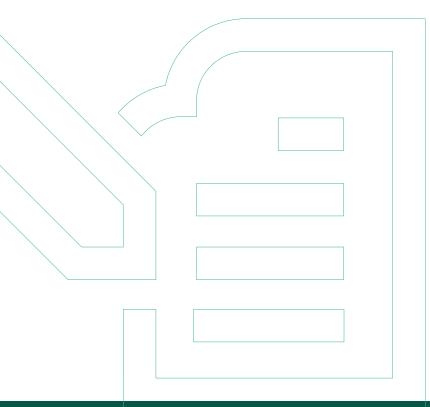# The Police Statistical Data Quality Framework In the Emirate of Dubai

Introduction:

Driven by the Dubai Police General Head Quarters› emphasis on achieving the highest standards in the security field and implementing its strategies for the efficient and effective enhancement of institutional performance, the Dubai Police has attached great importance to the statistical aspect and the presence of police databases to support in the decision-making support process. Hence the importance of having a framework guarantees the quality of police statistical outputs.

In cooperation with the Federal Competitiveness and Statistics Center and the Dubai Statistics Center, the Dubai Police General Head Quarters, has sought to implement a general framework for the quality of police statistical data. It serves to determine the main quality elements, standards, and objectives, which include the collection, analysis and dissemination of police statistical data. Dubai Police is committed to the continuous improvement of its statistical products via the optimized use of the administrative records.

The products› quality is monitored and controlled through confirming that the needed processes are completed, thus ensuring the production of proper and usable statistical data. Finally, the results are utilized, improvement opportunities are monitored, and administrative records data are used to ensure their effectiveness and relevance within the institutional work. The primary objective is to increase the credibility of the statistical product and gain the trust of data users at the local, regional and international levels.

This framework is based on many approved and well-known references locally and internationally. The most prominent reference includes:

- The Document of the Fundamental Principles of Official Statistics issued by the United Nations in 1994, the introduction of which was updated and issued in 2014.
- The Data Quality Framework issued by the International Monetary Fund in 2003.
- Guide to using the Generic Statistical Business Process Model GSBPM issued by the Federal Center for Competitiveness and Statistics.
- The National Framework of Statistical Data Quality issued by the Federal Center for Competitiveness and Statistics.
- The Manual of Statistical Quality Assurance Standards and Procedures for Administrative Records issued by the Federal Center for Competitiveness and Statistics. Quality Management of Statistical Outputs

Statistical outputs should be prepared in accordance with the best-in-class and approved statistical standards and methodologies. To ensure this, statistical quality standards that cover the following quality elements should be applied:

Statistical Quality Concept:

The quality of data today is not limited to the accuracy of the data and the statistical product, but transcends to the existence of specific mechanisms and a work system that defines the stages of work and ensures that tasks do not overlap, giving the statistical product value and confidence in its use by the decision maker and policy maker. It also leans toward the concept of «data suitability» by developing the statistical data within an institutional environment that is professional, fair and impartial, closely related to the specific goals and users› needs. This gives the user flexibility and accuracy in applying the data using a standardized approach that has a clear framework, subjecting it to clear and specific scientific and practical procedures in a regular periodical way to ensure the data's reliability, practicality, comparability and efficiency, and to equally avail the data to everyone, in a timely, accessible and highly flexible manner.

Police Statistical Data Quality Framework:

The police statistical data quality framework aims to set statistical quality standards for police data to serve the following objectives:

Managing the production of police statistical data based on the Generic Statistical Business Process Model (GSBPM)

Enhancing the confidence of data users.

Providing a specific framework for the quality standards of the records of police statistical data.

The Police Statistical System in the Emirate of Dubai

The police statistical system in the Emirate of Dubai includes all the entities contributing to the development, issuance and use of statistics (statistical reports). Namely the following entities:

- The Dubai Police General Head Quarters represented by the General Department of Forensic Science and Criminology, which is the centerpiece of the criminal statistical system, and aims to develop an innovative statistical system that contributes to providing suitable and reliable statistics.

- Police stations in the emirate, which are responsible for the official statistics in each jurisdiction in accordance with local laws and legislations, and are working to develop advanced local statistical systems consistent with the criminal statistical system.

- Dubai Traffic Department, which leads the traffic statistical system, and seeks to provide accurate and reliable statistics in the traffic aspect.

The police statistical system is also closely linked to other categories that contribute to preparing the official statistics (statistical reports) and their uses, which are as follows:

1. Registry data obtained through registering the cases related to police work.

2. Users of official statistics with range interests, whether they are decision makers, planners, and policy makers. This category also includes academics, researchers, scholars and members of the local, regional and international community interested in police statistics in the Emirate of Dubai.

3. The local statistical centers represented by the Dubai Statistics Center (Dubai Digital Authority) and the federal ones represented by the Federal Competitiveness and Statistics Center

Clearly defining the components of the police statistical system helps in defining the scope and elements of the quality framework, especially the elements of relevance and data accessibility, which are closely related to the extent to which statistics meets the requirements of users.

Components of the Police Data Quality Framework

The police data quality framework consists of the following elements:

Statistical product quality	Managing police data production operations	Mechanisms for managing institutional procedures within the police system

The essential quality elements mentioned in this framework stem from the concept of total quality, which includes the quality of statistical inputs, processes and outputs, that would meet the needs of users for statistical data on one hand, and achieve the statistical standards in place based on internationally and regionally approved statistical frameworks and standards on the other, making these statistics "suitable for use."

The Mechanisms for Managing the Institutional Procedures within the Police System

It is necessary to provide systems, legislation and production tools that speed up and facilitate the process of data production, which raises the quality of the statistical product. These are:

First: Professional and Objective Independence:

Professional independence is the management of a production system that is not subject to external pressures. The professional, scientific and methodological factor is the main aspect in controlling the extraction of the statistical product. Such production system shall be objective, giving the decision maker clear credibility and transparency of statistical indicators and products, thus enabling him to develop and disseminate them professionally, objectively, and independently, and making him able to deal fairly with all users. This can be achieved through:

1. Preparing laws to regulate the process and mechanism of disseminating police data ensuring product quality. Coordination with local and federal statistical centers is needed to ensure integration and non-conflict in production and disseminating.

2. The production mechanism for statistics / data reports is subject to the methodologies adopted by statistical agencies and international organizations in an orderly manner. The responsibility for decision-making regarding statistical policies, methods, standards and technical procedures in preparing and producing official statistics shall be on the basis of impartiality and neutrality in coordination with local and federal statistical centers.

3. The statistics-producing entity shall adhere to the practical standards of approved international and national statistical practices.

4. Statistics and statistical data are produced on the basis of needs identified by statistical considerations.

5. All users shall have access to the statistical methodologies and standards used for data gathering and processing as well as statistics development. Users shall be informed of any modifications.

6. Disseminated statistics shall be clear for users.

7. A data dissemination matrix shall be provided subject to the standards and policies of the local and federal statistical agencies.

8. The Foundation reserves the right to respond to any misuse or miss interpretation of statistics.

9. There shall be full commitment to the principles and ethics of scientific research and statistical work

Second: Ensuring Transparency:

Transparency is ensured and achieved through the following:

1. Disseminating and providing information and metadata that contain definitions and classifications used in statistical bulletins and reports.

2. Presenting, disseminating and making available the scientific methodologies through which data is produced, and declaring if they are modified.

3. Issuing the approved statistical calendar that shows the dates for disseminating the data in coordination with the partners from the local and federal statistical centers.
4. Consulting users regularly on periodical releases.

Third: Ensuring the Confidentiality of Data:

The confidentiality of the institution›s data should be ensured, and it shall be used for statistical purposes only. This is achieved through the following:

1. The existence of a law, legislation or policy that stipulates the protection of the confidentiality of personal data within the law of local and federal statistical centers.

2. The existence of information security rules and regulations to protect the confidentiality of data, which may include imposing penalties on workers who disclose confidential data of individuals or institutions and others.

3. Providing a policy and procedures to prevent disclosure of confidential data.

4. Providing financial, technical and administrative resources to protect the security of statistical data in terms of storing and managing statistical data.

5. Keeping individual data securely and not allowing access to individual data except by workers who need that information to perform their statistical tasks within controls.

6. Proactively educating all individuals working in producing official statistics of the importance of maintaining the confidentiality of data, as well as informing them of the penalties for disclosing such data.

7. Developing the data confidentiality matrix, which defines the authorities of data access and use within the police institution, so that there are controls for these authorities.

Fourth: Quality Assurance:

Quality standards should be adhered to when preparing and disseminating statistics (statistical reports). Strengths and opportunities for improvement shall be updated periodically and regularly to develop the quality of statistical processes and outputs. This can be achieved through the following:

1. Clear provisions regarding the commitment of the statistical data producer to provide high quality statistical data.

2. Adhering to the approved quality guides and frameworks of the local and federal statistical entity or entities that are concerned with statistical quality standards and procedures, which determine the scope of quality and how to apply it in the entity.

3. Setting procedures for checking data quality standards during the production process through specific persons or a specialized organizational unit and through approved forms. It is advisable to coordinate with local and federal statistical centers to apply these standards properly.

4. Regularly monitoring, evaluating and reporting the quality of statistical products in accordance with statistical quality standards.

5. Defining how quality is managed in the statistical production process, including:

    *   A description of the statistical production process and the documentation of all its stages.

    *   A description of the quality control methods at each stage of the statistical production process.

6. Providing regular training sessions for employees to educate them on the value of data quality and support the quality assurance plan.

7. Regularly analyzing the results of quality reports, and reporting to the senior management to decide on procedures improvement.

8. Setting procedures to improve product quality according to quality reports.

9. Implementing user satisfaction surveys regularly and including their results in the action plan to improve data quality.

Fifth: Suitability and Adequacy of Resources:

The necessary human, financial and technical resources to manage statistical operations in a professional manner in order to produce high-quality statistics should be available. This requires:

1. The suitability and adequacy of human and financial resources to meet the current statistical needs.

2. The suitability of the qualifications of employees in carrying out statistical work and developing competencies on an ongoing basis as needed.

3. The suitability and adequacy of technological resources, including software and hardware, to support statistical operations and statistical needs.

4. Applying the principles of project management when implementing statistical operations.

5. The digital transformation of all operations, programs, outputs, and documentation of statistical   operations.

Statistical Operations Management

Statistical operations require defining the stages of statistical production, where a special model must be developed. Approved models such as the Generic Statistical Business Process Model (GSBPM) can also be used so that all the detailed work stages are covered to ensure achieving a sound product, including:

First: The Main Operations:

1. Statistical Operations Management: The Generic Statistical Business Process Model (GSBPM) is approved, which is approved by the Federal Center for Competitiveness and Statistics as a frame of reference that ensures sound production lines for police data.

2. Quality Management (assessing the quality of data and monitoring mechanism): Designing a quality assurance system that works in parallel with the police operation internal system.

3. Metadata Management: All statistical variables and police data are defined.

4. Database Management: Focusing on the internal database from a technical and statistical point of view, so that the entry forms and data structure adhere to the approved national and international standards.

5. Knowledge Management: Refers to the transfer of knowledge through the approved model and internal systems to all employees who produce data and adequately training them.

6. Police Statistical Methodologies Management: Refers to developing a full description of the police statistical product to explain the work and accountability mechanism.

Customer Service Department: Is the process by which the needs and expectations of customers are met by government and private agencies, institutions and individuals, via providing a high-quality service that results in customer satisfaction.

Second: Supporting Operations:

They are part of the other police operations of the institution such as (financial resource management, project management, legal framework management, regulatory framework management and strategic planning). These processes should be performed efficiently, taking into account the quality, cost, timeliness of outputs and the resulting burden. To ensure this, these operations should be managed to raise the efficiency of the main operations.

Third: Clarity and Soundness of Methodologies:

This means verifying that the methodology used in implementing the statistical process is sound and includes the necessary procedures, approaches and classifications as well as all the definitions of police data. The method should contribute to the success of that process in providing the accurate data necessary to explain the phenomenon, results and numbers.

The approved national and international standards and best practices must be used in a manner commensurate with the status of the institution. This can be achieved through the following:

1. The consistency of the methodological statistical framework with the national standards approved based on the evidence issued by the statistical centers and the internal definitions of police work in accordance with international principles.

2. The existence of adequate procedures to ensure the application of approved methodologies, standards, classifications and statistical concepts within the approved operations model.

3. Measuring the extent of application of approved and standardized statistical methodologies, standards, classifications and concepts through a quality system.

4. The digital transformation of work procedures at its various stages in a convenient and easily accessible manner.

5. Re-classification and design of police data from administrative records to make them suitable for statistical purposes.

Fourth: Cost Effectiveness of the Statistical Program:

Various resources should be used effectively to ensure quality performance and optimal time management for implementation that ensures a reasonable cost. This can be achieved through the following:

1. Supporting documents to enable the cost-effectiveness of the statistical program.

2. Procedures to measure the effectiveness in producing statistical indicators.

3. Statistical methods and appropriate procedures that take into account cost reduction.

4. Using administrative records to develop statistical indicators whenever possible.

5. Using appropriate statistical methods and procedures that consider time management.

Quality Management of Statistical Outputs

First: Ensuring Suitability:

The resulting statistics should meet the needs of current and potential users. Concepts, classifications and statistics shall meet the needs and requirements of users. This can be achieved through the following:

1. Determining the current and potential users and determining their priorities and the nature of their needs for statistics.

2. Setting specific procedures for asking users about their needs. These procedures include responding to urgent and priority requests.

3. Setting procedures to monitor how far the issued statistics meet the users› needs.

4. Periodic and regular measurement of the users› opinion of statistics and the extent of users› satisfaction as to the suitability of the resulting statistics.

Second: Ensuring Accuracy and Reliability:

Accurate and reliable police statistics should be prepared and disseminated in accordance with national and international rules so that the calculated statistics are close to the real value of the phenomenon. The accuracy is estimated through relevant criteria as per the following:

1. Setting sound and regular methodologies and procedures for checking and examining police statements.

2. Whether the entity applies the standards and procedures for checking the accuracy of the data periodically and regularly.

3. The applying of the evidence, procedures, and standards approved by the federal and local statistical agencies to assess the accuracy of data and statistics.

4. Setting a mechanism that includes data checks and verifications and the existence of mechanisms to follow up on errors and remedies on a regular basis.

5. Extracting quality indicators for measuring data accuracy.

6. Documenting and discussing the results of examination, verification and evaluation of data in order to improve and develop data accuracy, and determine the extent of its impact on the quality level of statistical indicators.

Third: Ensuring Consistency, Coherence and Comparability:

Statistics should be prepared and issued in a way that ensure they are consistent among themselves, consistent over time and comparable among themselves through the use of approved standards, concepts

and classifications so that they are compliable and comparable. Consistency and logical coherence are one of the most important qualitative standards in statistical data. They enable comparison and linking of databases. This can be achieved through the following:

1. The adoption of all standards, classifications, concepts and definitions used in statistical agencies.

2. Checking the conformity of variables, indicators and tables produced within the same entity by comparing time series.

3. Conducting a comparative study between concepts, classifications and standards used in government entities and local statistical centers.

4. The existence of a document showing the extent of the difference in coverage, statistical concepts and classifications used and those applied globally, with the existence of mechanisms to address these differences in order to achieve an appropriate match in the concepts and classifications used.

5. Conducting bilateral comparisons and matches of the produced statistics with corresponding statistics from other sources, as well as statistics for other regions and countries.

Fourth: Ensuring Availability, Accessibility and Clarity:

According to the confidentiality matrix and users› metadata, police statistics should be made available to users in a convenient way that makes them easily accessed and well understood, ensuring that they give the greatest possible benefit. This can be done through the following:

1. The existence of a specific policy and procedures for disseminating statistics and making them available to users in various ways suitable to their different needs.

2. Documenting the metadata in accordance with the standards of the approved metadata systems so that the variables and indicators and their metadata are linked.

3. Presenting statistics with their metadata in a way that ensures proper interpretation of statistics and making correct comparisons.

4. The availability of the necessary metadata to ensure clarity of the statistics produced for all users.

5. Using modern technology to disseminate statistics to serve the largest number of users and allow them to extract reports that suit their needs.

6. Facilitating communication with data users and informing them of the details of the available data in terms of their usefulness, periodicity and being up-to-date while seeking to know their opinion and take their suggestions.

7. Informing users of the quality of statistical outputs as per the approved quality standards.

8. The diversity of the media and communication means used in the dissemination to ensure easy access to the data for different users.

Fifth: Ensuring Being Up-To-Date and Timeliness:

Statistics should be prepared and issued in an appropriate timing without delay, to ensure that the data that is made available to users is up-to-date, and to commit to making the data available in an appropriate periodicity according to the schedule previously agreed upon with users. The up-to-date state of the data refers to the time elapsed between the reference period of the indicator and the date of its disseminating. This can be achieved through the following:

1. Determining the suitable time for making statistics available in accordance with international statistical standards and in a manner that meets the needs of users.

2. Developing a timetable agreed upon with the data users showing the dates of making the data available, with a continuous follow-up mechanism to ensure that the data is provided at the agreed dates.

3. Informing users of any possible delays in providing them with data, indicating the dates of data availability at the agreed dates.

4. Informing users of any possible delays in providing them with data with an explanation of the reason and the new dates for providing the data, provided that such dates do not exceed the critical and important dates for disseminating official statistics required for the decision maker in the institution/emirate.

5. Providing information on the period covered by the data provided to users, as well as its recency and the extent of commitment to providing data within the pre-defined expectations.

Team Working Group

The name	Named	The entity
Dr. Hamdan Ahmed Al Dhanhani	Deputy Director General	Future Foresight and Decision Support Center - Dubai Police
Alia Hussain Al Balushi	Director of Statistics Department	Future Foresight and Decision Support Center - Dubai Police
Tariq Abdullah Al Behandy	Data Quality Section Manager	Future Foresight and Decision Support Center - Dubai Police
Esraa Awad Elnour	Data Analyst	Future Foresight and Decision Support Center - Dubai Police
Ali Qaiser Syed	Data Science Expert	Future Foresight and Decision Support Center - Dubai Police
Noora Ali	Director of Statistical Methodology Department	Federal Center for Competitiveness and Statistics
Zaid Alqadhi	Statistical Consultant	Federal Center for Competitiveness and Statistics
Amna Al Shamsi	Media Communication Executive	Federal Center for Competitiveness and Statistics
Muhammad Al Mulla	Director, Statistical Surveys & Frames Department	Dubai Statistics Center
Nusseibeh Al Marzouki	Prices & Cost Of Living Statistics Specialist	Dubai Statistics Center
Shadi Mousa	Senior Statistical Officer	Dubai Statistics Center