

Statistical Systems and Programs in Korea



'23. 2. 6



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Statistics Korea

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The background features a collage of images: a world map in the top left, a city skyline at night in the bottom left, and various geometric shapes like a large blue diamond and triangles. There are also icons of a globe, a magnifying glass, and an airplane.

Roles of Statistics Korea

01

01 Roles of Statistics Korea

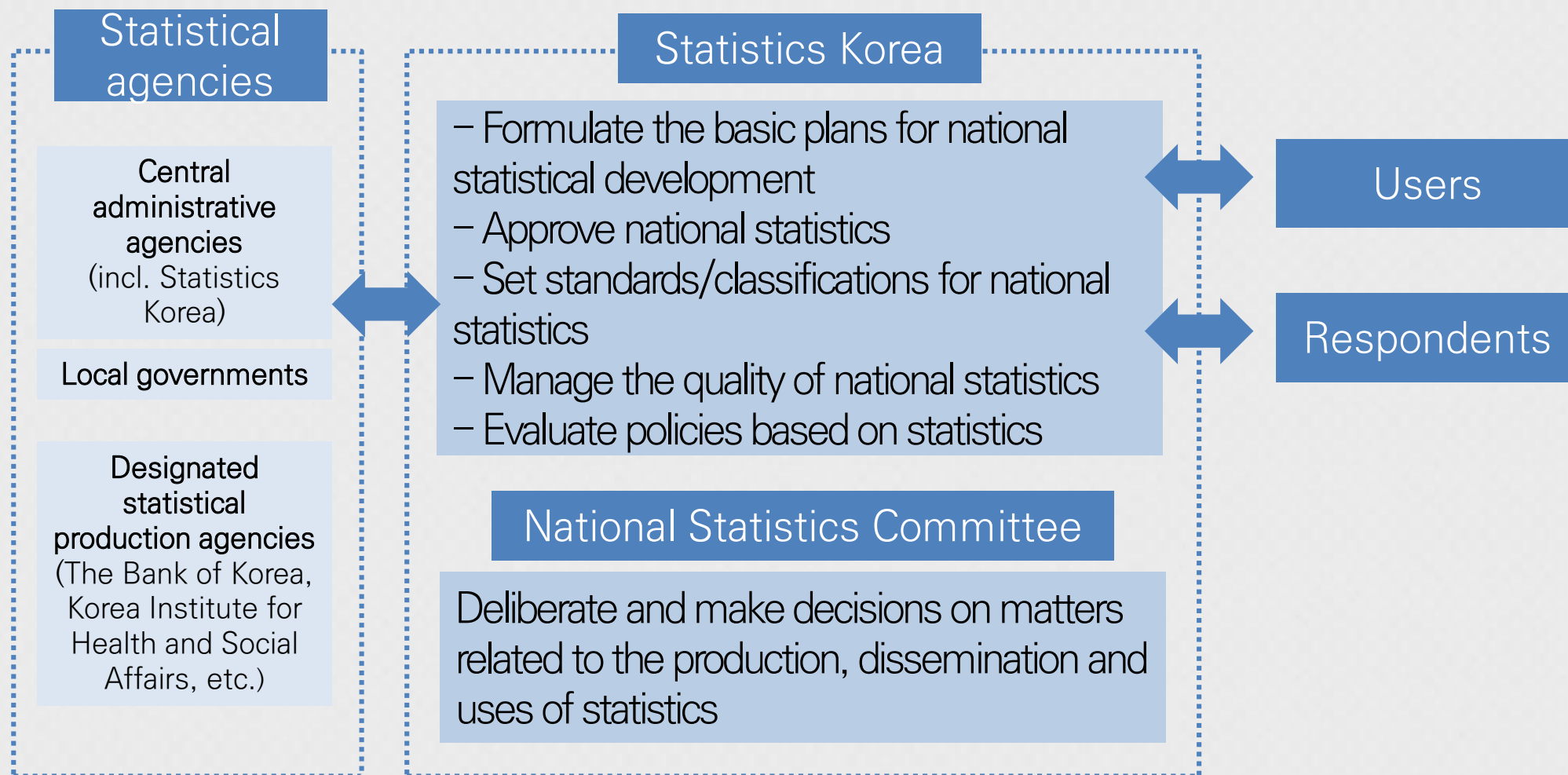
- **Broad division of statistical systems: Decentralized system for statistical production**
- Korea's statistical system is closer to a decentralized system in which governments and departments produce statistics of their own needs
- Benefits include the responsiveness to emerging statistical needs, aptitude to leverage sectoral knowledge in statistical development, etc., while the role of coordination is critical to ensure systematic and harmonized statistical development
- Statistics Korea conducts major fundamental surveys and censuses as most other surveys are organized by other central government organizations, local governments, and other associated agencies and institutes
- Certain key statistics produced and released outside Statistics Korea: GDP by the Bank of Korea, trade statistics by Korea Customs Service etc.

01 Roles of Statistics Korea

- **Production, coordination and dissemination of national statistics**
 - Produce 66 major national statistics including the Population and Housing Census and the Survey of Consumer Prices
 - Provide a foundation for statistical production, dissemination, and utilization
 - Provide underlying institutions through the National Statistics Committee, the formulation of the Master Plans for National Statistical Development, etc.
 - Support in identifying statistical indicators in view of strengthening a link between policy and statistics
 - Facilitate coordination by approving statistics produced by other statistical agencies and managing their qualities
 - Under a decentralized statistical system, coordination is crucial for systematic statistical development
 - Promote the dissemination and utilization of statistical results
 - Establish the process of publishing and disseminating statistical results and of utilizing statistical data including microdata

01 Roles of Statistics Korea

» Statistics Korea's relationship with statistical agencies and users





Foundations for Statistical Production, Dissemination, etc.

02

» National Statistics Committee (Plenary)

- The highest decision-making body for matters related to official statistics
- Around 30 NSC members consisting of the heads and representatives of government ministries, public and private institutes (chaired by the Minister of Economy and Finance) deliberate and make decisions on key issues in official statistics

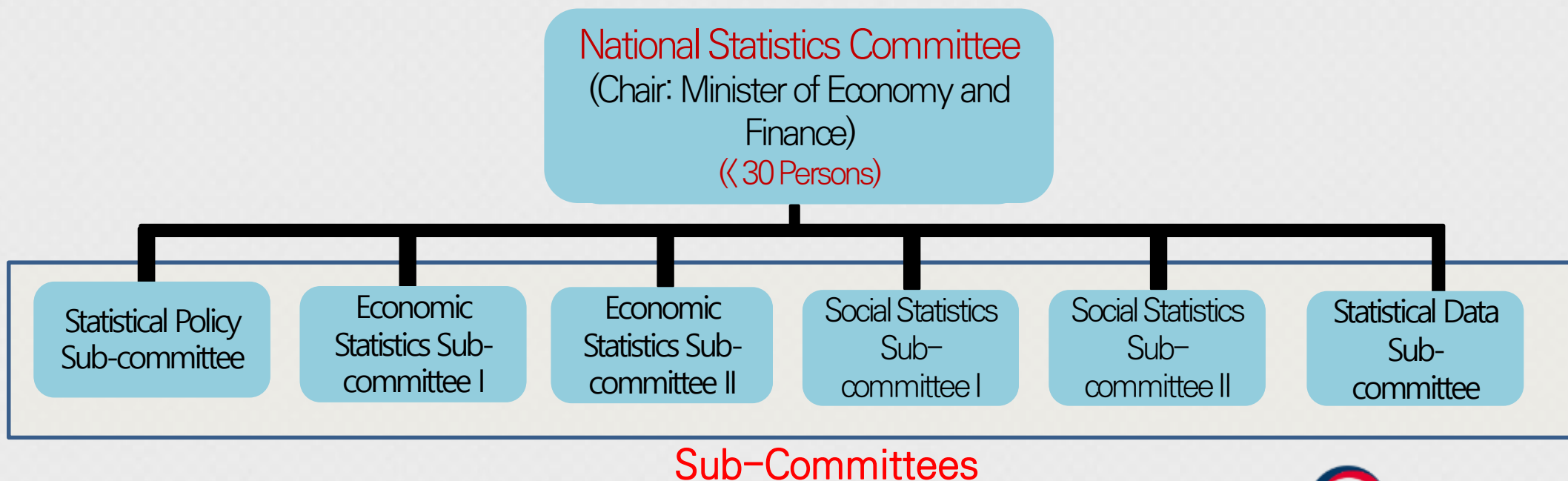
(Matters subject to the NSC deliberation/resolution)

- Formulation and amendments of the Master Plans and Implementation Plans for national statistical development
- Coordination and streamlining of duplicated statistics: facilitate cooperation among statistical agencies
- Quality control (statistical quality assessment and quality improvement)
- Standards for statistical production, dissemination, and uses (standard classification for statistics, etc.)
- Utilization of administrative data

02 Foundations for Statistical Production, Dissemination, etc.: The National Statistics Committee

» National Statistics Committee (Departmental)

- Deliberate matters related to improving and developing the national statistical systems
- Deliberate short- and long-term plans for statistical development (statistics-policy links, TQM, etc.)
- Align, merge, and revoke duplicated or similar statistics and facilitate cooperation among the producers of official statistics
- Review and make decisions on statistical quality evaluation and improvement



02 Foundations for Statistical Production, Dissemination, etc.: The Master Plans for National Statistical Development

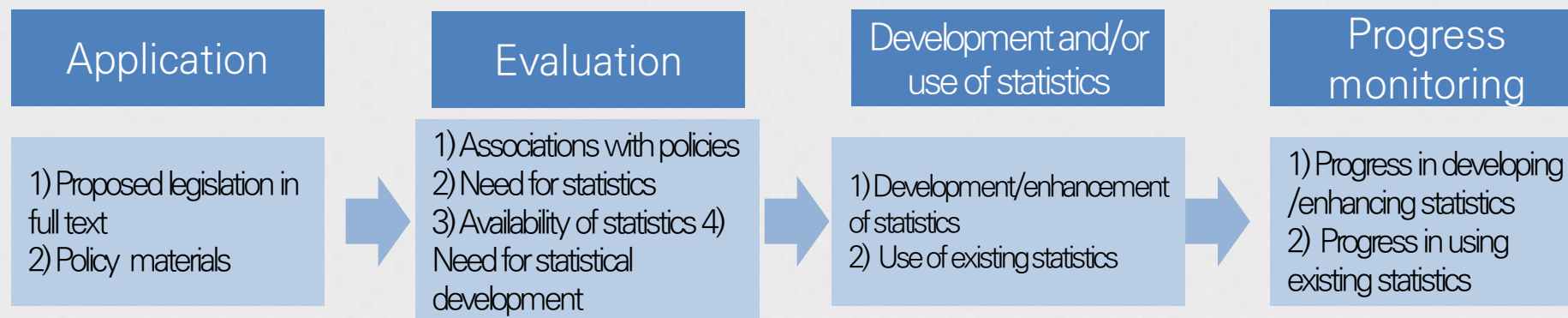
- Establish the master plans and implementation plans for national statistical development
- Establish and implement the quinquennial mater plans to set mid- to long-term policy goals and directions for national statistical development
 - Based on the master plans, the Commissioner of Statistics Korea will prepare each year the implementation plans for national statistical development and circulate the plans to the heads of municipalities in metropolitan cities and provinces by September 30.
- Prepare the Master Plans in consultation with the heads of central governments and provincial and metropolitan-city municipalities
- Finalize the Master Plans by the NSC resolution and submit finalized plans to the National Assembly without delay

02 Foundations for Statistical Production, Dissemination, etc.: Statistics-based Policy Evaluation Program

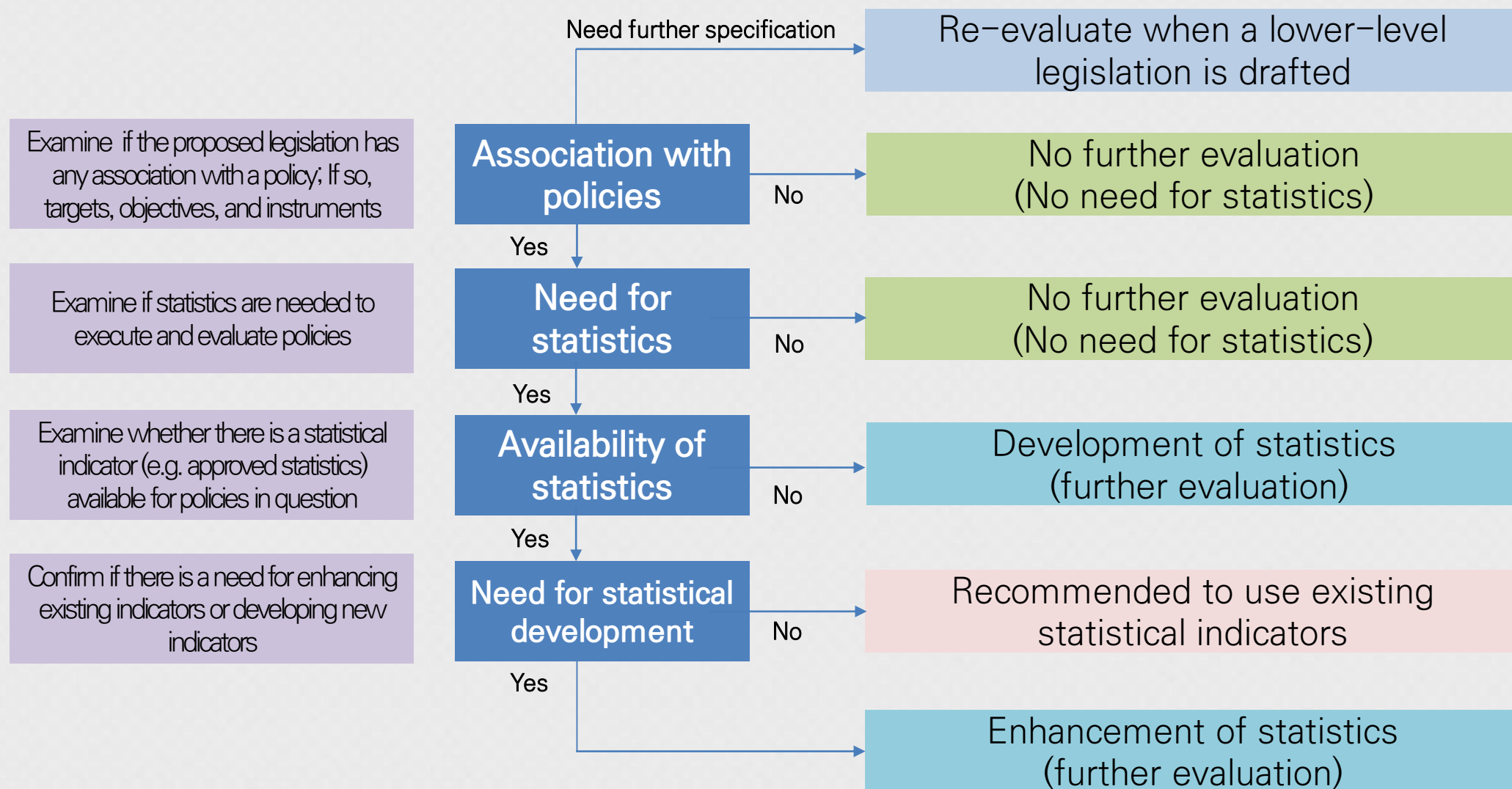
» Overview of the statistics-based policy evaluation program

- Statistics are increasingly recognized as having a critical role in formulating, executing, and evaluating evidence-based policies and in ensuring the efficacy of policies
- Statistics Korea examines the need for and availability of statistical indicators for policies when a government department proposes a new piece of legislation or the revision of an existing one
- If needed, Statistics Korea can recommend the development of new statistics, enhancement of existing ones, and/or use of available statistical indicators

» Statistics-based policy evaluation procedure



» Flow chart of the statistics-based policy evaluation



02 Foundations for Statistical Production, Dissemination, etc.: Statistics-based Policy Evaluation Program

- **Case for statistics-based policy evaluation: The Korea Housing Finance Corporation (KHFC) Act**
 - Provide a basis for issuing credit guarantees for quasi-housing (studio apartments, senior welfare houses, etc.) finance
 - Promote housing supply through a loan program targeting quasi-housing i.e. KHFC's credit guarantees for quasi-housing finance
- ➡ Housing stability in the lower-income population, 1- or 2-person households
- Results from the statistics-based policy evaluation

Categories	Description	Statistical indicators in need
Policy target	Residents of a quasi-housing	<ul style="list-style-type: none">▪ The statistics of quasi-housing* status<ul style="list-style-type: none">– By year, region, housing type, etc.
Policy objective	Housing stability of quasi-housing residents	
Policy instrument	Credit guarantees for quasi-housing finance	<ul style="list-style-type: none">▪ The statistics of credit guarantees for quasi-housing financing<ul style="list-style-type: none">– By year, region, housing type, etc.

- **Case for statistics-based policy evaluation: The Survey of Under-construction Buildings on Hold**
 - Survey the current state of buildings whose construction is on-hold for extended period in view of the efficacy of their repurposing plans and supporting policy measures
 - Cover any building, the construction of which has been on hold for more than 2 years and is still under construction
 - 1) Regional distribution of target buildings
 - 2) Construction status incl. the duration of suspension
 - 3) Direct and indirect reasons for the construction being on-hold
 - 4) Information on claims, liabilities, etc.
- ➡ The survey results, being announced in press releases, were utilized in formulating the Master Plans for Repurposing Abandoned Buildings
- ➡ The Ministry of Land, Infrastructure and Transport, as the owner of the project, reported on its implementation by submitting the press release material of survey results along with the Master Plans


- » **Financial, human resources, and technical support for the producers of official statistics**
- Provide financial, human resources, and technical support to the statistical agencies for their statistical training, development, quality assessment, and promotion
 - (The Commissioner of) Statistics Korea shall strive to secure human resources and budgets that are necessary for the statistical agencies to produce and disseminate their statistics, and can make recommendations accordingly
- Establish the master plans for statistical training and implement training activities to enhance the capacities of statistical workers
 - Statistics Korea provides a range of statistical training programs and courses through the Statistics Training Institute
- Develop and operate a statistical information system that enables the statistical agencies to produce and disseminate their statistics in compliance with a standardized procedure
 - KOSIS, MDIS, SGIS, Nara Statistics, etc.

➤ Engagement in international cooperation and the monitoring of statistics provided to international organizations

➤ Statistics Korea shall engage with international organizations, foreign governments and/or overseas organizations for international cooperation

1. Joint studies and co-development to produce and analyze statistics
2. Transfers of statistical production techniques
3. Training for statistical workers in foreign countries
4. Technical assistance and transfers
5. Other exchanges and collaborations

➤ The heads of statistics agencies shall monitor the status and utilization of the statistics provided to international organizations, prepare a monitoring report, and submit it to Statistics Korea



Statistical Approval and Quality Management

03

» Statistical agencies: Definition and current state

- Statistical Agencies are sub-divided into central administrative agencies, local governments and designated statistical agencies under Article 15 of the Statistics Act
- Total 433 statistical agencies, including Statistics Korea, as of January 2023
 - 48 central administrative agencies, 260 local governments, and 125 designated agencies
- Agencies applying for the designation as a statistical agency must satisfy the following three conditions:

1. To be established under the civil law or other laws of Korea
2. To secure an organizational arrangement, human resources, and budgets needed for producing and disseminating statistics
3. To have a concrete plan for producing and disseminating statistics

- **Approval for producing official statistics: Prior approval program**
 - To ensure the balanced development and credibility of statistics, statistical agencies must have an approval from Statistics Korea regarding statistical production methods, etc. before they produce and disseminate statistics
 - Around 1,300 kinds of nationally approved statistics (official statistics) as of January 2023
 - The production of official statistics may not be approved if any of the following conditions apply, which are stipulated in the Statistics Act:
 - 1) If there is an existing nationally approved statistics with similar or the same information
 - 2) If the reliability of statistics cannot be guaranteed
 - 3) If the purpose of statistical production does not serve public interests
 - Compliance requirements for nationally approved statistics

Revision or suspension	Requiring an approval for making changes or suspending the production of official statistics
Announcement	Requiring an approval for not announcing produced statistics
Standard classification	Having to comply with relevant standard classifications
Quality control	Being subject to a regular, self-administered, ad-hoc quality assessments

- » Approval for producing official statistics: Production of statistics by sector
- Around 1,300 official statistics with prior approval from Statistics Korea are being produced by statistical agencies across the societal, economic, and other sectors

[Societal]

Population, crime,
education, etc.

Societal sectors	# of stat.
Total	242
Population	11
Society in general	25
Crime · safety	32
Labor	37
Income · consumption · assets	6
Health	63
Welfare · education · culture, etc.	68

[Economic]

Business cycles, prices,
wages, etc.

Economic sectors	# of stat.
Total	367
Economy in general · business cycle/business administration	44
Agriculture · forestry · fisheries	58
Mining · manufacturing	17
Construction/transport · logistics	49
ICT/science · technology	56
Wholesale and retail trading · service industry	21
Income, prices, housing, int'l trade, etc.	122

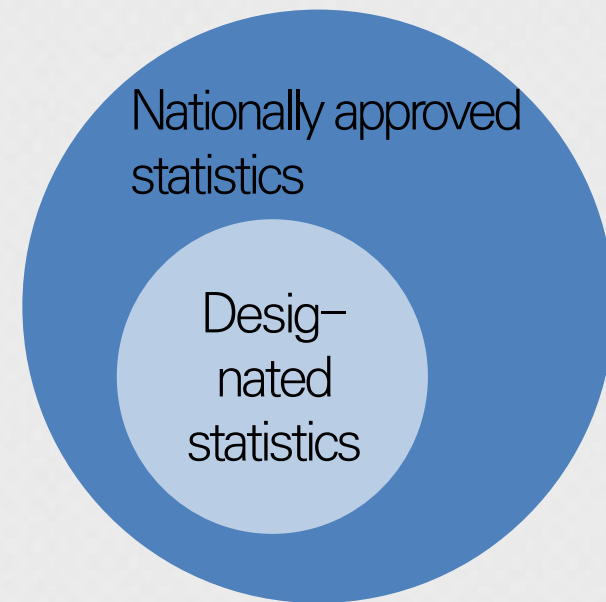
[Others]

Environment, energy,
regional statistics, etc.

Other sectors	# of stat.
Total	691
Environment	38
Energy	16
Regional statistics	637

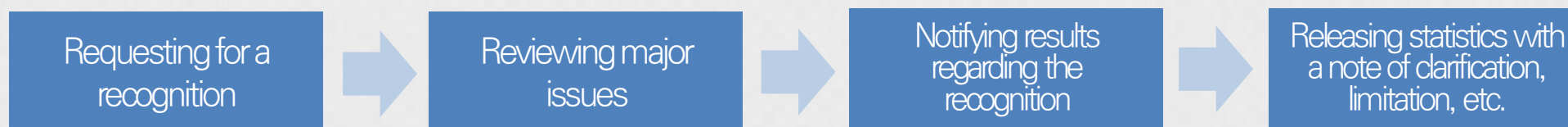
» Overview of designated statistics program

- Among nationally approved statistics, those that are widely used for evaluating policies and producing other statistics are granted special designation
- Designated statistics comprised of 92 kinds of essential national statistics among which 37 are produced by Statistics Korea
- Nationally approved statistics and designated statistics are different in that a non-response to surveys or the rejection of data provision for designated statistics are subject to a penalty under the Statistics Act



» Current state in experimental statistics

- Under the experimental statistics program, certain statistics produced by using big data sources or novel methodologies, which do not qualify for the current approval criteria due to the lack of verification, can be released after a set period of experimental production and recognition
 - Around 10 experimental statistics have been recognized as of Jan. 2023
- Process for the recognition of experimental statistics



➤ Major considerations in recognizing experimental statistics

1. Whether a novel methodology is used
2. The validity and reliability of data collection systems
3. The degree of coverage in the statistical population of underlying data

- **Case for experimental statistics: Mobile phone data-based population movement statistics (by Statistics Korea)**
 - Early signals for changing patterns of domestic population movement by using mobile phone data, which helps to provide basic information for establishing economic, social and other policies
 - Population movement statistics for the entire resident population across the nation
 - Population movement by sex, age, location, and region (metropolitan cities/provinces, cities/counties/districts)
 - Population movement in total, within a city/county/district, and across cities/counties/districts
 - Location types including commercial, touristic, shopping complex, office, leisure & sport facilities, residential, and other areas
- Communication for users to explain limitation in using experimental data
 - Underlying data didn't have a complete coverage of the entire population (a market share of 41% as of July 2021)
 - Having Statistics Korea's register-based census population as a parameter, estimates were calculated by using a weight according to mobile phone subscribers' region (eup, myeon, dong), sex, and age group (of 5 year intervals)

- **Case for experimental statistics: the news sentiment indicators (by the Bank of Korea)**
 - Experimental statistics produced by using text data as input
 - Early signals for changing economic sentiment before the release of monthly Economic Sentiment Indicators, which inform the monitoring of economic trends and policy-making.
 - Compile daily/monthly nowcasting indicators by using 10,000 sample sentences collected from economic news published in internet portal sites

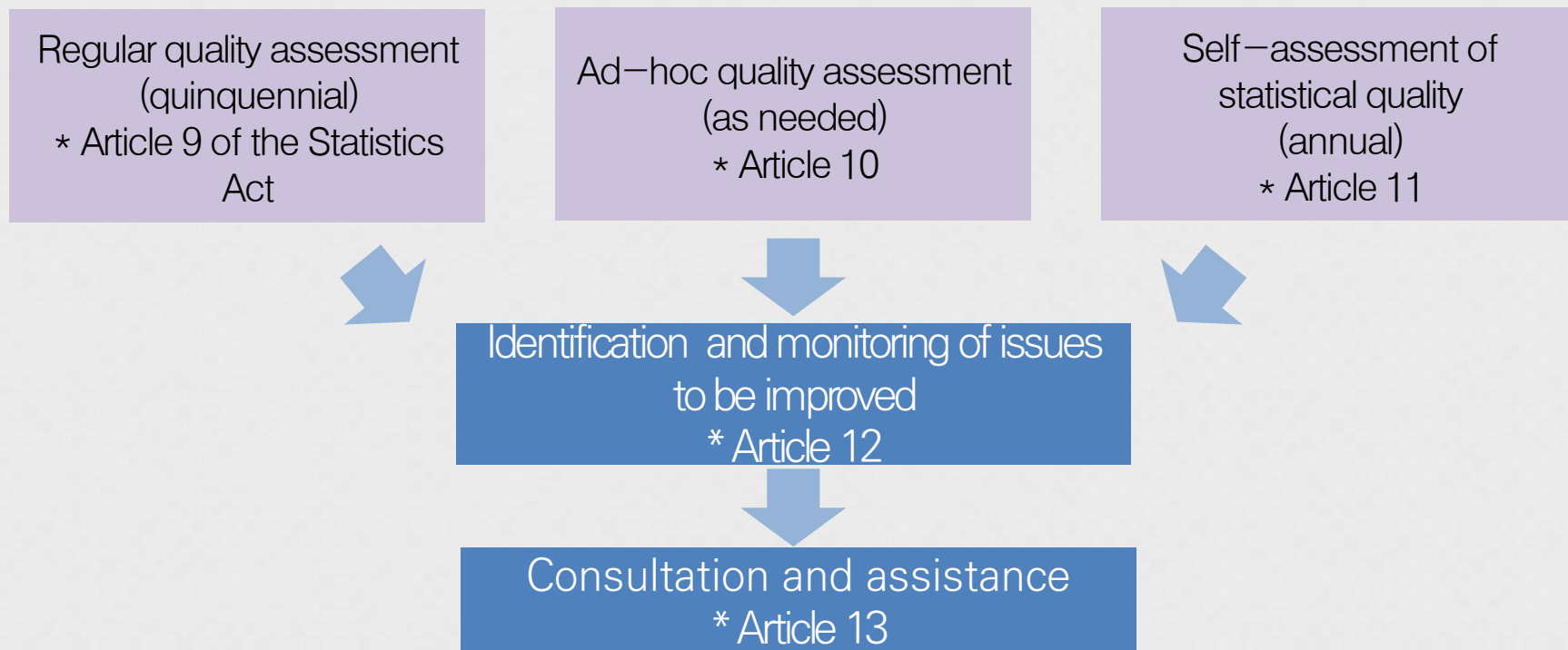
- Sort a sentence into positive, negative, or neutral through a machine learning technique to compute a difference between the numbers of positive and negative sentences
- Take an output value of 100 or more as the indication of positive economic sentiment and less than 100 as negative sentiment
- Indicator were normalized based on a historical mean from 2005

- Communication for users to explain limitation in using experimental data

- Because sample sentences are gathered from internet portal sites, the scope of news articles and their sources can vary. 10,000 sample sentences are selected in random while, on some weekends, the sample sizes are less than 10,000
- Because the headlines of news articles often use an abbreviation, they are excluded from samples

» Statistical quality assessment program

- Has been in operation since 2007 with the aim of conducting the evaluation and review of the reliability and usability of nationally approved statistics in an objective and systematic fashion
- Mode of statistical quality assessment



03 Statistical Approval and Quality Management: Standard Classifications

» Standard classifications program

- In order to produce statistics under coherent standards, Statistics Korea develops and officially announces standard classifications based on corresponding international standards and in compliance with the Statistics Act
- The heads of statistical agencies need to follow the standard classifications developed by Statistics Korea unless there is a special reason not to do so
- Korean standard classifications governed by Statistics Korea (7 classifications)

Areas	Standard classifications
Economics (3)	Korean Standard Industry Classification (KSIC), Standard Korean Trade Classification (SKTC), Korean Classification of Individual Consumption by Purpose (COICOP-K)
Society (2)	Korean Standard Classification of Occupation (KSCO), Korean Standard Classification of Education (KSCED)
Health (2)	Korean Standard Classification of Diseases/Causes of Death(KCD), Korean Standard Classification of Functioning, Disability, and Health (KCF)



Dissemination and Use of Statistics

04

» Announcement and Dissemination of Statistics

- Upon producing statistics, they must be announced promptly along with necessary information on survey methods, etc. allowing for the accurate use of statistics

- Reasons for not announcing statistics that have been produced and the process thereof are stipulated in the Statistics Act:

1. If an announcement causes a significant threat to national security, maintenance of order, or public welfare
2. If the use of the statistics causes confusion due to the lack of their credibility
3. If there are substantial grounds to acknowledge the necessity not to announce the statistics

- To ensure credibility in announcing, statistics must not be revealed before official announcement nor be used for other purposes, unless there is any justifiable reason for disclosures or uses
- To broadly disseminate statistics, the compilation of statistical databases and other measures that are necessary for the public to use statistics swiftly and conveniently are to be placed

» Provision and use of statistical data (incl. microdata)

- The head of a statistical agency may request other statistical agencies to provide statistical data if it is necessary for the production of statistics
 - Information, in principle, has to be in an unidentifiable form, while identifiable information can only be provided in the case of survey samples
- Anyone intending to use statistical data may request the heads of statistical agencies to provide statistical data
 - Information, in principle, has to be de-identified unless the information requested is either provided by non other than a requesting party or prescribed by laws for being provided in identifiable forms i.e. the names of businesses, business categories, addresses, phone numbers, etc. that are collected from a census or a complete enumeration.
- Statistical data provided cannot be used for any purpose other than what they were provided for nor be provided to other person
 - Statistical agencies may form a ‘data provision deliberation body’ to consider matters related to the provision and use of statistical data

04 Dissemination and Use of Statistics: Protection of confidentiality

» Protection of confidentiality and the duty of statistical workers

- Data containing confidential information for individuals, corporations, organizations, etc. that have been collected to produce statistics shall not be used for any purpose other than that of producing statistics
- Statistical workers or who are entrusted with all or part of statistical works shall not use information they have come to know in the course of performing their duty for any other purpose nor shall provide them to other persons
- Statistics Korea may request a rectification of any violation for the Statistics Act committed by a statistical agency
 - If needed, a cautionary or disciplinary actions against the responsible worker(s) or civil servant(s) may also be requested
 - The head of the statistical agency shall take necessary measures, including a cautionary and disciplinary action, without delay and notify the Commissioner of the Statistics Korea of the results thereof



THANK YOU!