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MEDICAL GEOGRAPHIC FORECAST OF THE DEATH OF THE POPULATION OF SIRDARYA REGION

Annotation: In the article, the demographic indicators of the Syrdarya region, population mortality, regional differences in mortality are detailed. Researches of anthropologists who conducted scientific research related to the death of the population, together with the forecast of the death of the population until 2030, the thanatological situation of the region are grouped. Population mortality forecasting by extrapolation method is widely used, and it is studied that it consists of simple, relative and complex extrapolation methods.

Keywords: Population, demography, population mortality, thanatogeography, prognosis, per mille, demographic process.

SIRDARYO VILOYATI AHOLISI O'LIMINING TIBBIY GEOGRAFIK PROGNOZI

Annotatsiya: Maqolada Sirdaryo viloyatining demografik ko'rsatkichlaridan aholi o'limi, o'limning hududiy farqlari atroflicha yoritilgan. Aholi o'limi bilan bog'liq ilmiy izlanishlar olib borgan aholi shunos olimlarning izlanishlari, shu bilan birgalikda aholi o'limining 2030-yilgacha prognozi, viloyatning tanatologik vaziyati guruhlashtirilgan. Aholi o'limini ekstrapolyatsiya usulida prognoz qilish keng tarqalgan bo'lib, u oddiy, nisbiy va murakkab ekstrapolyatsiya usullaridan iborat ekanligi o'rganilgan.

Kalit so‘zlar: Aholi, demografiya, aholi o‘limi, tanatogeografiya, prognoz, promille, demografik jarayon.

Although the area of Syrdarya region is relatively small in our republic, its demographic process is unique. The population density is twice as high as that of our republic. Birth and death rates are one of the main indicators of demographic processes.

Death is the complete cessation of life activity of an organism, an irreversible process. The death of a person depends on the cessation of breathing and blood circulation. Death occurs naturally as a result of aging of the body or due to disease, suddenly and prematurely. Clinical and biological death are different. In clinical death, the life activity of the organism can be restored in some cases and it can be revived; it lasts an average of 2-6 minutes, after which biological death occurs.

Tablet 1

Division of thanatological status of the population of Syrdarya region into groups (year 2021)

Group	Name of administrative territorial unit	Average index	Number of administrative units
Low up to 0,9	Sardoba District, Mirzaabad District.	0,84	2
Medium 0,9-1,0	Aqoltin district, Boyovut district, Sayhunabad district, Gulistan district, Khavos district.	0,936	5
High Greater than 1.0	Gulistan city, Shirin city, Yangiyer city, Syrdaryo district.	1,195	4
	Syrdarya region	1,0	11

The table was compiled by the author based on the data of the Statistical Office of the Syrdarya region

Thanatology studies the causes and mechanism of death. As of 2021, we divided the population of Syrdarya region into three groups according to the biological mortality rate (Table 1).

Population mortality forecasting by extrapolation is common and includes simple, relative, and complex extrapolation methods. It is the most convenient and easy to forecast the death of the population by the simple extrapolation method, which is also divided into linear, geometric and exponential methods. The results of the conducted studies of the death rate of the population in the republic are closer to exponential indicators [1].

In 1925, British demographer M. Greenwood developed a forecast of the birth process of the population of England for the first time using the method of extrapolation. This proved that comprehensive population forecasting is of great importance in many sectors of the national economy. In the same period, in 1921, the forecast of the population growth and composition in the territory of the Former Soviet Union was conducted under the leadership of Ye. Tarasov and S. G. Strumilin. The first demographic forecasts in our country were developed in 1962-1980 under the leadership of M. Q. Karakhanov. In the following years, R.N. Ubaidullaeva, O.B. Ata-Mirzaev, A.A. Qayumov, M.R. Borieva, S.S. Zokirov, Z.N. Tojjeva, Kh.Kh. Abduramanov and others dealt with these issues. is engaged in. At the same time, N.K. Komilova [2;3] (1999; 2012; 2019; 2022; 2023), N.J. Mukhammedova (2019; 2023) with situations related to the incidence of diseases of the population, death of the population through diseases, nosogeography and nosoecology scientists are also engaged.

The extrapolation method consists of simple, complex and relative extrapolation methods as a mathematical model calculated based on historical retrospective data of the population or demographic processes. In the implementation of this method, only the data of the recently passed period of the researched region are used as a basis. In this research work, the linear method of simple extrapolation is used, and with this method, population forecasting begins with the determination of the average absolute change of the opulation of a certain region during the period taken as a basis. The following formula is used for this:

$$D_{\square} = \left(\frac{D_b - D_l}{n} \right)$$

Here D is the average absolute change in the population mortality rate in the base period, D1 is the population mortality rate at the end of that period, Db is the population mortality rate at the beginning of the period, and - and this period is the number of years between D1 and Db.

For example, in the Syrdarya region, the population death rate changed from 4.7 [4;5;6] per thousand to 4.8 [7;8;9] per thousand in 2011-2021. During this past period, the average annual change of the population death rate was equal to $D_{\Delta} = ((4.8 - 4.7) / 10) = 0.01$. However, one of the main problems encountered when forecasting demographic processes is that its indicator is constantly changing. This, in turn, can cause large errors in population forecasting. Therefore, it is advisable to use short and the latest 5-10 years' data as a basis for forecasting demographic processes, not the long past period.

After determining the average absolute growth rate of the population, the following formula is used to forecast it:

$$D_t = D_1 + (n) \times (\Delta);$$

Here, Dt is the projected target year, D1 is the population death rate based on the forecast, i.e. 2021, - the number of years between the forecasted Dt and D1, and - based on the forecast (2011-2021 .) the average annual absolute rate of change of the defined population mortality.

Therefore, the death of the population in the Syrdarya region is predicted for 2025, 2030. Assume that the average annual absolute change in population mortality is 0.01.

$$D_{2025} = 4,8 + (4) \times (0,01) = 4,84$$

$$D_{2030} = 4,8 + (9) \times (0,01) = 4,89$$

Tablet 2

Forecast of death of residents of Syrdarya region

Name of administrative	2011	2021	2025	2030
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units				
Syrdarya District	4,7 ‰	4,8 ‰	4,84 ‰	4,89 ‰
Guliston Dity	5,4 ‰	6,2 ‰	6,52 ‰	6,92 ‰
Shirin City	4,9 ‰	6,0 ‰	6,44 ‰	6,99 ‰
Yangiyer City	6,1 ‰	5,6 ‰	5,4 ‰	5,15 ‰
Oqoltin District	3,3 ‰	4,4 ‰	4,84 ‰	5,39 ‰
Boyovut District	4,8 ‰	4,4 ‰	4,24 ‰	4,04 ‰
Guliston District	4,5 ‰	4,8 ‰	4,92 ‰	5,07 ‰
Saykunobod District	4,2 ‰	4,6 ‰	4,76 ‰	4,96 ‰
Mirzaobod District	4,4 ‰	4,1 ‰	3,98 ‰	3,83 ‰
Sardoba District	4,0 ‰	4,0 ‰	4,0 ‰	4,0 ‰
Sirdaryo District	5,6 ‰	5,2 ‰	5,04 ‰	4,84 ‰
Xovos District	4,3 ‰	4,4 ‰	4,44 ‰	4,49 ‰

The table was calculated by the author based on the data of the Statistical Office of the Syrdarya region

As can be seen from the results of the forecast, it can be said as a conclusion that by 2030, we can observe a rise in the cities of Gulistan (6.92‰) and Shirin (6.99‰) of the region.

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