BPS *Stat-QAF*	SPR – 00	*ST*

Knowing and Understanding

BPS "Statistical Quality Assurance Framework"

*(*BPS *Stat – QAF)*

Module: An Overview

(Revision)

Project Management Unit
Indonesia Statistical Capacity Building
ChangE & Reform for Developing of StAtisticS
(CERDAS)
Bureaucratic Reform Program Stage II (2011 – 2014)

Reviewed by: Wiwiek Arumwaty

Preface

Act No. 16 of 1997 and Government Regulation No. 86 of 2007 have strengthened status of BPS (Statistics Indonesia) to become the institution with a mandate for implementation of all activities of the National Statistics System (SSN) in Indonesia. A reliable statistical information system provided will take into account not only the quantity or variety of data produced, but also the quality as well. The National Statistical Offices (NSO) will have to concern more on data quality in the process of collecting statistical data to meet international demands. Statistical data that do not fit for purposes, which are inaccurate, incoherent, outdated, difficult to access, difficult to understand, or even subjected to a political interference in disclosing official statistics, would lead to low credibility of BPS as a source of objective, impartial and reliable data. Through Bureaucratic Reform Program, BPS will continue to work on improving the quality of statistical data produced.

Quality Assurance Framework (QAF) is a framework designed to guarantee the quality of data produced. It is one of the goals that have to be achieved in the process of major change and reform in BPS (Statistics Indonesia). Its activities have been launched since 2010. Changes in the corridors of government bureaucracy reform program are intended to bring government agencies towards a better management, especially in providing public services. As a major pillar in reforming BPS, the availability of variety of quality statistical data has become more of challenges and, at the same time, opportunities to BPS as an institution mandated to implement statistical activities in Indonesia. Various statistical data that have

already been generated should be followed by an increase in its quality.

Stat-QAF (Statistical – QAF) is not just a series of activities to enhance the data quality, but rather a support for BPS' strategic plan (RENSTRA) in data quality improvement in future. More specifically, Stat-QAF is a description on how to manage the data quality, in terms of monitoring and acceess to quality, as well as identifying the problems. It also implies that increasing in data quality should be a priority, and a mechanism will be developed and used to monitor the implementation process. Furthermore, Stat-QAF itself will be functioned as a framework designed as standard service formats in implementation of statistical activities. Such frameworks have been implemented, and developed in many different countries. It will be fully implemented in Indonesia later on. In addition, Stat-QAF discusses about level of management system and statistical procedures. In the future, these activities will be intended to compare performances in conducting statistical activities among the national statistical offices in various countries. Implementation program of BPS' Statistical Quality Assurance Framework is one of important pillars in promoting the bureaucratic reform of BPS.

In response to the positive encouragement, the year 2011 is set as the year of implementation of the activities of improving the quality of statistical data (statistical quality milestones). In spirit of caring, togetherness and a desire to change in carrying out statistical activities, we need to make changes from the conventional era towards a more contemporary direction which emphasizes on quality issues as well as their supporting elements.

In the implementation, data quality will be more of a responsibility and willingness of all BPS employees, even though there will be a new unit that specifically deals with data quality.

This booklet is prepared as an effort to point out a link between the vision, mission, and core values of institutions, as well as statistical code of conducts of BPS employees into BPS' Strategic Plan in generating quality statistical products. It is also a way to show how the quantities of statistical data have tight connection to the quality. The quantity and quality of data are representing as two sides of a coin which has the same probability to appear.

I am very optimistic that we are all aware of the importance of quality in building statistical data, and would attempt to develop quality of statistical data continuously, in accordance to the substance as well as their respective areas of assignment.

Jakarta, January 2011

HEAD OF BPS-Statistics Indonesia

Dr. Rusman Heriawan

LEGAL BASES

Head of BPS-Statistics Indonesia Regulations No. 39 of 2010.
(Declared in Jakarta, on July 14, 2010)

Vision: "The Agent of trustworthy statistical data for all"

Missions:

- To strengthen constitutional and operational foundation of the statistical agency in conducting efficient and effective statistics.
- To create competent and professional statistical community, supported by the ultimate information technology for statistical advancement in Indonesia.
- To increase the implementation of standard classification, concepts and definitions, measurement, and statistics code of practice, which are universal in statistical activities.
- To increase the quality of statistical information services for all parties.
- To increase coordination, integration and synchronization of statistical activities, which are conducted by the Indonesia government and private Institutions, within the framework of the National Statistical System framework effectively and more efficient.

Core Values:

Core values are guiding principles that all individuals in the organization adhere and practice in daily basis work environment, and that form dominant characteristic of the organization. For BPS, core values are a set of principles that have enriched the beliefs and

codes of conduct of all individuals in BPS in carrying out their duties. The BPS's core values are "**Professional, Integrity, and Trustworthiness**."

a. Professional

Professionalism is expected to be possessed by every employee in carrying out his/her job description. It includes:

- **Competent** : having the expertise in the field of task performed;
- **Effective** : having the maximum results;
- **Efficient** : carrying out tasks productively by using allocated resources;
- **Innovative** : having improvement and updating through the learning process on an ongoing basis;
- **Systemic** : considering that every task is in sort order, and that works are inseparable part from other tasks.

b. Integrity:

Integrity is an attitude and work behavior that must be owned by every employee in his/her devotion to the institution/ organization. Its elements are:

- **Dedicated** : high loyalty to the profession and institution.
- **Disciplined** : Carry out tasks in accordance to rules and procedures;
- **Consistent** : Compatibility between word and action;

- **Transparent** : Respectful of and courteous to the ideas, suggestions, opinions, feedbacks, and criticisms from other parties
- **Accountable** : Responsible and measurable

c. Trustworthiness:

Trustworthy is an attitude that must be owned by every employee in excessively honor to God. Its elements include:

- **Reliable** : carrying out tasks in accordance with the provisions, which is not only based on logic but also the mental-spiritual dimensions at the same time;
- **Honest** : being truthful, performing all tasks in good manner and avoiding any deviation from the principles of morality;
- **Sincere** : performing all tasks unconditionally, and avoiding conflicts of interest (affected by personal and group interest), and dedicates all tasks for the sake of the nation.
- **Fair** : being fair and respectful of the others' rights.

Code of Conducts for Official Statistics

Practically, code of conduct in statistical nature associated with dependable statistics consists of[1]:

[1] Head of BPS-Statistics Indonesia Regulations No. 39 of 2010 on BPS Vision, Mission, Core Values, and Code of Conduct

a. Statistics which are **independent**, and not affected and influenced by any other parties
b. Statistics which assure **confidentiality** of individual data
c. Statistics which are impartial and can be utilized by all parties
d. Statistics which meet the norms, standards, procedures, and criteria applicable to every statistical activities
e. Statistics which assure correct purpose and interpretation
f. Statistics which are objective, using scientific methods, in accordance with the actual facts found in the ground/field
g. Statistics which are relevant and fitness for data users' need
h. Statistics which are accurate and can describe the real situation
i. Statistics which are timely and up-to-date
j. Statistics which are consistent in dimensions of space and time
k. Statistics which are easily accessible, and affordable
l. Statistics which are easy to understand
m. Statistics which are constructed without excessive burden on respondents

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GLOSSARY:

A	ARC	: Advanced Released Calendar
	APBN	: *Anggaran dan Pendapatan Belanja Negara* / Central Government Budget
B	BPS	: *Badan Pusat Statistik* / BPS-Statistics Indonesia
C	*CERDAS*	**:** Change and Reform for Development Statistics
	CoC	: Code of Conduct
	CoP	: Code of Practice
E	*ESDM*	: *Energi dan Sumber Daya Mineral* / Energy and Mineral Resources
	EuroStat	: *European Statistics*
F	*FMS*	: *Forum Masyarakat Statistik* / Statistical Community Forum
I	*IKU*	: *Indikator Kinerja Utama* / Key Performance Indicators
	ISO	: International Standard Organization
	IMF	: International Monetary Fund
	I-O	: Input-Output
K	*KEMENKEU*	: *Kementrian Keuangan* / Ministry of Finance
	KEMENTAN	: *Kementrian Pertanian* / Ministry of Agriculture
	KEMENHUT	: *Kementrian Kehutanan* / Ministry of Forestry
	KEPKA	: *Keputusan Kepala* / Chief of Head Decree
	KPI	: Key Perfomance Indicators
N	NQAF	: National Quality Assurance Framework

	NSPK	: *Norma Standar Prosedur dan Kriteria* / Norms, Standards, Procedures, and Criterion
P	*PBB*	: *Perserikatan Bangsa Bangsa* / United Nations (UN)
Q	QAF	: Quality Assurance Framework
R	*RB*	: *Reformasi Birokrasi* / Bureaucratic Reform
	RENSTRA	: *Rencana Strategis* / Strategic Plan
	RPJM	: *Rencana Pembangunan Jangka Menengah* / Medium Term Development Plan
S	*SAKERNAS*	: *Survei Angkatan Kerja Nasional* / National Labor Forces Survey
	SBH	: *Survei Biaya Hidup*/ Cost of Living Survey
	SDM	: *Sumber Daya Manusia* / Human Resources
	SMA	: Subject MatterArea
	SOP	: Standard Operating Procedures
	SSN	: *Sistem Statistik Nasional* / National Statistical System
	STATCAP	: *Statistical Capacity Building*
	Stat-QAF	: Statistical Quality Assurance Framework
	SUSENAS	: *Survei Sosial Ekonomi Nasional* / National Socio-Economic Survey
T	*TIK*	**:** *Teknologi Informasi dan Komunikasi* / Information and communication Technology
U	UN	: United Nations

UNECE	: United Nations Economic Commission for Europe Statistical Division
UNSD	: United Nations Statistics Division
UNSC	: United Nations Statistics Commission
UU	: *Undang-undang* / Act (Law)

I. An Overview of Statistics Implementation

1.1. Background

Global demands on the *quality of statistics* issues, especially those produced by NSO (National Statistics Office) have risen prominently. The United Nations Declaration by United Nations Statistics Commission in 1994 introduced the concepts known as the "UN Fundamental Principles of Official Statistics" which are intended for NSO of all countries for building, maintaining, and developing various statistical products. Each principle implicitly explains the importance of Quality Framework. The quality guarantees security and reassures various parties in the implementation and use of statistical data. Several countries have undertaken preliminary testing for preparing the implementation of Quality Assurance Framework, i.e. European Union, Canada, Australia, Finland, China, Japan and Korea.

In response to those demands, BPS as the main institution in producing official statistics considers that statistical quality is important part in bureaucratic reform. Moreover, the increase in needs for data on social and economic field ideally should address not only the increase in quantity but also the quality. Quality should be integral part of the daily statistical activities in all units. Certainly, there must be real objectives and targets to be achieved. In the first stage of the reforms, *Quick Win and Standard Operational Procedure* (SOP) have been prepared as initial step in monitoring the process of developing quality of statistical data within BPS.

Detailed mapping of statistical activities is used to see how the quality of statistical data conducted among all units in BPS, including the process of identifying the statistical data produced. Statistical map is a form of statistical constellation[2] intended to identify, recognize, learn and understand how BPS compiles various statistical data periodically, as outlined in programs for statistical development. Statistical maps will include structure[3] and anatomy[4] of statistics, their character or specifications, as well as studies of statistical integration process. Individual information of the activities from the statistical records will serve as a basis in making diagnosis of the existing problems, including the problems of quality of statistical data.

Formulation of map (chart) of each statistical activity is developed based on the basic information in Metadata. This information will function as monitoring and evaluation, so that goals and targets set are achieved. The main target of the reform of statistical activities should not only concern on the quantity but also quality aspects. Quality rules in assuring the worthiness of data starting from input processes (data collection), processing, until the final result and the outcomes. It is important to remember that good information is derived from data that is processed by using the concepts and scientific procedures correctly and appropriately.

Encouragement on improving various quantity and quality of statistical data must be benefited by the public. Of course, it is achieved if the data are built in accordance with user needs and has assured quality. As for the changes, it is necessary to use measuring

[2] An order of correlation natures
[3] Appearance of main part of body
[4] A study describing position and relationship between or among different conditions

tool called Key Performance Indicators (KPI). The instrument is a universal tool which could be used to perform statistical comparisons of statistical quality among countries. With the establishment of good statistical performance of BPS-Statistics Indonesia, it is expected to achieve the ISO (International Standards Organization) as a set of international standards describing fundamental quality management systems.

1.2. Scope of BPS Statistical Activities

a. Correlation among Vision, Mission and Strategy

Vision is an expectation or an ideal goal of BPS to be achieved in carrying out the function and mission of the development program on statistics. The vision outlined in the form of more concrete follow-ups, especially on the third objective of BPS in **"improving the application of standard classification, concepts, definitions, measurement, and statistical code of practice which is universal in every activity of statistics."** The forward strategy is not only evaluating the statistical data for quality assurance but also considering quality as public need and demand.

b. Strategic Plan (RENSTRA)

A very close relation among vision, mission, core values, and codes of practice foreshadowed statistical development process, at both national and local (provincial and municipal / regency). The link is expressed in a more real pace to BPS as set forth in the Strategic Plan (Strategic Plan) of BPS. Furthermore, RPJM (Medium Term Development Plan) of 2010-2014 has put the strengthening of data systems and statistical information as part of national development management support. In a way, more than half of a century, BPS with the support of professional personnel has produced various

statistical data as its core business with its own advantages and disadvantages. The advantage is the ability of BPS in conducting special[5] statistics with innovative breakthrough, while the disadvantage is BPS statistical activities have not met the public needs optimally. Furthermore, the breakthrough is also applied in improving the statistical methodology

Major problem of BPS in the collection of statistical data is the awareness of respondents to provide the correct information (main external problem). The problems can also be caused by errors of both internally and externally. Internal problems that need to be solved include BPS management role which is not optimum in monitoring and evaluating the quality of statistical data. In developing the statistics we are not supposed to consider only about the quantity but also the quality since the quality has increasingly become the need of data users. Quantity and quality are two sides of a coin that needs to be calculated and displayed simultaneously.

Improvement in statistical data quality becomes one of strategic objectives to be achieved by BPS. Within the next 5 (five) years, BPS will seek reforms to the development of comprehensiveness in statistics. The improvement will be carried out in different lines of activities such as: improving the quality of Human Resources (HR), and meeting the needs of the Information and Communication Technology (ICT). In realizing the reliable, effective and efficient National Statistics System (SSN), development program on statistics is designed to increase the availability of reliable and "quality" statistical information.

[5] Not included in regular agenda of planning

c. Development Program on Statistics

As an effort for the success of national development in statistics, BPS has set a strategy for Improvement in Data Quality and Diversity. The quality has become a priority in addition to increasing in statistical variability that is relatively well organized. Data quality dimensions consist of elements of accuracy, relevance, timeliness, accessibility, and coherence, and interpretability. Furthermore, the very specific strategic objective of the BPS that is "the availability of complete, accurate, and timely data and statistical information throughout the national development, and to enhancement of services for users of data and statistical information".

STATCAP CERDAS (Statistical Capacity Building, Change and Reform for Development Statistics) program promotes 4 (four) pillars of bureaucratic reform as references (targets to be achieved) to BPS statistical activities in Indonesia during the year 2010-2014 which include the components: i) Data Quality improvement ii) Development and Improvement of Human Resources (HR) quality iii) Strengthening in Information and Communication Technology (ICT) and working facilities and iv) Strengthening in institution and relationship with data sources and data users. The four pillars will related to each other and may have a causal relationship, either directly or indirectly.

d. Official Statistics

Official statistics in Indonesia have been regulated in Law (Act) No.16 of 2007 on statistics. Explicitly, the regulations emphasized that the involvement of other parties are required in the statistics because of the growing magnitude of the role of statistical information. This means that the statistical activities are not conducted by BPS itself as there are duties and functions of other

institutions which also conduct statistical activities. Mandates given to BPS are as organizer of "basic statistics", as coordinator and adviser board in statistics for the purpose of developing National Statistics System (NSS). "Sectoral statistics" and "special statistics" are 2 (two) forms of statistical activities performed by the other parties than BPS both government and private.

The definition of NSS is "a system consisting of the elements of statistical data needs, resources, methods, facility and infrastructure, science and technology, the supporting legal basis as well as inputs from the Statistical Community Forum which are related to each other regularly in establishment of totality in compilation of statistics ".

For comparison of definitions, the concept of "official statistics" from the statistical office of Finland is presented below:

> *"**Official statistics** is a statistical system, comprised of essential and high-quality statistics that are produced regularly or at sufficiently frequent intervals, and are nationally representative. The available statistics must in practice Reflect the user's needs and priorities, and adhere to international standards and recommendations on the compilation of statistics" (adapted from Statistics of Finland)*

National Statistics System explained that BPS, in addition to providing statistical information, serves as statistics referral center. This means that the statistical data generated by all the statistical producers in Indonesia are under the coordination of BPS. It can be

concluded that the entire product to official statistics must be in secure, reliable, consistent, and comparable so the utilization of data / information is fit for purpose and does not mislead data users and policy makers.

e. Statistical Products

BPS is the institutions with the highest authority that has the mandate to carry out activities in official statistics, thus fulfilling the needs of the quality data becomes a must. Statistical data produced must meet the needs of potential users. However, data collection process should not burden the respondents. Quality aspects are concerned in every stage of the process of collecting, processing, and up to the final data.

Historically, official statistics[6] of BPS usually refers to the need for the government, although there are cases where some statistical activities conducted by special request. In addition to BPS, the official statistical information produced by other official government institutions such as the Ministry of Finance, Bank Indonesia, Ministry of Agriculture, Ministry of Mines, Ministry of Health, Ministry of Education, Ministry of Social Affairs, Ministry of Defense and other institutions, in accordance with the interests and capacities of respective institutions. The common data produced by them are administrative data.

[6] ***Official statistics*** *are statistics published by government agencies or other public bodies such as international organizations. They provide quantitative or qualitative information on all major areas of citizens' lives, such as economic and social development,living conditions, health, education, and the environment. (Wikipedia the free encyclopedia).*

Data generated by a variety of subject matters area of BPS have equal functions, although with various level[7]. Similarly, statistical data generated by other government agencies also has a strategic role. Therefore, the development of statistics should be able to integrate and harmonize the various statistical products into a system of official statistics that is called the National Statistics System (NSS). Official statistical products should be in an assured condition.

1.3. Statistical Data as Core Business of BPS

Statistical data is "core" output of a Business Process produced in an integrated manner by BPS. It is referred to as statistical data[8], although the statistics are derived from the data but not all data can be presented by a statistical approach. Common statistical data compiled using the simple statistical approach and measures, such as sum, average, ratio, proportion / percentage, index, and deviation. Moreover, the statistical information is also presented visually in the form of tables, charts and graphs. Statistical data, as highlighted in BPS' Vision, is statistical output generated by the HR of BPS on the basis of organization's core values and statistical code of ethics.

Although the Statistical Act (Law) states that the statistical data produced by BPS refer to as "basic data". However, kinds of statistics produced by BPS are so varied since they are built according to the increasing needs. Range of products both economic and social statistics produced by BPS is intended to meet the demands of

[7] For example: strategic and non-strategic data; core and non-core data; national and regional data.

[8] Statistics of Netherland defines the concept of *statistical data* as the data that could describe actual parameter conditions (population).

public, especially government. According to the Decree of Head of BPS (KEPKA) No. 6 of 2000, there are 56 types of statistics that must be held by the BPS, including 42 kinds of economic statistics and 14 kinds of public welfare.

Typology of statistical activities[9] generally includes the implementation of censuses, surveys, compilation / collection of administrative data and the integrated compilation (especially for the preparation of the System of National Account and Statistical Analysis). There are 3 (three) types of Census which become main tasks of BPS. They are Population Census, Agriculture Census and Economic Census. Meanwhile, the survey is an activity of collecting data / information generally carried out in various statistical activities. The common national scale surveys are National Socioeconomic Survey (SUSENAS), National Labor Force Survey (SAKERNAS), and Cost of Living Survey (SBH). Furthermore, BPS also conducts collection of administrative data / information from other institutions such as export data, import data, tourism data and government finance data.

BPS Bureaucratic Reform Agenda promotes the objective scope of improvements in major statistical activities which is improving the quality of statistical data, particularly on the "Core" Statistics. These activities include improvement in statistics of National Account, Foreign Trade, Large-Medium Manufacturing Industry, Horticulture, Estate Crop, Prices, Poverty (*SUSENAS* / National Socio-Economic Survey) and Labor (*SAKERNAS* / National Labor Forces Survey), where most of data are orientated toward economic aspects. Among all these statistics, System of National

[9] It is referred to the methods of data collection

Account (SNA) needs to get more attention because it is a BPS strategic data that has not completely developed. System of National Account (SNA) can be used to measure the performance of a country which has the function of collecting, compiling and presenting various macro statistics, which are presented in the form of comprehensive aggregate instrument. In addition, statistical methodology and analysis are the two parts of the statistical process that are given priority.

On the other hand, various "non-core" statistics are also developed to meet the demand for other statistical data. Although not including in the objectives of national reform agenda, the future non-core statistical products will also be enhanced following the existing programs. The common non-core statistics are food crops, forestry, mining, quarrying, energy, construction, trade, hotel, restaurant, tourism, financial institutions, governments and other services. Variety of other statistics produced by BPS in addition to those mentioned also has important role, especially for the segment of the user community. All the statistical products will be monitored and evaluated on the process and the results (stages).

In the short term, the priority of quality monitoring is set only for "core" statistics but it is expected to be set for all kind of statistical in long term. Ideally, the balance between quantity and quality should be considered in generating reliable statistical data. Furthermore, the unnecessary statistical products should be terminated in order to improve efficiency.

A set of "Statistical code of ethics" is a form of commitment of statistical community in carrying out statistical activities to produce a variety of output statistics based on statistical science.

Statistical code of ethics (code of conduct) of which include some elements of independency, confidentiality, impartiality, NSPK basis, relevance, objectivity, accuracy, timeliness, consistency, affordable price, accessibility, interpretability and without excessive burden on respondents. The habit of concentrating on quantity of statistics must be enhanced by also concerning on quality aspects. also be prioritized, so that the balance maintained in the resulting output. On the other hand, improvement of statistical data quality has also been demands, both from users inside and outside the country. High quality statistical data are trustworthy, accountable, and with minimal errors so that the information contained therein does not mislead data users.

1.4. Role of Monitoring and Evaluation

Monitoring and Evaluation is a research activity whose function is to monitor and assess activities that have been and was going in order to get the feedback. This monitoring is part of the management and administrative processes to measure the level of accountability, and efficiency of activities. This research activity will lead to understand the process and the effectiveness of the implementation of quality management data on various kinds and levels of statistics produced by BPS. The development of statistical data should not solely focus on quantity but also need to consider the quality aspects, so that there will be proper balance in the delivery of statistical information.

For the purpose of the quality assurance, a special unit is established with the support of statistical professional personnel, to develop and monitor statistical activities. The tools for monitoring will be designed in accordance with the needs; and the results are

reported regularly. Availability of quality monitoring devices, providing profound implications on the availability of statistical data, which automatically includes the structure and status of data generated both in terms of how detailed the data, and distribution coverage. Through these devices, the public could recognize the quality management framework that is applied and developed by the BPS.

MONEV activities are very important but they are often ignored because of lack of awareness of their benefits. The availability of sophisticated methods and measuring devices in determination often run off the processes of synchronization between planning and implementation. Awareness is needed on implementing statistical activities to build good procedures for administrative systems. The process of documenting and evaluating must be committed that need to be carried out continuously.

From the results of monitoring and evaluation it will be known:

a. How the quality of statistical data can be monitored on a regular basis
b. Understanding of the importance of quality as basis in intervention in case of any uncommon thing appears,
c. The degree of impact of quality on statistical data generated,
d. Pattern of quality inter-relation among statistical data.

Monitoring the quality of statistical data conducted regularly and repeatedly with consistent and orderly manner, will result on a good working habit of BPS employees in performing the task of development statistics.

II. Quality Assurance of Statistical Data

Quality has an important role in building confidence in the products produced by an institution. Similarly, the statistical quality issues are integral parts of the statistical products produced by BPS. In addition to achievement of quantity, quality elements at various levels of statistical process need also to be considered. The quality serves as a performance determinant of BPS in providing statistical data. Good data is the data / information with the balance of quantity and quality.

2.1 Meaning, Roles and Benefits of Quality

"**Quality**" has a very broad meaning, which is generally defined as levels of accuracy or the merits of an object / condition. It is realized that during these various programs of statistical activities carried out are still prioritizing the quantity, and the quality of statistical data sometimes is ignored. It should be noted that there are some activities that also take into account as part of quality improvement activities. Quality is a guarantee of a statistics product, which would be some efforts of protection and certainty to the statistical data users. On the other hand, because the quality factor cannot be separated from the input data, then there should be also the assurance for the data providers or respondents.

The quality has an important role in building confidence in the products produced by an institution. A quality simply can be defined as a condition which is free from error. Or in other words the quality is also defined as quality content, which explains about the merits of a product / condition, with the aim is to give the signal for a

better condition. Similarly, with the issue of quality of statistical data as is an integral element of the statistical products produced by the BPS. In addition to pursuing the achievement of quantity, quality at various levels of statistical process needs also to be taken into account. To get a good data, a balance between quantity and quality is needed.

Quality can be monitored through a chain of statistical activities that are relatively long and interrelated start of the process of planning, gathering, processing, presentation, analysis and even in the dissemination process. Therefore it is necessary to develop a tool that can be used to monitor how the quality can be formed by inter related of statistical data, over time and across regions. Running a variety of statistical activities in a relatively long period cause a pressures that sometimes causing the importance of the meaning of quality is forgotten.

Development of data-quality statistics is not only being applied in each Subject Matter area, but also translated throughout the institutional level (BPS). Thus, the establishment of quality is not an activity that can build alone but must be supported by other elements such as Human Resources (HR), Infrastructure, Information and Communication Technology (ICT), availability of adequate funds, Regulations, and Management. Although it is not in plenary, the relationship between working unit in generating the statistics, gives an indication of that the process of coordination and integration of statistical activities in the environment BPS is implemented as part of statistical quality devices.

2.2 Positive Assurance of Quality

The issue of quality assurance framework appears as new matter but it is implicitly an integral part of the aspect of quantity, as described earlier. The quantity and quality are two interrelated elements. In practice the quality cannot be identified without the existence of quantity data. BPS has considered aspects of quality in every implementation of statistical activities, though sometimes the quality monitoring is overlooked. Therefore, the future development of statistical quality should be a priority and in line with the development of quantity, in creating the more meaningful data and in accordance with the demands.

a. Assurance of the input data / information

The input data is guaranteed in data acquisition that includes the source or from where the data / information are obtained. That is whether it is done through censuses or surveys (primary data), data derived from other parties (secondary data), or processed data from existing administrative records. The willingness of others to provide information in an honest and truthful is the key to success in maintaining the quality. Keep in mind that the excessiveness of the questions could be a burden to respondents also will affects the quality of the data obtained.

b. Assurance of statistical process

Is guaranteed in the statistical process from planning to the results obtained, the stages include planning, preparation of statistical design, data collection, data processing, presentation and data analysis. Specifically in the data processing process includes the classification / reclassification, data entry (validation, and

verification), justification and tabulation. The process of transformation of input to output data requires expertise and precision, of course, also influence the quality of statistical data produced.

c. Assurance of quality of product (output)

The quality of input data will affect the quality of output, because the input will become output after going through the process of transformation. Establishing the quality of statistical data is a reflection of responsibility of the management of BPS, especially in the statistical processes of data construction starting from identification (how the information / data obtained), until data presentation (output).

At the end, level of quality assurance is highly depending on statistical processes which guarantee as one articulation of the statistical activities chain. Through these three stages of assurance, the quality of statistical data generated will be well maintained because it is always controlled at every stage of statistical process.

2.3 Quality Assurance Framework (QAF)

Statistical-QAF (Quality Assurance Framework for Statistics) is a working tool that was originally introduced by the United Nations, to assess the quality of statistical products produced by the National Statistics Office (NSO). The device related to the *United Nation's Fundamental* Principles *of Official Statistics* (10 items), the *European Statistics Code of Practices* (15 items) and the *IMF's Data Quality Framework* (5 items). The device functions as a management system to monitor and evaluate the statistical process, which stages from collection of data / information to the presentation of results

(output). Each NSO recommended building and developing the instrument with reference to international standards. With these tools, the establishment of data-generated statistics can be ascertained in a safe condition to further utilization. Results of measurement of this data quality should be submitted in the form of systematic reporting on statistical products produced.

Stat-QAF itself is not just a series of quality improvement stages that to be implemented and developed, but will be emphasized more on systems and procedures placed on every step of statistical activities. Thus, Stat-QAF is an image of the management system by following the procedure, which must be understood and implemented by the entire employees of BPS, particularly those involved in the preparation of statistical products. Development of Stat-QAF will benefit The BPS, especially in improving the statistician professionalism as stating at the code of ethics in statistics.

BPS defines the quality of statistical output data in simple form and will be suitable and beneficial for users. With reference to what has happened in other countries, and also international institutions, the definition of the quality dimension of the BPS data output is as follows:

Relevance

- Relevance refers to the degree to which outputs meet current and potential users' needs, to which they shed light on the issues of most important to users.
- Only kinds of statistics that are needed are produced.

Accuracy

- Output of statistical data can accurately describe the reality because it is able to measure the actual phenomenon happening.
- Accuracy is usually characterized in terms of error in statistical estimates and is traditionally decomposed into sampling and non-sampling errors. The later are often further described by source of error, such as non-response.

Punctuality and timeliness

- Timeliness refers to the length of time between the availability of the output and the event or phenomenon they describe. The shorter the time period means the timelier and the more useful the output.
- Punctuality refers to the difference between the date when the data are first released and the scheduled target date for release as announced in an official release calendar, or as laid down by regulation or agreement.

Interpretability

- Interpretability reflects the extent to which outputs are presented in a clear and understandable form.
- It is determined by the availability of metadata, supplementary information and support services that are required for users to fully understand the outputs and make appropriate use of them.

Accessibility

- Accessibility refers to the ease with which users are able to access the data.
- It is includes the ease with which media users are able to determine the data exist, the suitability and form of the access media, the cost of access, and impartiality of access procedures, in other words absence of access preferences.

Coherence

- Coherence refers to the degree of different outputs can be successfully brought together and used in combination for describing the phenomenon entirely.

Comparability

- Comparability is the same as coherence but used in reference to outputs that contain the same data items but that differs in time period, region, or any other relevant domain.

Trustworthiness

- Trustworthiness refers to the degree of confidence of data users in recognizing and understanding the statistical outputs easily.
- How the users' view on BPS institutionally (BPS' image).
- Trustworthiness is an integral part in statistical process.

The most important aspect is the confidence in the objectivity of the data, because the trustworthiness will bring better reputation and high credibility of the BPS. Objectivity may also be interpreted as if the data obtained and presented in a professional

manner must follow the applicable statistical standards, particularly in reference to policies and practices. Data should not be manipulated, and if published it is in response to the needs of user, and not because of political pressure.

Thus, Stat-QAF as the quality framework will serve as a clearing house where the statistical data will be cleared before being distributed. The process includes the designing of working formats, preparation of technical manuals (guidelines), making the framework example (template), staff training and stage of implementation.

2.4 Quality versus Code of Conducts in Statistics

Quality plays an important role in the construction and development of statistical data. All stages in the preparation of the data from individual level to the level of institutions (collective), plays an important role in accordance with the conditions and capacities on each stage. The elements of quality set by the BPS include 8 dimensions[10], namely: a) relevance, b) the accuracy / precision, c) actual and timely manner, d) interpretable, e) accessibility, g) coherence, h), comparability and g) trustworthiness. Dimensions of quality of statistical data can be fulfilled by the participation of qualified human resources that makes the code of conducts as a foundation statistics profession.

"**The statistical code of ethics**" is a set of guidelines that are designed with the intention of guiding the attitudes and behavior of members of an organization or institution in accordance with the objective existence of the organization. As a universal guide, the code of ethics should be a reference for all members of the organization to

[10] *Michael Colledge Report (2010); The World Bank Consultant*

form a professional attitude in carrying out the task. Since it involves the interests of many parties, especially for users of statistical data, the preparation of this code shall be based on an agreement, and must be provisional.

The code of ethics established by the BPS includes 13 elements, namely: i) Independency, ii) Confidentiality, iii) Impartiality and utilization publicly, iv) Norms, standard, procedure, and criteria, v) Proper utilization and interpretation, vi) Objectivity, vii) relevance, viii) accuracy, ix) Timeliness and up-to-date x) Consistency xi) Easy access and affordable price xii) understandable, and xiii) without excessive burden on respondents.

BPS in outlining and carrying out their duties would require compatibility between the 2 dimensions (code of ethics and quality), as identified in the following table:

No	Code of conducts in statistics	Dimensions of quality
(1)	(2)	(3)
1.	Independency	Relevance
2.	Confidentiality	Accuracy
3.	Impartiality and utilization publicly	Timeliness and Punctuality
4.	Norms, standard, procedure, and criteria	Interpretability
5.	Proper utilization and interpretation (fitness for purpose)	Accessibility
6.	Objectivity	Coherence
7.	Relevance	Comparability

No	Code of conducts in statistics	Dimensions of quality
(1)	(2)	(3)
8.	Accuracy	Reliability
9.	Timeliness and up-to-date	-
10.	Consistency	-
11.	Easy access and affordable price	-
12.	Easy to understand	-
13.	Without excessive burden on respondents	-

RENSTRA Version: completeness, accuracy, relevancy, timeliness, accessibility, coherence, interpretability.

Most of the elements referred in the statistical implementation of codes of ethics have a resemblance to the coverage of statistical quality dimensions. This condition indicates that a consistent statistical quality can be measured by statistical code of ethics, which has already referred to the basic principles of statistics. Thus, the successful application of statistical quality dimension in the daily activities can be achieved through the active participations and supports of quality human resources, which make the statistical codes of ethics as basis in the profession.

III. Performance Indicator, Unit for Quality Promotion, and Environmental Influences

3.1 Key Performance Indicators

Key Performance Indicators are the basic measurements of management information that serves to monitor and evaluate the quality of statistical data, including the improvement efforts. As an early signal, these key indicators can provide important information to the users on overall conclusions about the quality of statistical output produced by BPS.

In its development, assessment of data quality becomes an important issue, because the assessment can ensure that the statistical process is implemented according to its plans and objectives. Quality indicator provides information on the products derived from statistical process by using the standard concepts and scientific procedures. Although not all dimensions of data quality can be measured, for the very least this indicator can give an indication about the quality of each product statistical data.

The indicator covers the measurement of 8 dimensions of quality of various activities and products-statistical data especially for statistical data published by BPS (see data quality dimensions above). Thus, it is desirable to have a representative measure of performance statistics by selecting and using variables that can represent each dimension of quality. Indicators of quality dimensions selected will be displayed together with quantitative information-statistical data output, and will be included in the "Statistical Dashboard".

3.2 Statistical Dashboard (Statistical Control Panel Media)

A "Dashboard" is a medium used to monitor and evaluate the availability of development of various statistical data presented in the form of panel presentations. In a simple sense, a dashboard is defined as a form of display panels in a screen with their measurement. By using high technology, the various statistical products both in quantity and quality can be monitored.

The "Dashboard" can also serve as a shopping window to see the data statistics product produced by BPS and readily for public access. Not all data-statistics need to be shown, but only the selected statistical data to be displayed. It is because of the need to protect confidential data as well as the individual data. Updating and improvement of data should also be included in the information.

Through these media ones can know the condition and status of data in the very last condition, including coverage, detail and distribution of coverage. This media is important for decision makers in particular the leader of the BPS to know the data quickly, and if necessary to intervene whenever there are problems with the existing statistical data.

3.3 Unit for Quality Assurance of Statistical Data

The principle of total quality management (TQM) asserts that quality is everyone's concern involved in the system. All BPS staff should contribute to improve in quality aspect as local small-scale initiatives or through re-engineering project on a large scale. In normal circumstances no one would thinks that quality is their

problem, but there are always important things from everybody to include as part of a quality perspective.

It requires a special unit (the guarantor of the quality of statistical data) capable of monitoring the development of data quality as well quantity. The unit will serve as "internal auditor" that has the duties: to complete and maintain a list of quality monitoring, to design a quality reporting program, to develop a quality control panel indicators (quality dashboards), and to conduct a training quality awareness. All of this become tasks to strengthen the presence of the Quality Unit, and it is believes that the unit is capable of performing the job.

In short, the Quality Unit is responsible for building, maintaining, and developing the quality infrastructure institutions as defined in Stat-QAF. Monitoring of quality should start from the planning phase, preparation of questionnaires, data collection, data processing, data presentation and analysis. Thus, improving the quality becomes an integral part of statistical activities across all working units. Management quality is a work that should and needs to be done continuously. Specifically, the Quality Unit functions include:

a. Preparing quality improvement proposals
b. Developing and maintaining a quality instrument for data-statistics of BPS
c. Providing training of quality awareness
d. Managing the quality assessment, and its control program
e. Improving the performance of quality assurance
f. Maintaining/preserving, and developing the "Statistical *Quality Dashboard*"
g. Maintaining the presence of QAF Stat instrument.

3.4 Environmental Influences on Quality Improvement Efforts

The existence and viability of an organization, in this case BPS, in carrying out the vision and mission to achieve the goal is not independent of the influence of the surrounding environment, whether comes from within (internal) or outside (external) BPS. The effect can be positive or negative, depending on the direction of the issues thrown.

Similarly, efforts to develop the quality of statistical data will not be apart from internal and external influences. Internal effect includes willingness to change the way of thinking, working habits, and relationship between superiors and subordinates. Other internal effects include data condition, limited budget, and time constrained. Outside influences include: statistical data users, the respondent, respondent burden, twin data (same data but produced by others), the quality of secondary data (produced by other party), a good working environment, and encouragement from the highest management body.

To overcome the influence of the environment from within, and outside successfully, it depend on the accuracy of the strategy arranged by BPS with consideration of the existing potential, limitations, and opportunities. The direction of policy and strategy must be transparent and flexible and referring to the long-term of development program, particularly in the field of statistics. Stat-QAF implementation process will be done in stages by considering the two aspects mentioned above. The existence of internal and external aspects are important to be consider because Stat-QAF development not only at the level of central BPS but also at the provincial, and district / city levels. At the end, BPS Stat-QAF will be developed more

at a country level (National Quality Assurance Framework), which covers all official statistics produced by institutions other than BPS. Changes in environmental conditions are unpredictable and will affect the existence of an organization. Environmental influences can come from internal and external, and with it could be positive or negative effects.

BPS Stat-QAF is forward to be further expanded into national scope (National Quality Assurance Framework / NQAF), referred to as "Indonesia NQAF." The framework will also include the quality of all official statistical data that are produced by other institutions than BPS such as: monetary statistics (Bank Indonesia), Ministry of Agriculture, Ministry of Finance, Ministry of Forestry, Ministry of Education and Culture, Ministry of Energy and Mineral Resources and so on. Furthermore, National Statistics System requires the integration and correlation in national development on statistics in a country.

IV. BPS Internal Strategy and Policy on Product Quality

With the establishment of core values and ethical codes of statistics (statistical code of conduct), then further steps that need to be evaluated by BPS are the strategies and building its performance of conducting its own core business. To obtain the quality statistical results, it is necessary to create a balance among vision, mission, core values and statistical code of ethics. Quality aspect is an integral part of a quantity process.

4.1. Emphasis on Quality.

In carrying out its mission, BPS has produced a variety of statistical products in accordance with the needs and demands at the current condition. Routines that are done in achieving the targets set cause the quality to be less important. The development of statistics after a long period of time is more focused on producing variety of statistical data, so now it's time for BPS to focus more on improving the quality as well.

The quality elements contained in any statistical product produced needs to be documented, evaluated; and the measuring instruments are determined as well. Thus, the trend of quality can also be monitored regularly, along with a diversity of statistical products produced.

The establishment of quality statistical output is not only the demand of public but also the demand in increasing the credibility of BPS. Thus the process of development in all sectors can be properly monitored, depicted and measured through statistical approaches.

Quality has an important role in providing security, certainty and comfort of the statistical data generated that will be used publicly for various purposes.

Benefits of the initiative to increase the diversity (quantity) are accompanied by support of data quality. The benefits can be perceived by the public directly if the statistical data produced are fit for purpose with assured quality.

4.2. Quality Management on National Statistical Systems

The issue concerning the demands on the quality of statistical data, more prominent due to an increasing needs of potential users. Improving the quality is also including improvement on how the quality can be monitored, managed and evaluated regularly by trained professionals from a special unit within the BPS.

On the other hand, monitoring and quality improvement should not only apply to basic statistics organized by BPS, but also to the official statistics held by other government agencies or private. The National Statistics System quality is determined by all the official statistics with the quality results. Therefore, quality dimensions used by BPS are also applicable to the compilation of other statistics[11].

Stat-QAF development should be a responsibility of all of us because it will be strengthening the reputation and credibility of BPS, as an institution that has the highest mandate in the preparation of National Statistics System (SSN). Various official statistics issued by the agencies / other government agencies should also integrated in

[11] Sectoral and Special Statistics

supporting the establishment of an SSN as a portrait of a country's development indicators.

4.3 Setting SOP Documents and Implementing Quick Wins

Reform agenda on a phase I (2009-2010) has reached two main targets in an effort to increase the variety and quality of statistical data, including i) mapping the SOP (Standard Operational Procedures) and ii) the acceleration of statistical activities ("Quick wins"). SOP documentation process intended to identify statistical process undertaken by all Subject Matter area (SM) in conducting statistical activities starting from planning stage through to the presentation of data, including a description of linkages with other parties (both internal and external BPS). While "Quick wins" is the acceleration design to be achieved in producing the statistical products available for the current statistical data, including acceleration in the planning of activities, provision of budget, data collection, data processing, data presentation, publication data, including the delivery of information to the public (press release).

4.4. Mapping of BPS Statistical Activities

Targets to be achieved in the second phase of the reform (2010-2014) are to map and evaluate all statistical activities in more detail, and the results will be used as a basis for monitoring and development of Stat-QAF. Statistical data mapping activities will start from the elaboration process of existing meta-data BPS and continuing with the process of documentation. Stages of the process include Recognizing/Identifying, Classifying, Structuring, Processing and Computing, Analyzing, Reporting and Publishing. "Mapping of statistical activities" intended to create a detailed and complete

documentation on products of BPS, compiled through a variety of statistical process. According to the statistical regulations, there are about 54 types of basic statistics that BPS must conduct. The lack of the information on BPS metadata causes the mapping that need to be performed. Furthermore, the "track record" of statistical activities is useful to recognize the balance between quantity and quality of data. It is also helpful for the development of quality statistical data management. These activities are not limited to the national level but also all statistical activities at the provincial and district / regency.

4.5. Formulating BPS Stat-QAF and Its Guidelines

Monitoring quality through the development of quality management in the activities of Stat-QAF is important and urgent, because of the availability of data-quality statistics should be a commitment of all officials of BPS. Statistics with high quality are statistics that can meet the standard rules and can serve the needs of the community, according to the criteria of statistical data quality dimensions. Thus, Stat-QAF as the quality framework will serve as a place of ratification (clearing house) where a variety of statistical data will be evaluated, arranged, described and organized before it is distributed.

To obtain optimal results, the implementation strategy should be designed to set priorities and sequences of operational steps. The process includes the designing of working formats, preparation of technical manuals (guidelines), creating the template of framework, staff training, as well as the implementation stage. It is necessary to compose the Stat-QAF in the form of technical guidance in the process of statistical data quality management as well as in the operational procedures.

4.6. New Unit for Quality Issues

New working unit with professionals who are qualified in the matter of quality needs to be established, with the functions of monitoring and evaluating the quality of statistical data periodically. The unit can be set under the Deputy for Methodology, Deputy for National Account and Statistics Analysis, Inspectorate, or Principal Secretary (Bureau of Program Management). Personnel involved in the unit must have comprehensive understanding in quality and are able to maintain good working relationships with all parties involved (stakeholders) in generating statistics. The tasks will strengthen the presence of the unit itself.

In addition, the unit will also be assigned to prepare and establish "Key Performance Indicators" as a comparative measure of performance, which will be inputted in the preparation of "BPS Statistical Dashboard". As a statistical control panel, it will contain the institutional profile of BPS with a range of statistical products produced, and its statistics characteristics presented in standard format. From the media it can also be seen the relationship between various statistical products either directly or indirectly in a system of statistical data, as the ultimate goal in building the "Consolidation and Integration Statistics".

4.7 Development of Statistical Quality Management Information System

Statistical Quality Management Information System (Stat-QAF MIS) is developed with the appropriate application of information technology. The system explains how BPS manage its statistical information on the basis of information technology.

Availability of the device of information technology would be useful to improve the documentation, monitoring and evaluation mechanisms in BPS statistics, in terms of quantity and quality. All the organization of statistical quality information will be displayed in the "dashboard" of Stat-QAF.

Moreover, improving the statistical quality of BPS is focused on increasing the research and development roles, as well as technological innovation so that the results become more dynamic. The establishment of a network of IT-based work environment that facilitates virtual communication among the units is expected to further boost awareness of the importance of quality.

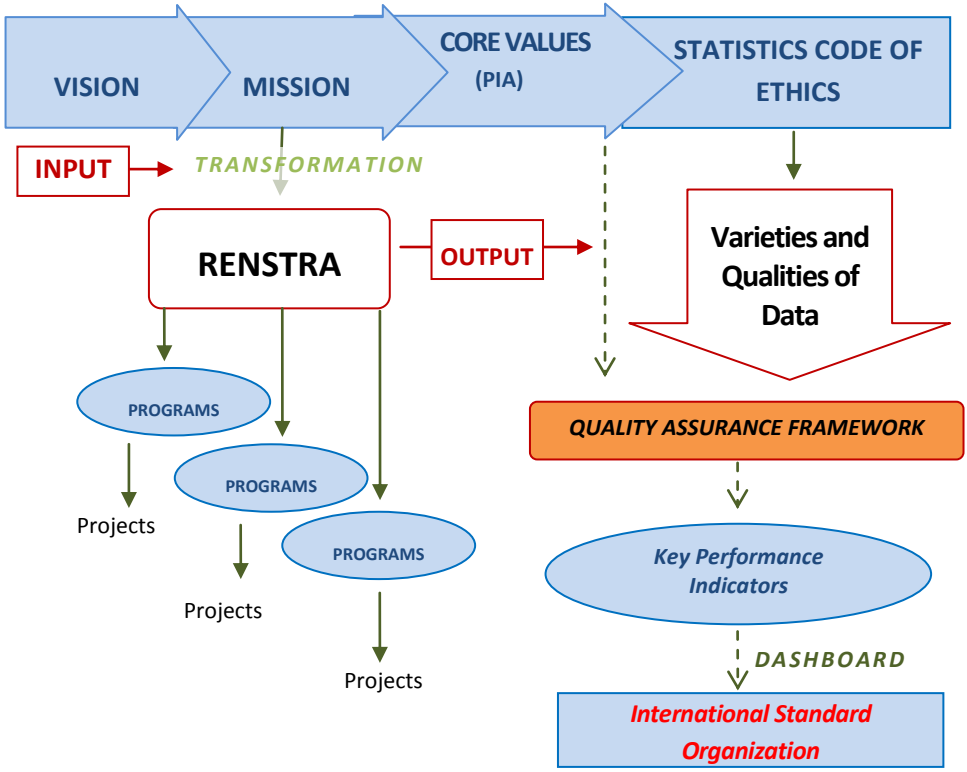
4.8. International Standard Organization (ISO) Certificate

Based on practical experience, the long-term need for BPS to look for opportunities to gain professional recognition at the international level is in the form of the certificate of ISO (International Standards Organization) which is the world recognition of the achievability in the management with internationally standardized concepts. In addition to the role of management, the certification can indicate the competence and competitiveness of BPS' statistical products at global level.

The acquisition of the certificate means that statistical activities carried out and developed by BPS is definitively able to meet the standards of quality management or international-level quality. Thus, documentation activities are needed in describing the record of the compilation of a wide range of statistical data in clear and transparent process. Meanwhile, measuring tools called Key Performance Indicators (KPI) are used to observe the changes in statistical data. The instruments, which are the universal standard,

make it possible to perform statistical quality comparison across countries or regions.

In the end, equipped with the spirit of statistical reform, the development of statistical data at BPS should cover both quantities but quality aspects. Quality assurance will be the "entry points" for BPS to become more credible and accountable at the regional, national, and international levels. Departing from the Vision and Mission that are based on core values and code of conduct of statistical organization, it is a possibility for the BPS someday is able to obtain the ISO certificate, as a form of recognition of the profession of statistics.



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