Approved by the order of the Chairman of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan

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**Methodology for calculating the quality of life index**

**Chapter 1. General provisions**

1. The methodology for calculating the quality of life index (hereinafter - Methodology) refers to the statistical methodology approved in accordance with the Law of the Republic of Kazakhstan dated March 19, 2010 "On State Statistics" (hereinafter - Law).
2. The methodology defines the main aspects of the formation of the calculation of the quality of life index (hereinafter - QLI).
3. This Methodology is applied by the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan (hereinafter - the Committee) and its territorial bodies when calculating the quality of life index for the Republic of Kazakhstan.
4. The methodology was developed taking into account the methodology for calculating the QLI of the Organization for Economic Cooperation and Development (hereinafter - OECD).

Chapter 2. Aspects of measuring the quality of life index

5. The conceptual framework of this Methodology provides for 11 aspects of measurement:

For physical living conditions:

* 1. financial well-being and income;
	2. work and wages;
	3. living conditions

For quality of life:

* 1. health status;
	2. balance between work and personal life;
	3. education and skills;
	4. civil rights and power;
	5. social relationships;
	6. environmental quality;
	7. personal safety;
	8. subjective well-being.

**Paragraph 1. Financial well-being and income**

6. The financial well-being of a family is the sum of the total value of the financial condition of the family or the sum of all financial assets minus debts. Financial wealth includes savings, monetary gold, currencies and deposits, stocks, securities, and loans.

Net financial wealth consists of various financial assets owned by households less all types of financial liabilities.

$ЧФБ=\sum\_{}^{}ФА-\sum\_{}^{}ФО,$
$ЧФБ=\sum\_{}^{}ФА- \sum\_{}^{}ФО$ (1)

where:$ЧФБ$
$ЧФБ$ – net financial well-being;

$ФА $$ФА$ – financial assets;

$ФО$$ФО$ - financial obligations.

Financial assets are a significant source of income. Income is obtained through the sale or refinancing of financial assets, as well as rent, interest and dividends, or any other income from property.

If information about real estate is unavailable , data on its availability are not taken into account.

7. Household net adjusted disposable income includes income from labor, property, estimated rent accrued to homeowners, social transfers in cash less direct taxes and social security contributions collected from households, social transfers in kind. Income is measured without taking into account the depreciation of fixed capital, which launches the production of paid household services for their own needs.

$ЧРД\_{дх+нко одх}^{скорр}=ЗП\_{наем раб}+\left(ВП+ВСД\right)+ \left(ЧП+ЧСД\right)+ПОК-Т\_{на произ}$$ЧРД\_{дх+нкоодх}^{скорр}=ЗП\_{наем раб}+\left(ВП+ВСД\right)+ \left(ЧП+ЧСД\right)+ПОК-Т\_{на произ,}$ (2)

where:

$ЗП\_{наем раб}- $$ЗП\_{наем раб}- $wages of employees;

$Т\_{на произ}- $$Т\_{на произ}-$other taxes on production;

$ВП+ВСД-$$ВП+ВСД-$gross profit and gross mixed income;

$ПОК-$$ПОК-$consumption of fixed capital;

$ЧП+ЧСД-$$ЧП+ЧСД-$net income and net mixed income.

**Paragraph 2. Work and wages**

8. Work and wages, includes four areas:

1) job security,

2) personal earnings,

3) the level of long-term unemployment,

4) the level of employment.

9. Job security is measured as the proportion of employees with less than 6 months of work experience in the last reporting year, aged 15 to 63, and is determined by the following formula :

$ОР\_{<6 мес}=\frac{Занят\_{<6 мес }}{Занят}\*100$$ОР\_{<6 мес}=\frac{Занят\_{<6 мес }}{Занят}\*100$$ОР\_{<6 мес}=\frac{Занят\_{<6 мес }}{Занят}\*100$$ОР\_{<6 мес}ОР\_{<6 мес}=\frac{Занят\_{<6 мес }}{Занят}\*100$ (3)

where:

$ОР\_{<6 мес}$$ОР\_{<6 мес}$$ОР\_{<6 мес}$$ОР\_{\begin{array}{c}<6 мес\\\\\\\\\\\\\\\\\\\\\\\end{array}}$- share of employees with less than 6 months of work experience, last reporting year;

$Занят\_{\begin{array}{c}<6 мес\\ \end{array}}$- the number of employees with less than 6 months of work experience;

$Занят$- the total number of employed persons.

10. Personal earnings are calculated from the average annual earnings of a full-time employee for the last reporting year.

$Зараб\_{личн}=\frac{ВДС-ЧП}{Числ\_{нас}},$(4)

where:

$Зараб\_{\begin{array}{c}личнН\\\end{array}}$- personal earnings;

$ВДС$ - gross value added;

$ЧП$- net profit and net mixed income;

$Числ\_{\begin{array}{c}насН\\\end{array}}$- Population.

11. The long-term unemployment rate is defined as the percentage of people aged 15 to 63 who are unemployed but actively looking for work for more than one year.

$УДБ=\frac{Безр\_{15-63}}{ЧН\_{15-63}}\*100 $ $УДБ=\frac{Безр\_{15-64}}{ЧН \_{15-64}}\*100,$(5)

where:

$УДБ$*-* the level of long-term unemployment;

$Безр\_{\begin{array}{c}15-63Н\\\end{array}}$*-* the number of unemployed people aged 15 to 63 in the reporting year;

$ЧН\_{\begin{array}{c}15-63Н\\\end{array}}$$ЧН \_{15-63} $$ЧН \_{15-63} $*-* the total number of people aged 15 to 63 in the reporting year.

12. Employment rate is calculated as the percentage of people aged 15 to 63 currently in paid employment, last reporting year.

$УЗ=\frac{Занят\_{15-63}}{Числ нас \_{15-63}}\*100,$(6)

where:

$УЗ$*-* the level of employment;

$Занят\_{\begin{array}{c}15-63Н\\\end{array}}$*-* the number of employed people aged 15 to 63 in the reporting year;

$Числ нас\_{\begin{array}{c}15-63Н\\\end{array}}$$Числ нас \_{15-63} $*-* the total number of people aged 15 to 63 in the reporting year.

**Paragraph 3. Housing conditions**

13. The availability of adequate housing is the highest priority for meeting the material needs of the individual. Housing is the largest expenditure item for many families and a central component of basic human needs. This aspect includes three areas:

1) housing costs ;

2) housing with basic communal amenities ;

3) the number of rooms per person.

14. Housing costs are the largest item family budget expenses , including rent , gas, electricity, water , furniture and repairs. Ratio of housing expenses to net adjusted income after taxes, latest reporting year:

$ Ж\_{расх}=\frac{Р\_{на содерж жилья}}{Д\_{чист скорр}}$, (7)

where:

$Ж \_{расх} $- share of housing costs ;

$Р\_{на содерж жилья}$- housing maintenance costs;$ $$КЧ$

$Д\_{чист скорр}$-net adjusted income.

15. Access to communal facilities is determined by the percentage of people with indoor flush toilets in the last reporting year.

16. Living conditions characterizes the indicator of the number of rooms in a dwelling divided by the number of persons living in it:

$КЧ=\frac{КК}{ЧП },$ (8)

where:

$КЧ$CC $КЧ$$КЧ$- room per person$ $$КЧ$

$КК$KK - the number of rooms in the dwelling;

$ЧП$PE - the number of people living in the room.

**Paragraph 4. Health status**

17. The state of health plays an important role in achieving other components of well-being, such as having a good job and sufficient income to participate in public life as full citizens, communicate with other people, receive secondary and higher education. This aspect includes two areas:

1) self-assessment of the state of health;

2) life expectancy.

18. The indicator of satisfaction with the state of health is formed on the basis of data from nationwide statistical surveys.

19. Life expectancy of the population at birth characterizes the life expectancy not of an individual, but of the population as a whole.

**Paragraph 5. Balance between work and personal life**

20. The right balance between work commitments and private life is a central ingredient for ensuring people's well-being. A large amount of work has an indirect negative impact on well-being, due to poor health, infringements in personal life, restrictions on caring for children and other relatives, and a reduction in free time. This aspect is characterized by:

1) time devoted to rest and self-care,

2) employees who devote a lot of time to work.

21. The proportion of employees working for more than 50 hours per week is determined by the following formula:

$ДР\_{50ч<}=\frac{ЧР\_{50ч<}}{ЗН }\*100,$(9)

where:

$ДР\_{\begin{array}{c}50ч<\\\end{array}}$- share of workers employed more than 50 hours a week ;

$ЧР\_{50ч<}$- number of workers employed more than 50 hours per week ;

$ЗН$- employed population.

**Paragraph 6. Education and skills**

###### 22. The indicators of educational outcomes used in the QLI calculation refer to the level of adult education and literacy of 15-year-olds. This aspect includes three areas:

1) the number of years to receive education ;

2) knowledge of students (pupils) in the field of mathematics, exact sciences and the quality of reading ;

3) the level of education of the adult population.

###### 23. The average duration of education (starting from the age of five) is determined by the following formula :

###### $П\_{обр}=ДО+НО+СО+ВО$(10)

where:

$П\_{\begin{array}{c}обр\\\end{array}}$ – average duration of education;

$ДО$-preschool education;

$НО$- elementary education;

$СО$- secondary education;

$ВО$- higher education.

24. The ability of 15-year-old students to understand, use, reflect on and interact with written texts to achieve their own goals, develop knowledge and capacity. This indicator is taken from the OECD International Student Assessment Programme, which focuses on reading.

 $ЗнСУ=\frac{Мг+Ег+Чг}{3},$ (11)

where:

$ЗнСУ$ZnSU - knowledge of students / pupils;

$Мr$Mg - mathematical literacy;

Er $Еr$- natural science literacy;

Chg $Чг$- reading literacy.

25. The level of education of the adult population is measured using educational qualifications and is defined as the proportion of the adult population (from 25 to 64 years) who have completed at least upper secondary school according to the OECD classification - International Standard Classification of Education.

**Paragraph 7. Civil rights and power**

26. The key indicators for civil rights and power presented below relate to voter turnout and the existence of formal and open consultation processes. This aspect includes two areas:

1) the level of transparency of power;

2) voter activity.

27. The indicator on the level of transparency of government in the development of legislation is a composite index that summarizes various sources of information regarding the openness and transparency of government.

28. Voter turnout measures the degree of participation in national elections. Voter activity is determined by the number of votes cast by the population registered to vote. The voting age population includes people 18 years of age or older, and the registered population includes those listed in the voter register. The votes cast are collected by the national electoral commission.

**Paragraph 8. Public relations**

29. Social relationships or social ties are the most important determinant of human well-being. Spending time is more satisfying when spent together with other people (with family, friends or colleagues). Social connections provide material and emotional support when needed. This aspect is characterized by the frequency of communication with other people and non-material support within the social circle.

Social ties include:

1) the proportion of respondents who said that they communicate/meet with relatives or friends at least once a week;

2) the percentage of people who have friends or relatives.

**Paragraph 9. Environmental quality**

 30. The impact of pollutants on human health is significant and the quality of the environment is a key component of the quality of life of the population. This aspect includes two areas:

1. water quality;
2. air pollution level.
3. Water quality is defined as the percentage of people reporting their satisfaction with local water quality.
4. Air pollution is reported as a population-weighted average showing the concentration of fine particles in the air (measured in micrograms per cubic meter). Measuring air pollution is a complex process because air quality is determined by a complex mixture of pollutants that varies with factors such as time, space and chemicals.

$УЗВ=\frac{Числ/насел\_{>100 тыс чел}}{ЧВ }\*СКВЧ,$(12)

where:

$УЗВ$- level of air pollution;

$Числ/насел\_{\begin{array}{c}>100 тыс чел \\\end{array}}$- the number of individual settlements with a population of more than 100 thousand people;

$ЧВ \_{\begin{array}{c}этих нас пунктов\\\end{array}} $- the number of all these settlements with a population of more than 100 thousand people.

$СКВЧ$ - the average concentration of suspended particles in these cities.

**Paragraph 10. Personal safety**

1. Personal security is a key component of well-being, and a person's risk of becoming a victim of crime is one of the main factors that shape personal security. Crime can result in death or loss of property, or cause physical pain, post-traumatic stress, or fear. One of the strongest effects of a crime on a person's well-being is the development of a sense of vulnerability. This aspect of measuring well-being is represented by indicators:
2. the number of reported intentional homicides per 100,000 population;
3. percentage of people who say they have been the victim of an attack in the last 12 months.

**Paragraph 11. Subjective well-being**

1. Life satisfaction indicators also make it possible to understand the discrepancy between the objective conditions of people's lives and their own assessment of these conditions. This aspect includes one direction - satisfaction with life.
2. The index of subjective well-being shows the overall satisfaction with the life of the surveyed population.

**Chapter 3 Calculation of the generalizing index of quality of life**

1. The calculation of the summary indicator QLI is reflected in the following formula:

$ИКЖ=(ЧФБ+ЧРД\_{\begin{array}{c}дх+нко одх\\\end{array}}^{скорр}$

QLI \u003d (ChFB + $ИКЖ=(ЧФБ+ЧРД\_{\begin{array}{c}дх+нко одх\\\end{array}}^{скорр}$$ЧРД\_{\begin{array}{c}дх+нкоодх\\\end{array}}^{скорр}$) \* X 1 + $ОР\_{\begin{array}{c}<6 мес\\\\\\\\\\\\\\\\\\\\\\\end{array}}$$Зараб\_{\begin{array}{c}личнН\\\end{array}}$$ОР\_{<6мес}$+ $Зараб\_{\begin{array}{c}личн\\\end{array}}+$UDB + UZ) \* X 2 +

( $Ж\_{\begin{array}{c}расх\\\end{array}}+КУ+КЧ $) \* Х 3 + (HSS+LE)\* Х 4 + (HPE+ $ДР\_{\begin{array}{c}50ч<\\\end{array}}$) \*

X 5 + (Prof of + ZNSU + UOVN ) \* X 6 + (UPV + AI)

\* X 7 + (KSP) \* X 8 + (KV + $ УЗВ$) \* X 9 + (UU + KN) \* X 10 + (UZH) \* X 11. (1 3 )