kegeyli, Muynak, Nukus, Takhtakupir, Chimbay and Shumanay districts). The study was commissioned by UNDP within the UN Joint Programme “Building the resilience of communities affected by the Aral Sea disaster through the Multi-Partner Human Security Fund for the Aral Sea”.

The socio-economic survey was conducted to identify the needs of the population affected by the Aral Sea disaster through application of human security concept and indicators. The survey covered 116 mahallas and 1,600 households, while eight focus group discussions conducted in each district, covering 1,600 respondents representing local authorities and civil society.

The purpose of this Atlas is to provide graphical information on the status of human security indicators in target areas, based on data collected through the assessment.
This Atlas provides an overview of socio-economic situation in the 8 (eight) districts of the Republic of Karakalpakstan most affected by the Aral Sea disaster, and reflects various aspects of the population well-being, including access to education, health, and municipal services, employment situation and environmental conditions. The data is structured and linked to conventional cartographic basis. Maps and Atlas have been developed using MapInfoPro software.

The Atlas provides information on the following human security indicators in the surveyed areas:

- Environmental security
- Economic security
- Food security
- Health security
- Social security

Official statistics, results of the sociological survey and of focus group discussions among government and non-government institutions in each target area have been used to develop the maps.
Republic of Karakalpakstan (as of December 31, 2017)

Population: 1,817.5 thousand people. (5.7% of the total population of Uzbekistan)

Density: 10.9 people / km² (average for Uzbekistan is 71.5)

Area: 166,600 km² (37.1% of the territory of Uzbekistan)

Capital: Nukus city

Division: 1 city and 15 districts

Karakalpakstan is located on the Turan lowland. The Kara-Kum desert adjoins it closely from the south-west, the Ustyurt plateau is located in the north-west and the Kyzyl-Kum desert lies in the north-east. The territory of Karakalpakstan also includes the southern half of the Aral Sea and the lower reaches of the Amudarya River. A new salt marsh desert Aral-Kum is now being formed on the dried bed of which.
ADMINISTRATIVE BOUNDARIES OF THE SURVEYED AREAS

NOTATION KEYS
- Kanlikul
- Karauzyak
- Kegeyli
- Muynak
- Nukus dist.
- Takhtakupir
- Shumanay
- Chimbay

Source: Research by the Institute for Social Research, August, 2017

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BREAKDOWN OF MAHALAS IN THE SURVEYED AREAS OF THE REPUBLIC OF KARAKALPKASTAN BY THE NUMBER OF POPULATION/INHABITANTS

NOTATIONS KEYS
Number of population
- 0 to 2,310
- 2,310 to 3,290
- 3,290 to 4,340
- 4,340 to 5,590
- 5,590 to 9,180

Source: Research by the Institute for Social Research, August, 2017
BREAKDOWN OF MAHALLAS BY THE NUMBER OF HOUSEHOLDS

NOTATIONS KEYS
Distribution of mahallas in breakdown by the number of households
- 100 to 479
- 480 to 590
- 591 to 690
- 691 to 790
- 791 to 1 740

Source: Research by the Institute for Social Research, August, 2017

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46.9% of respondents were not satisfied with the environmental situation.

The main reasons: soil salinity (70.6%), air pollution (12.7%), water pollution (9.5%), and drought (6.7%).
Public dissatisfaction with access to drinking water averages 33.9%. The main reasons: poor-quality water (37.8%), irregular water supply (26.9%) and long distance to water source (19.0%).

**NOTATIONS KEYS**
The level of dissatisfaction with access to drinking water, in %

- 25.6 to 28.6
- 28.6 to 31
- 31 to 42.9
- 42.9 to 43.7

Source: Research by the Institute for Social Research, August, 2017
THE LEVEL OF DISSATISFACTION WITH THE QUALITY AND SUPPLY OF WATER IN TAKHTAKUPYR DISTRICT, IN% 

NOTATIONS KEYS
The level of dissatisfaction in %

- 0 to 20
- 20 to 40
- 40 to 60
- 60 to 80
- 80 to 100

Source: Research by the Institute for Social Research, August, 2017
SHARE OF INCOME FROM HOUSEHOLD PLOT IN TOTAL HOUSEHOLD INCOME, IN%

Source: Research by the Institute for Social Research, August, 2017

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The share of middle-income population, according to surveys of the mahalla leaders, in %

- 63.5 to 67.1
- 67.1 to 68.3
- 68.3 to 71.4
- 71.4 to 74.3

The structure of household expenditures

- Food
- Non food products
- Services
- Obligatory payments
- Savings

Source: Research by the Institute for Social Research, August, 2017
According to the survey results, 49.8% of respondents are not satisfied with the employment situation due to the lack of permanent jobs (76.2%) and low wages (21.6%).
According to the survey results on average 25.9% of the population prefers to do business.
MAIN REASONS FOR UNWILLINGNESS TO DO BUSINESS

NOTATIONS KEYS
Unwillingness to do business, in %
- 68.6 to 69.5
- 69.5 to 72.1
- 72.1 to 79.5
- 79.5 to 88.2

Main reasons:
- Lack of willingness, no inclination
- Lack of professional education
- Non-profitable
- Absence of start-up capital
- Poor quality of land
- Busy with the family

Source: Research by the Institute for Social Research, August, 2017
The level of dissatisfaction with transport infrastructure, in %

20.2 to 41.3
41.3 to 42.5
42.5 to 44.5
44.5 to 64.7

On average, 43.2% of the population is not satisfied and 24.3% is partially satisfied with the operation of transport infrastructure facilities.

The main reasons: low quality of local roads which require repair and reconstruction (79.4%), as well as the lack of transport routes (16.3%).

Source: Research by the Institute for Social Research, August, 2017
The level of dissatisfaction with trade services, in %

On average, 16.3% of respondents expressed dissatisfaction with trade services. The main reasons: remoteness of trade objects (31%), high prices (22.7%), limited range of products (8.1%).

NOTATIONS KEYS
Dissatisfaction with trade services, in %
- 7.8 to 13.1
- 13.1 to 14.7
- 14.7 to 16.9
- 16.9 to 31.5

Source: Research by the Institute for Social Research, August, 2017
The level of dissatisfaction with the quality of banking and financial services, in %

On average, 14.8% of respondents noted dissatisfaction with the quality of financial services.

The main reasons: high interest rate on loans, problems with cash, bureaucratic barriers, excessive claims on collateral for a loan.
The level of dissatisfaction with the secondary specialized and vocational education averaged 12.7%.

NOTATIONS KEYS

- 6.3 to 8.8
- 8.8 to 14.7
- 14.7 to 20
- 20 to 22.6

The level of dissatisfaction with the secondary special and vocational education, in %

Source: Research by the Institute for Social Research, August, 2017

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On average, 9.9% of households were engaged in the production of food and non-food items over the last 12 months. Of the total amount of goods produced by the households surveyed, 88% are food products.
The survey revealed that the production of rice and beans per household for last 12 months was on average 10 kgs.

Production of beans and rice per 1 household/kg/for last 12 months

Source: Research by the Institute for Social Research, August, 2017
According to the survey, the production of fruits and grapes per 1 household for last 12 months averaged 67 and 26 kg, respectively.

Production of fruits and grapes per 1 household/kg/for last 12 months

Source: Research by the Institute for Social Research, August, 2017
According to the survey, the production of potatoes, vegetables and melons for last 12 months per 1 household averaged 44, 410 and 139 kg, respectively.

Production of potatoes, vegetables and melons per 1 household/kg/ for last 12 months

<table>
<thead>
<tr>
<th></th>
<th>Potatoes</th>
<th>Vegetables</th>
<th>Melons</th>
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<tr>
<td>Last 12 months</td>
<td>830</td>
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According to the survey, 100 households have on average: cattle – 185 heads, sheep and goats – 292 heads, poultry – 848 heads.

Livestock and poultry per 100 households

Source: Research by the Institute for Social Research, August, 2017
Livestock production by households

- In average 1 household produced:
  - 193 kg of meat (for last 12 months),
  - 614 litre of milk (for last month),
  - 694 eggs (for last month).

Livestock production per 1 households:

<table>
<thead>
<tr>
<th>Livestock production by households</th>
<th>980</th>
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<tbody>
<tr>
<td>meat, kg</td>
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<tr>
<td>milk, litre</td>
<td></td>
</tr>
<tr>
<td>eggs, in quantities</td>
<td></td>
</tr>
</tbody>
</table>

Source: Research by the Institute for Social Research, August, 2017

NOTATIONS KEYS
Sown area for the agricultural crop, thousand hectares

- 15.4 to 18.8
- 11.8 to 15.4
- 1 to 4.6

Food security
In general, for 60% of the households, the affordability of food products is low, i.e., the aggregate income of families do not cover the cost of consumer basket.
The availability of medical staff across the RK is 21 doctors and 92.1 nurses per 10 thousand people including health workers at republican medical institutions. The proportion of doctors with qualification categories is 50.6% and nurses – 36.2%.
HEALTHCARE INSTITUTION ATTENDANCE OF POPULATION, IN %

Source: Ministry of Health of the Republic of Karakalpakstan, 2016

NOTATIONS KEYS
Attended Healthcare institutions within the year, in %
- 27.3 to 28.1
- 28.1 to 31.3
- 31.3 to 34.1
- 34.1 to 34.5

Attendance in breakdown by Healthcare institutions, in %
- Family policlinic
- Rural health center
- Hospital
- Private clinic

HEALTH SECURITY
The level of dissatisfaction with medical services, in %

- On average, 18% of respondents are not satisfied with the quality of medical services provided. The main reasons: inexperience of doctors (31.9%), remoteness of medical institutions (22.5%), poor quality of emergency medical care (14.0%), insufficient provision of medical equipment (13.0%), lack of specialized specialists (10.9%).
An incidence rate of Viral hepatitis A in the Republic of Karakalpakstan in 2016 was 92.7 per 100 thousand population.
An incidence rate of Tuberculosis in the Republic of Karakalpakstan in 2016 was 84.1 per 100 thousand population.
On average, 41.3% of respondents are not satisfied with the provision of medications. The main reasons: the remoteness of pharmacies (57.3%), high prices for the medicines (37.5%).

Source: Ministry of Health of the Republic of Karakalpakstan, 2016
According to the survey of community leaders, the level of poverty in the surveyed areas averaged 20.3%.
On average, preschool attendance was 32.7%. The main reasons for low attendance: the absence of pre-schools, the remoteness from settlements, the lack of appropriate conditions (physical infrastructure, etc.), high tariffs.
The level of dissatisfaction with the services of preschool institutions, in %

On average 40.3% of respondents are not satisfied with the services of pre-school institutions. The main reasons: the absence of preschools (53.3%), the remoteness from the settlements (16.5%), lack of appropriate conditions (physical infrastructure, etc.), high tariffs (6.7%).

Source: Research by the Institute for Social Research, August, 2017
The level of dissatisfaction with school education was 13.1%.
The main reasons: poor quality of education (41.5%), insufficient provision of teaching materials (13.8%), remoteness (8.1%), lack of personnel (4.1%).

Source: Research by the Institute for Social Research, August, 2017
On average, 34.8% of surveyed households are not satisfied (including partial dissatisfaction) with the provision of land and housing. The main reasons: lack of land for housing (46.7%), high cost of building materials (40%), associated with additional transportation costs due to the remoteness of rural settlements.
THE LEVEL OF DISSATISFACTION OF THE POPULATION WITH NATURAL AND LIQUEFIED GAS SUPPLY, IN %

On average, 21.1% of respondents are not satisfied with access to natural gas supply. The main reasons: irregular supply of natural gas (20.5%) and late delivery of liquefied gas cylinders (41.2%).
On average, 25.6% of respondents are not satisfied with the state of access to fuel (coal). The main reasons: high cost (56.3%) and irregular supply (23.4%).
On average, 30.9% of respondents are not satisfied with consumer services. The main reason is a long distance to the object.

Source: Research by the Institute for Social Research, August, 2017

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