**On approval of the methodology for conducting a sample survey of the level of public confidence in law enforcement agencies**

Order of the Chairman of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan dated December 10, 2019 No. 13. Registered with the Ministry of Justice of the Republic of Kazakhstan on December 13, 2019 No. 19732

      In accordance with subparagraph 5) of Article 12 of the Law of the Republic of Kazakhstan dated March 19, 2010 "On State Statistics" and subparagraph 258) of paragraph 17 of the Regulation on the Ministry of National Economy of the Republic of Kazakhstan, approved by the Decree of the Government of the Republic of Kazakhstan dated September 24, 2014 No. 1011, ORDER:

      1. Approve the attached Methodology for conducting a sample survey of the level of public confidence in law enforcement agencies.

     2. The Department of Social and Demographic Statistics of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan shall ensure in the manner prescribed by law:

     1) state registration of this order with the Ministry of Justice of the Republic of Kazakhstan;

     2) placement of this order on the Internet resource of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan.

     3. The Department of Social and Demographic Statistics of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan to bring this order to the structural subdivisions and territorial bodies of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan for guidance and use in work.

     4. To impose control over the execution of this order on the supervising Deputy Chairman of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan (Koshkimbaev N.Zh.).

     5. This order shall enter into force ten calendar days after the day of its first official publication.

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| *Chairman* | *N. Aidapkelov* |

"AGREED"
Office of the General Prosecutor
of the Republic of Kazakhstan

"AGREED"
Ministry of Finance
of the Republic of Kazakhstan

     "AGREED"
Anti-Corruption
Agency of the Republic of Kazakhstan
(Anti-Corruption Service)

     "AGREED"
Ministry of Internal Affairs
of the Republic of Kazakhstan

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|   | Approved by the order of the Chairman of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstandated December 10, 2019 13 |

**Methodology for conducting a sample survey of the level of public confidence in law enforcement agencies**

**Chapter 1. General provisions**

      1. The methodology for conducting a sample survey of the level of public confidence in law enforcement agencies (hereinafter - the Methodology) refers to a statistical methodology formed in accordance with international standards and approved in accordance with the Law of the Republic of Kazakhstan dated March 19, 2010 "On State Statistics".

     2. This Methodology is used by the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan (hereinafter - the Committee) and its territorial bodies when planning and organizing a sample survey to determine the level of public confidence in law enforcement agencies.

     3. The purpose of this Method is to obtain representative data on the level of public confidence in law enforcement agencies, the perception of their own safety and subjective assessment of the level of crime, information about offenses.

     4. The following definitions are used in the Methodology:

     1) the general population - a complete group of all units of analysis, whose characteristics are to be assessed;

     2) representativeness - the correspondence of the characteristics of the sample to the characteristics of the population or the general population;

     3) stratum - division into special layers of units (respondents) with the same or similar indicators;

     4) supervisor - an employee of the territorial body of the Committee, which ensures the conduct of household surveys and controls the work of interviewers;

     5) sample - individual items from approved classifiers, nomenclatures and reference books used in the collection and processing of statistical data;

     6) sample set - a set of selected elements that were included in the sample in the selection process;

     7) sample size - the total number of observation units in the sample.

**Chapter 2. Population definition and sampling frame**

     5. The source for the formation of a sample of households is the information system "Statistical Register of Housing Fund ", a component of the integrated information system "e-Statistics" (hereinafter - SRHF ).

     6. The general population includes households living in all types of residential premises, with the exception of those living in shared communal apartments, dormitories, nursing homes for the elderly and disabled, orphanages, prisons, hotels, and religious communities.

     7. The final sampling unit is the household (living in dwellings), which is also the survey unit.

     8. The sample size is determined on the basis of the principle of the optimal combination of costs and specified criteria for the accuracy of the results. When organizing sampling, the sample size primarily depends on the size of the sampling error. By increasing the sample size, its error is reduced to small sizes.

     9. As indicators of the accuracy of statistical estimation, the standard error of the sample and the relative standard error of the sample are used.

     10. Possible discrepancies between the characteristics of the sample and the general population are measured by the standard (mean) sampling error, which is calculated for each stratum using the following formula:



where:



- standard (average) error;



- general dispersion;

      n - sample size;

      N - the volume of the general population.

     The general variance is defined as the mean of the squared deviations of all individual observations from their mean.

      The standard error of the sample fraction is determined by the formula:



where:



- standard error of the sample fraction;

      w - share in the sample population.

     11. To determine by what percentage the sample estimate deviates from the value of the parameter in the general population, the relative standard error is used, which is calculated for each stratum using the following formula:



     where,

      RSE - relative sample standard error;



- standard (average) sampling error;



- the mean value of the variable used to estimate the magnitude of the relative standard error.

**Chapter 3**

     12. The sample of households is formed by the method of two-stage probabilistic (random) sampling using stratification and random selection procedures at each of the sampling stages. The stratification procedure is aimed at forming a representative sample of households, reflecting the territorial features of the population stratification.

     13. The sampling process is carried out in 2 stages.

     At the first stage, the general population is stratified according to the territorial basis, including the distribution into urban and rural areas. Thus, 31 strata are formed - consisting of households in urban and rural areas in seventeen regions of the country.

     14. Sampling includes two consecutive procedures. The initial procedure involves determining the number of primary sampling units (hereinafter - PSU) within each stratum.

     15. Territorial units are selected as PSUs, which are urban and rural areas.

     16. Next, a certain number of PSUs and households in each PSU are selected.

     17. When conducting the actual selection of PSUs in cities, it should be taken into account that in the SRHF there is no division in individual large cities into small territorial units.

     18. The probability of selection in the choice of PSU in each stratum is determined by the following formula:



     where,

      phi - selection probability of the i -th PSU in stratum h ;

      nhi - the number of households in the i -th PSU selected in stratum h ;

      Nh - the total number of households in stratum h .

     19. The following procedure aims to achieve an optimal value for the relative standard error for each of the 31 strata.

     To estimate the magnitude of the relative standard error, indicators considered to be the most important for the survey are used as a variable. In a survey of the level of public confidence in law enforcement agencies, such indicators include the following: "law enforcement agencies can be trusted", "law enforcement agencies will be able to protect interests."

     20. Characteristics of the assessment of the accuracy of the indicator "law enforcement agencies will be able to protect the interests", as an example, table 1 is given, according to the appendix to this Methodology. According to the above calculations, the value of the relative standard error of the sample for the country does not exceed 1%, for the regions - no more than 5%.

     21. At the second stage of sampling, in each PSU, the number of households in each locality is randomly selected depending on the region. The sampling frame for the second step is the list of individual dwellings in the PSU. The households to be visited during the survey are selected with equal probability from among the eligible dwellings in the PSU.

     22. The probability of choosing a household in the PSU of each stratum is determined by the following formula:



where,



- the probability of choosing the j -th household in the i -th PSU in stratum h ;



- the number of necessary dwellings in the i -th PSU in stratum h ;



- the total number of suitable dwellings in the i -th PSU in stratum h .

     23. Each selected dwelling accommodates one household. If it is found that there is more than one household in a given dwelling, then one of them is randomly selected. If the dwelling is found to be empty, then the method described in the "Sampling bias" section must be applied.

**Chapter 4**

     24. There are cases during the survey when it is not possible to interview a household due to the fact that the dwelling is not found, the purpose of the premises has changed, it is not occupied, or the household refuses to participate in the survey. These cases reduce the sample size and are a source of potential sample bias.

     25. Documenting each case is an effective preventive measure to overcome the problem of non-receipt of data.

     26. If it is difficult to comply with the “no substitution” principle, a list of standby households should be provided.

     27. Selection from the list of reserve households is carried out by determining the nearest located household. For replacement, households are selected that are closest to those households that cannot participate in the survey for the reasons indicated in paragraph 24.

**Chapter 5. Organizational structure of the survey**

     28. The survey is carried out by questioning the population and recording information in the toolkit (statistical forms). The survey is carried out by conducting interviews by specially trained interviewers by visiting households.

     29. The interviewer conducts a survey in accordance with the route compiled by the supervisor, taking into account the deadline for collecting reports and is issued to the interviewer for execution. The interviewer puts down the dates of the actual visit in the itinerary and, after the end of the survey, presents it to the supervisor for analysis and control. The supervisor constantly monitors its implementation.

     30. Interviewer in the framework of the survey:

     1) undergoes a special briefing, studies information on all issues of organizing and conducting a survey;

     2) identifies (determines) the addresses of households according to the list prepared by the supervisor;

     3) conducts campaigning and explanatory work among the respondents and involves them in the survey;

     4) sets the dates of visits in advance (if necessary, the dates of visits are set by the interviewer by agreement with the household itself about the possibility of coming on certain days) and preliminarily, in an appropriate way, prepare for the survey;

     5) establishes contact with the respondent to obtain consent to the survey;

     6) promptly, efficiently and within the scheduled timeframe conducts a survey in households;

     7) provides consultative assistance to respondents;

     8) conducts arithmetic and logical control of information received from respondents, carries out data coding;

     9) inform the supervisor about the completion of the survey and the results of the household survey; immediately reports cases of non-responses (refusals) arising during the survey;

     10) submits completed and processed statistical forms to the supervisor. If gross errors are found, the interviewer additionally visits the household to clarify the necessary data and informs the supervisor about the results of the visit .

     31. Supervisor as part of the survey:

     1) is directly responsible for organizing the survey work in the survey areas assigned to him;

     2) conducts training for interviewers, explains the specifics of the activities of each law enforcement agency;

     3) together with the interviewer, identifies (determines) the addresses of the households included in the sample on the spot;

     4) distribute survey materials (statistical forms, instructions for filling in statistical forms) to interviewers and keep a strict record of these materials;

     5) accepts and checks completed statistical forms;

     6) checks data encoding;

     7) checks the logical links between indicators;

     8) together with the interviewers, finds out errors in filling, coding and summarizing data;

     9) analyzes the results of the examination of each interviewer separately;

     10) monitors the work of the interviewer in each surveyed area, including the conduct of a control interview;

     11) contributes to the further training of interviewers, and, if necessary, travels to the field to conduct joint interviews;

     12) identifies the most common problems and comes up with suggestions for their elimination.

     32. Input and processing of primary statistical data is carried out at the regional level, processing of summary data, control and formation of output information based on the results of statistical observation - at the central level.

     33. To assess the quality of information received from respondents, a logical control system is built within each section of the statistical form.

**Chapter 6**

     34. When conducting statistical observation, the following statistical tools are used:

     statistical form of survey;

     instructions for filling out the statistical form.

     35. The statistical form of the survey contains the following sections:

     information about the respondent;

     perception of one's own safety and subjective assessment of the level of crime;

     degree of trust in law enforcement agencies;

     information about offences.

     36. In a sample survey, one household member aged 15 years or older is interviewed.

     If more than one respondent lives in the household, the selection of the respondent for the survey is carried out using the "nearest birthday" method (a member of the household whose birthday falls in the nearest period is selected).

**Chapter 7. Extending the Survey Results to the Population**

     37. Dissemination of survey sample data is based on assigning an appropriate individual weight to each individual survey unit.

     To do this, the survey data (number of respondents), stratified according to gender, age and regional characteristics, is compared with the general population stratified according to the same characteristics.

     38. The formula for calculating the adaptation factor (weight) is determined as follows:



where,



- weight on the basis of g;



- the share of the population in the general population, with the characteristic g ;



- the total number of respondents;



- the number of respondents, with the characteristic g .

     39. In order to generalize the survey results to the general population, a base weight ( *K* 1 ) is first determined . The base weight of a sample unit is the reciprocal of its probability of being selected for inclusion in the sample.

     40. Next, the population in the surveyed households is determined using the following formula:



     where,

      S 1 - population in surveyed households;

      S 2 - population size in actually surveyed households;

      K 1 - base weight.

     41. Distribution of the results of a sample survey to the general population is carried out using the adaptation factor (weights).

      The weighting procedure is carried out on the basis of data on the structure of the population according to the existing population, used as a general population, in the context of within the regional layers (strata) by sex and age. For each respondent, a system of adaptation factors (weights) is calculated according to the following criteria:

     territorial structure (district);

     terrain type;

     gender (men and women);

     age groups (15-19 years old; 20-24 years old; 25-29 years old; 30-34 years old; 35-39 years old; 40-44 years old; 45-49 years old; 50-54 years old; 55-59 years old; 60 years old and higher).

     42. To calculate the basic individual weight, the following formula for calculating the adaptation factor is used:



      where,

      K 2 k - adaptation factor;

      Sk - the population in the general population (average annual population data for the reporting year);

      S 1 k - population in surveyed households;

      k - a distinguishing feature depending on the total characteristics of the person for whom the factor is calculated.

     43. The final individual weight (or extrapolation factor) is the product of the base weight and the adaptation factor.



      where,

      K - individual weight (extrapolation factor);

      K 1 - base weight;

      K 2 k - adaptation factor.

     44. The calculated individual weights are recorded as additional variables in the individual data base for each respondent and are used in the formation of summary results for the corresponding period at the republican, regional levels.

**Chapter 8. Dissemination and publication of the results**

     45. The results of the survey are formed in the context of regions, cities of republican significance, by type of locality, by sex, age, nationality, level of education, marital status, employment status.

     46. Output information based on the results of a sample survey is posted in the form of a bulletin on the official Internet resource of the Committee.

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|   | Appendix to the Methodology for conducting a sample survey of the level of public confidence in law enforcement agencies |

**Table 1. Characteristics of assessing the accuracy of the indicator "law enforcement agencies will be able to protect interests"**

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|  **Regions** | **standard error** | **Relatively standard error** |
| Akmola | 0.011 | 0.98% |
| Aktobe | 0.014 | 1.18% |
| Almaty | 0.007 | 0.67% |
| Atyrau | 0.008 | 0.73% |
| Batys Kazakhstan | 0.013 | 1.13% |
| Zhambyl | 0.010 | 0.91% |
| Karaganda | 0.008 | 0.69% |
| Kostanai | 0.011 | 0.96% |
| Kyzylorda | 0.009 | 0.86% |
| Mangystau | 0.013 | 1.19% |
| Pavlodar | 0.011 | 0.92% |
| Soltustik Kazakhstan | 0.011 | 1.01% |
| Turkistan | 0.009 | 0.78% |
| Shygys Kazakhstan | 0.008 | 0.71% |
| Nur-Sultan city | 0.006 | 0.61% |
| Almaty city | 0.010 | 0.89% |
| Shymkent city | 0.010 | 0.93% |
| **Republic of Kazakhstan** | **0.002** | **0.21%** |

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