Statistical Capacity Building (StatCaB) Programme

Statistical, Economic and Social Research and Training Centre for Islamic Countries (SESRIC)

Statistics Course on Methodologies and Best International Practices for Conducting Household Expenditure Survey

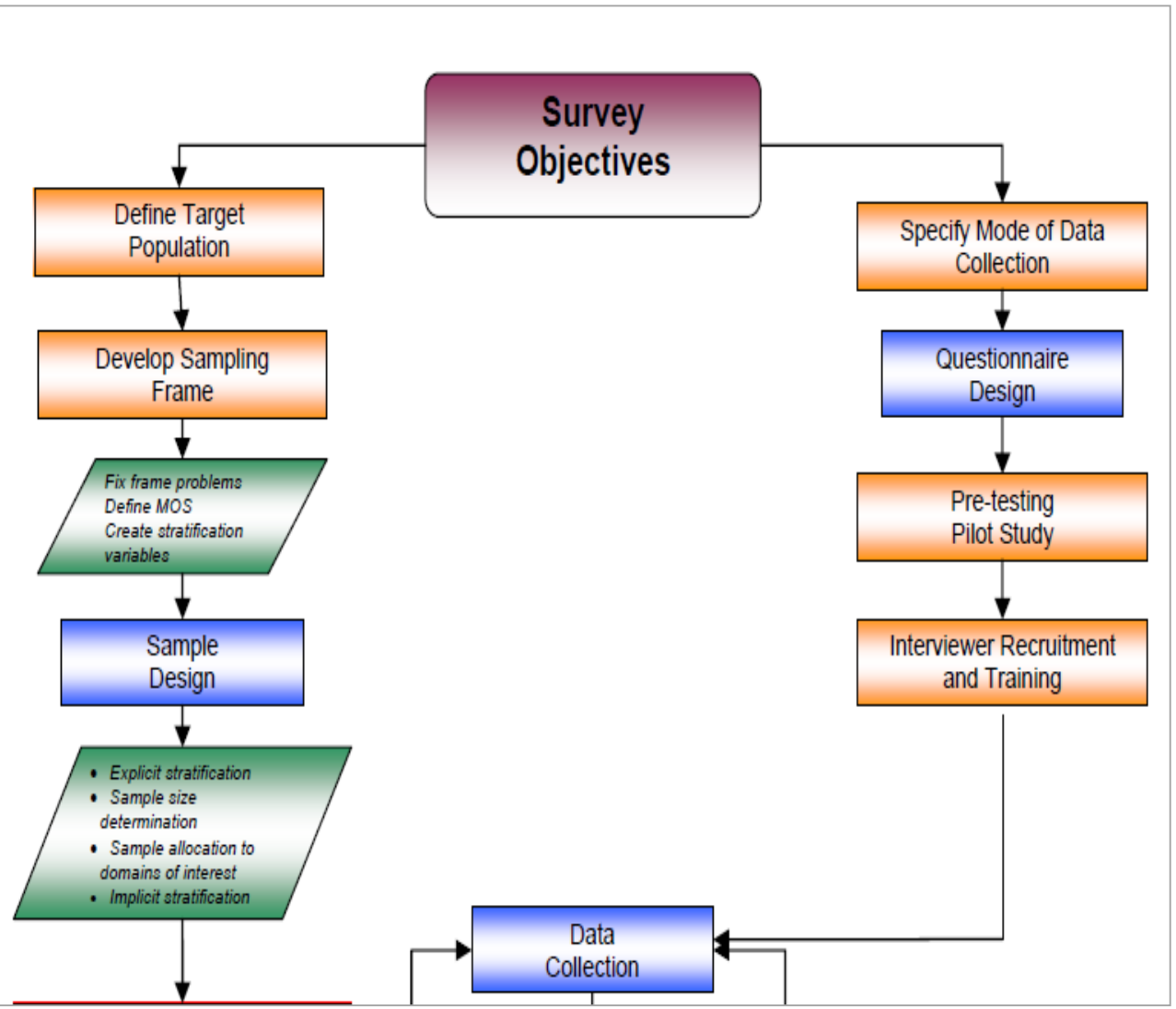
~ UN Recommendation & Quality Assurance ~

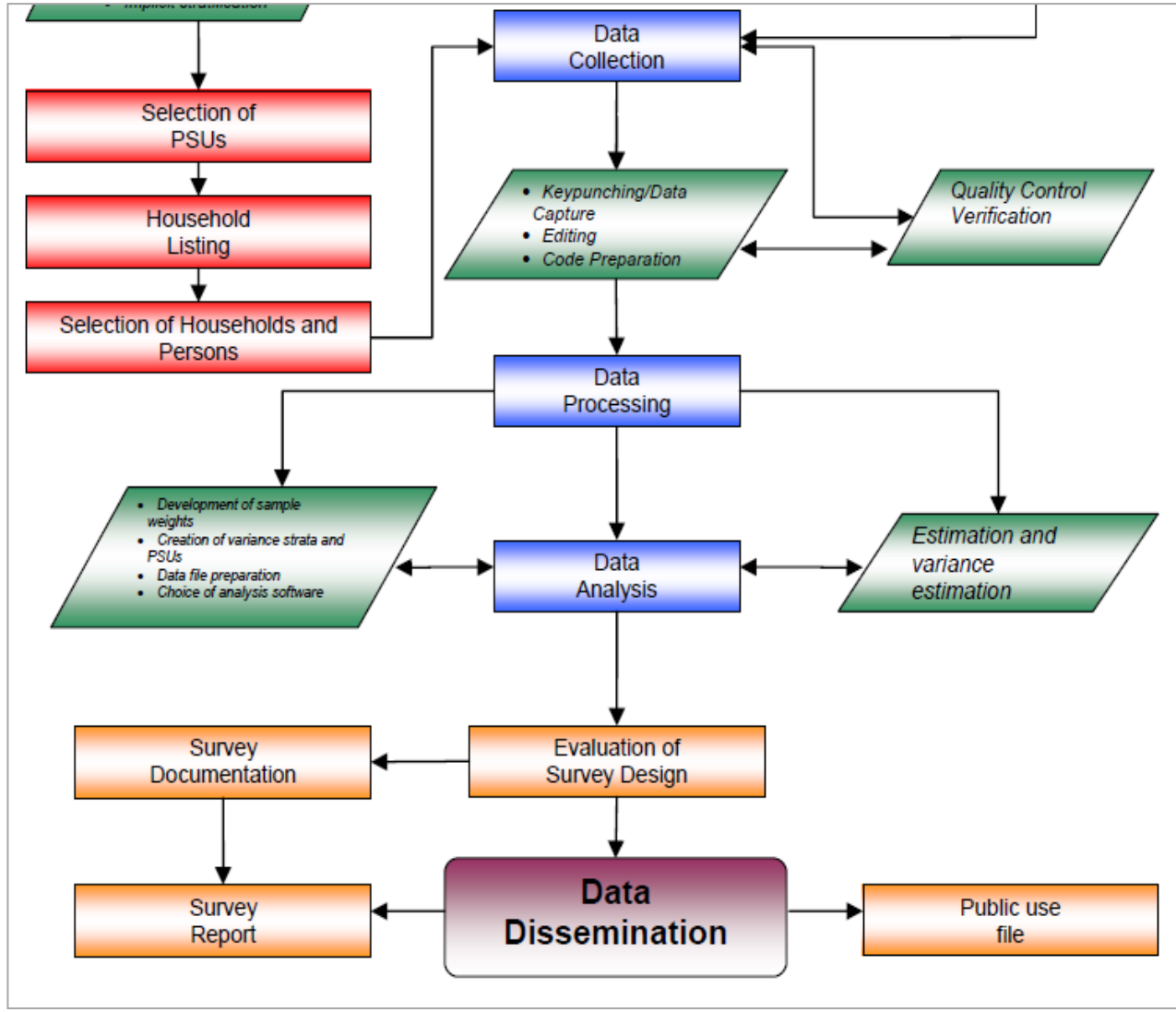
8-10 APRIL 2019 | BANDAR SERI BEGAWAN, BRUNEI DARUSSALAM

OUTLINE

- UNSD
- FOOD CONSUMPTION
- GSBPM/QAF

FLOW CHART OF THE SURVEY PROCESS





Source: Household Sample Surveys in Developing and Transition Countries, Series F No.96, United Nations, New York , 2005

INCOME COMPONENTS

		Conceptual definition
1		**Income from employment**
	a	**Employee income**
		Wages and salaries
		Cash bonuses and gratuities
		Commissions and tips
		Directors' fees
		Profit-sharing bonuses and other forms of profit-related pay
		Shares offered as part of employee remuneration
		Free or subsidised goods and services from an employer
		Severance and termination pay
		Employers' social insurance contributions
	b	**Income from self-employment**
		Profit/loss from unincorporated enterprise
		Goods and services produced for barter, less cost of inputs
		Goods produced for own consumption, less cost of inputs
2		**Property income**
	a	Income from financial assets, net of expenses
	b	Income from non-financial assets, net of expenses
	c	Royalties
3		**Income from household production of services for own consumption**
	a	Net value of owner-occupied housing services
	b	Value of unpaid domestic services
	c	Value of services from household consumer durables

Source: Canberra Group Handbook on Household Income Statistics, Second Edition 2011, United Nations

INCOME COMPONENTS (cont.)

4	**Current transfers received**
a	Social security pensions / schemes
b	Pensions and other insurance benefits
c	Social assistance benefits (excluding social transfers in kind, see 10)
d	Current transfers from non-profit institutions
e	Current transfers from other households
5	**Income from production (sum of 1 and 3)**
6	**Primary income (sum of 2 and 5)**
7	**Total income (sum of 4 and 6)**
8	**Current transfers paid**
a	Direct taxes (net of refunds)
b	Compulsory fees and fines
c	Current inter-household transfers paid
d	Employee and employers' social insurance contributions
e	**Current transfers to non-profit institutions**
9	**Disposable income (7 less 8)**
10	**Social transfers in kind (STIK) received**
11	**Adjusted disposable income (9 plus 10)**

Source: Canberra Group Handbook on Household Income Statistics, Second Edition 2011, United Nations

EXPENDITURE COMPONENTS

Jabatan Perangkaan MALAYSIA

12	**Household consumption expenditure, value of goods and services acquired including:**
a	**Direct monetary purchases in the market**
b	**Free or subsidised goods and services from an employer (component of 1a)**
c	**Goods and services received from bartering (component of 1b)**
d	**Goods produced for own consumption (component of 1b)**
e	**Own account production, i.e. production within the household including:**
	Gross owner-occupied housing services
	Unpaid domestic services (equal to 3b)
	Services from consumer durables (equal to 3c)
13	**Social transfers in kind (equals 10)**
14	**Actual final consumption (sum of 12 and 13)**
15	**Non-consumption expenditure**
a	Direct taxes (net of refunds) (equal to 8a)
b	Compulsory fees and fines (equal to 8b)
c	Current transfers to other households (equal to 8c)
d	Employee and employers' social insurance contributions (equal to 8d)
e	Current transfers to non-profit institutions (equal to 8e)
f	Interest payments on consumer credit[1]

16	**Household expenditure (sum of 12 and 15)**
17	**Household saving (7 less 16)**
18	**Capital transfers received**
a	Lump sum inheritances
b	Lump sum retirement payouts
c	Life insurance claims less premiums
d	Other windfall gains
19	**Capital transfers paid**
	Tax on inheritances
	Taxes on wealth, including taxes on holding gains and losses
20	**Net accumulation of capital (17 plus 18 less 19)**
21	**Memorandum item: Holding gains and losses**

Source: Canberra Group Handbook on Household Income Statistics, Second Edition 2011, United Nations

Statistical Commission
Forty-ninth session
6 – 9 March 2018
Item 3(j) of the provisional agenda
Agricultural and rural statistics

Food data collection in household consumption and expenditure surveys (guidelines for low- and middle-income countries)

Prepared by the
Inter-Agency and Expert Group on Food Security, Agricultural and Rural Statistics

Final version -February 22, 2018

❑ The main vehicle used to collect information on food consumption for these purposes are household consumption and expenditure surveys (HCES). However, current practices for collecting consumption data differ widely across types of surveys, between countries and over time, compromising both the quality and comparability of resulting data and measures.

❑ In the interest of improving food consumption measures, and to ensure that data collected respond to the needs of a wide range of users, several development partners have come together around a common agenda aimed at harmonizing practice and recommendations for design of food consumption modules in HCES.

Taking stock of current practices

❑ In 1990, the World Development Report published by the World Bank was based on data from only 22 countries (hhold consumption & expenditure data), and no country had more than one survey (Jolliffe et al., 2014). Today, there are at least 137 countries with consumption or expenditure information, and many of them have multiple surveys, adding to a total of more than 845 surveys.

❑ The UN Statistical Commission (UNSC) endorsed, in 2012, the creation of the Inter-Agency and Expert Group on Agricultural and Rural Statistics (IAEG), as part of the governance Framework of the Global Strategy to Improve Agricultural and Rural Statistics (GS), with the mandate of "guiding methodological developments in statistics for food security, sustainable agriculture, and rural development" (UNSC, 2012: p.10). In the spirit of this mandate, a workshop was convened in Rome in November 2014 bringing together experts in the measurement of food consumption derived from HCES.

❑ The workshop presented the latest methodological developments, discussed the main limitations in current practices, and identified priority areas for future research. Following this workshop another expert consultation took place in November 2016 in Rome to discuss possible guidelines and form a first set of recommendations. A first draft of the present guidelines document was then discussed by the members of the IAEG-AG and presented in an Open Seminar during the 48th Session of the UN Statistical Commission in New York in March 2017.

GUIDELINE IMPROVING SURVEY DESIGN

- ***Recall vs diary, and length of reference period.*** HCES should adopt a 7-day recall period for food consumption measurement. In low- and middle-income countries recall surveys are generally preferable to diary surveys which should only be deployed with careful and continuous supervision and should not exceed 14 days. While a *well-implemented* diary is generally held as the gold standard for food expenditure data collection, there is ample evidence that in low-income settings with a prevalence of illiterate respondents, diaries are often implemented as a series of short recall interviews, with issues of respondent and enumerator fatigue affecting data quality, and with unsustainable implementation costs. Any change in the recall period or method should be accompanied by an experimental component that assesses the impact of methodological changes on survey estimates and enables temporal reconciliation.

- ***Seasonality and number of visits***. HCES surveys should spread data collection over time in order to capture seasonal variation in food consumption and expenditure patterns. Two main approaches can be adopted: one visit per household and split the sample over 12 months or conduct two visits per household over 12 months.

- ***Acquisition and consumption***. HCES should collect data on all the main modes of acquisition (food purchases, own production and food received in-kind) and make it clear to respondents, enumerators, and data users whether the survey is collecting data on food acquisition and/or food consumption (with or without waste). Survey design should avoid sources of incomplete or ambiguous enumeration (e.g., food consumed from own production vs food harvested; routine month vs. specific months; rule-out leading question).

pages 7-9

- ***Meal participation***. Information should be collected on the number of meals and the number of individuals (household and non-household members) who participated in each meal. It is recommended that all HCES should consider adding an individual household member-based meal module.

- ***List of food items***. Data should be collected on all types of foods and beverages that make up a country's human diet. Lists should be kept up to date to take into account changes in dietary habits and should be drawn having in mind that products that account for minimal budget shares can have particular nutritional values. A list of general principles that can guide the design of a food list is included in the guidelines, and includes the following criteria:
    - Ensure that survey food lists are sufficiently detailed to accurately capture consumption of all major food groups making up the human diet. To facilitate data integration and analysis, the categories used in COICOP, FoodEx2 but also in food composition tables, should be considered;
    - Include exclusively food (no other commodities);
    - Processed foods (from moderately to highly processed) need to be adequately represented;
    - All food groups need to be represented and include a reasonable number of food products;
    - Broad categories (such as fish, meat, fruits, vegetables) should be avoided and for each basic food group list most common items and add "other" category as needed. Items from subsidized programs, food fortification programs, and micronutrient rich foods should be listed individually.

pages 7-9

- ***Non-standard units of measurement.*** Surveys should allow respondents to report in both standard and non-standard units (NSU), according to what they are most familiar with for each item reported.

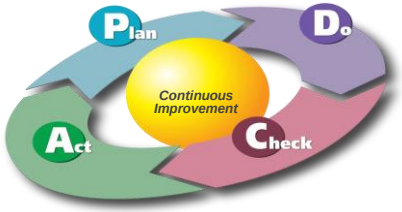
  It is critical to establish (define or collect) conversion factors for all NSUs that will be used. Additional features to improve the accuracy of reported NSU quantities – such as market surveys to establish accurate NSUs and conversion factors, photo reference aides, and on-the-spot value verification using Computer Assisted Personal Interviewing (CAPI), may also be considered. NSOs and implementation partners should work together to establish NSU databases that can be used across surveys, effectively increasing the standardization of the units while also limiting the cost of their implementation. To this end, survey implementers should thoroughly document all NSU protocols and related conversion factors and make them publicly available.

pages 7-9

- ***Food away from home***. The practice of collecting food away from home (FAFH) information with just one question should be discontinued. The importance of FAFH warrants the design of a separate module, based on a clear definition of FAFH. In particular, surveys should be clear in identifying how to collect information on potentially ambiguous categories of food: "food prepared at home and consumed outside" and "food prepared outside and consumed at home". The latter can be integrated in the food at home module (e.g. take-out food) provided there is clarity to enumerators, respondents and data users that that is the case.

pages 7-9

Generic Statistical Business Process Model (GSBPM)

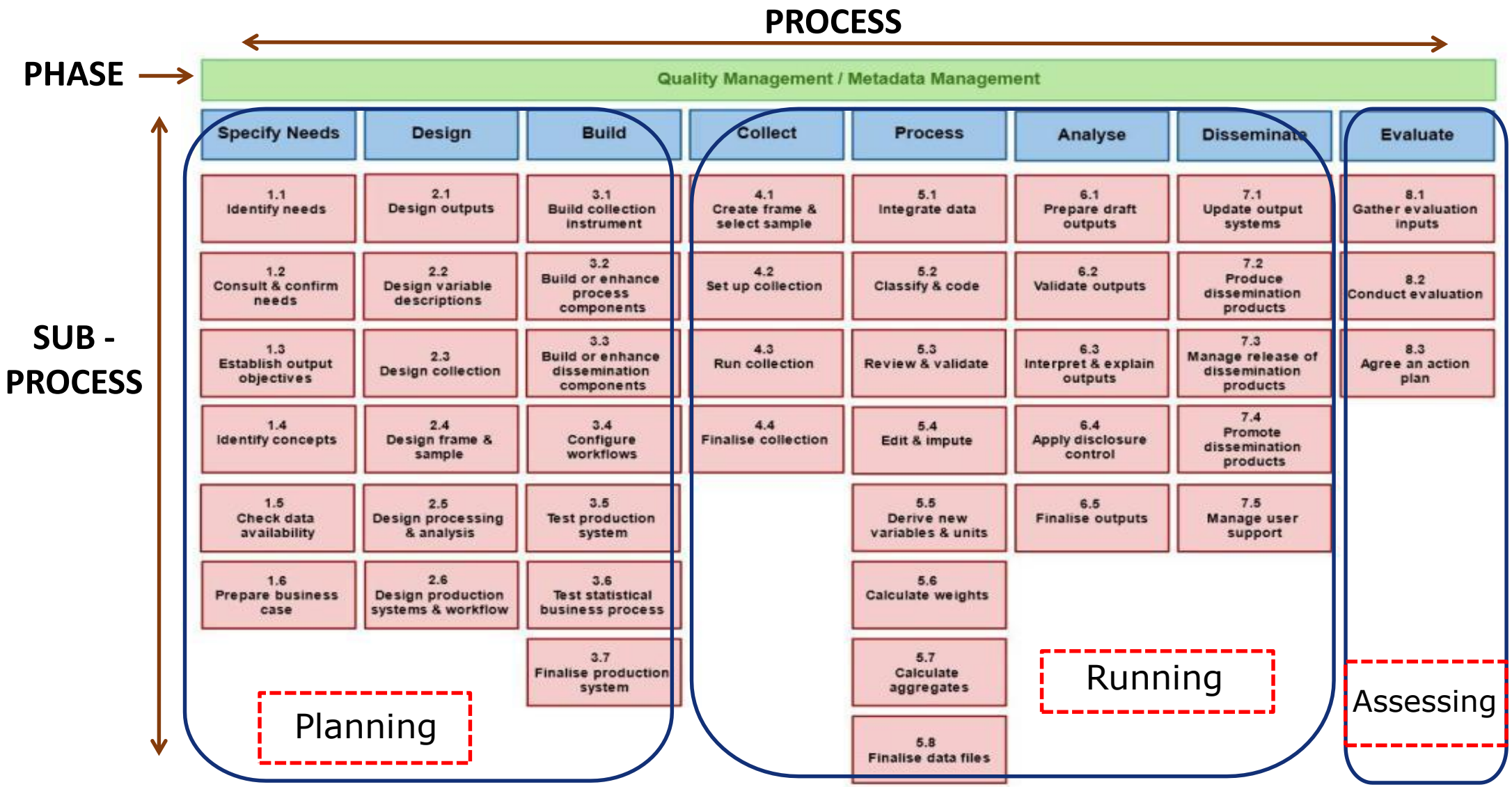


What is GSBPM?

The Generic Statistical Business Process Model (GSBPM) is an international standard that can be used to document any kind of official statistics business process, from the more traditional survey to the administrative data acquisition or to the statistical compilation

http://www1.unece.org/stat/platform/display/GSBPM/GSBPM+v5.0

STRUCTURE OF GSBPM

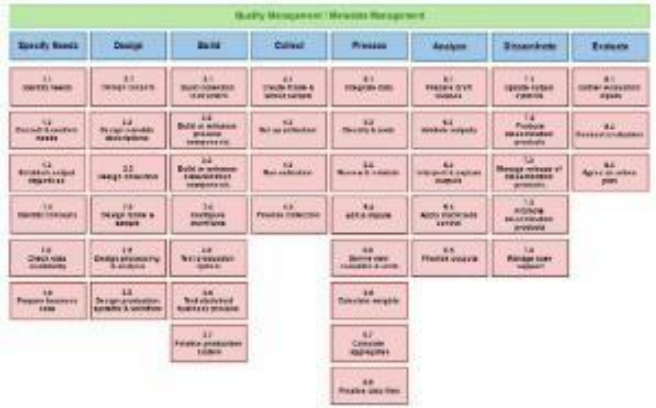


GSBPM Applicability

"The GSBPM is intended to apply to all activities undertaken by producers of official statistics, at both the national and international levels, which result in data outputs"

- ✓ Surveys
- ✓ Censuses
- ✓ Processes based on administrative records
- ✓ Processes based on other non-statistical sources
- ✓ Processes based on mixed sources
- ✓ Revision of existing data
- ✓ Re-calculation of time-series
- ✓ Compilation of National Accounts
- ✓ Processes of international statistical organisations
- ✓ Development and maintenance of statistical registers

The GSBPM



Key features

- Sub-processes do not have to be followed in a strict order
- Some sub-processes may be skipped, some sub-processes may be revisited a number of times forming iterative loops, (e.g. *Process* and *Analyse* phases).
- It is a matrix through which there are many possiblepaths

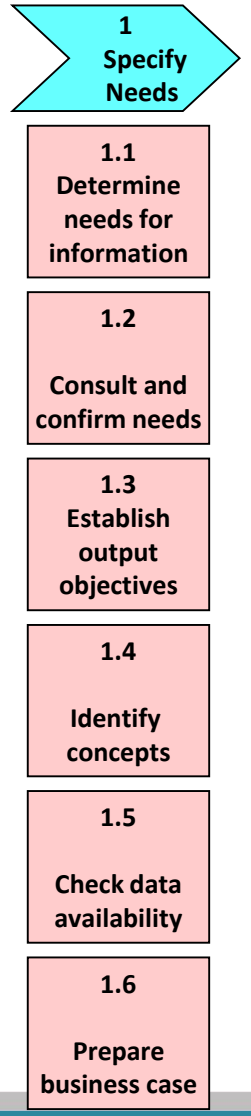
Overarching processes

- Statistical component and more general ones

  quality and metadata management

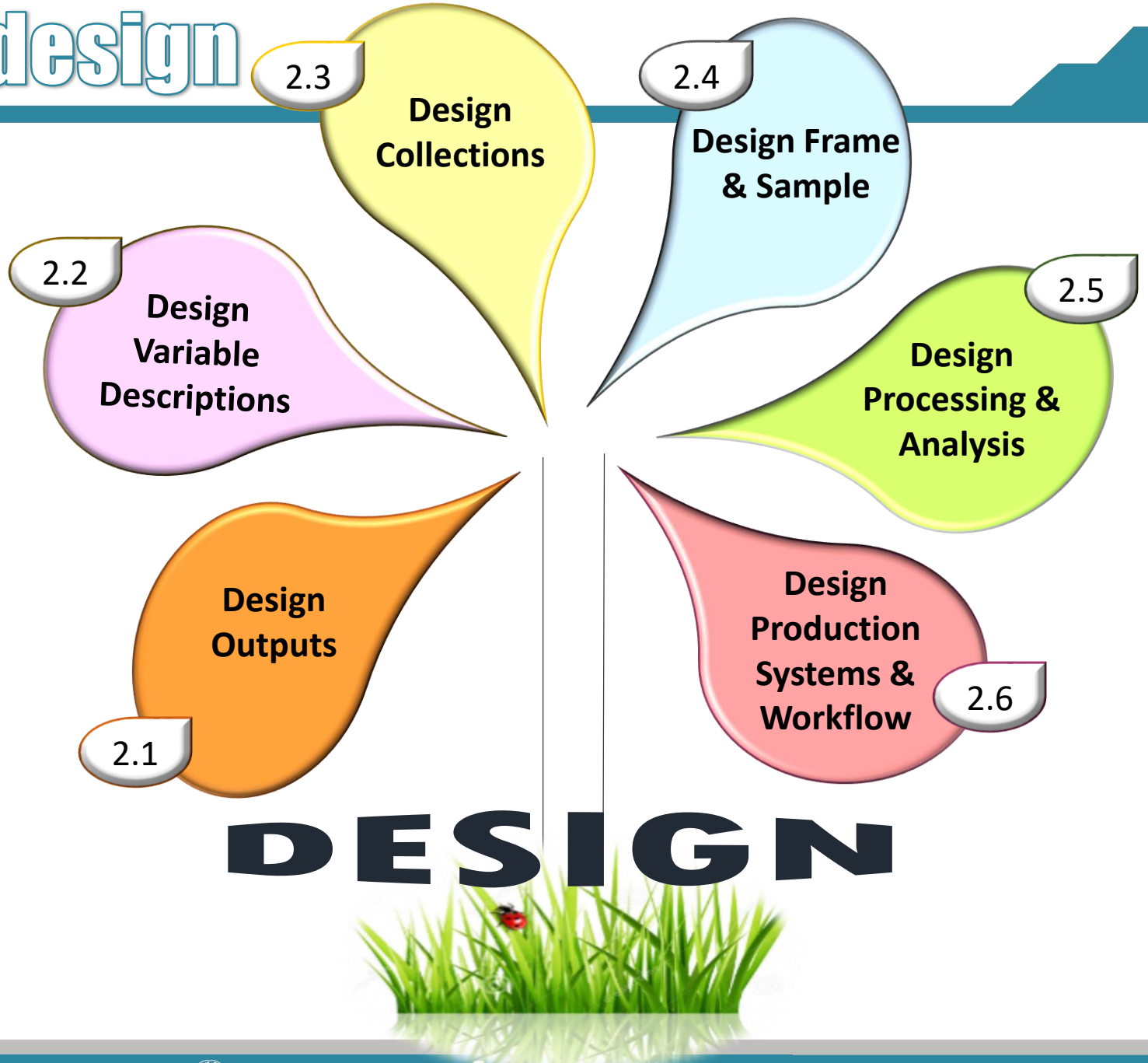
PLANNING – specify needs

Generic Statistical Business Process Model



- Needs for information identified and determined by Subject Matter Division (SMD) concerned, align with international practices
- Users and stakeholders requirement taken into account. Main stakeholders for MM statistics – MITI, EPU, SMIDEC, MIDA, BNM
- Concepts identified are internationally comparable, revised when necessary – to ensure align with international standards. These include definitions, codes (MCPA, MSIC) and manual (e.g. SNA)
- Checking and assessment on data gaps and availability done regularly based on user requirements
- Business case prepared align with the monitoring and quality assurance policy (Malaysia Standard (MS) of ISO 9001:2008)

PLANNING – design



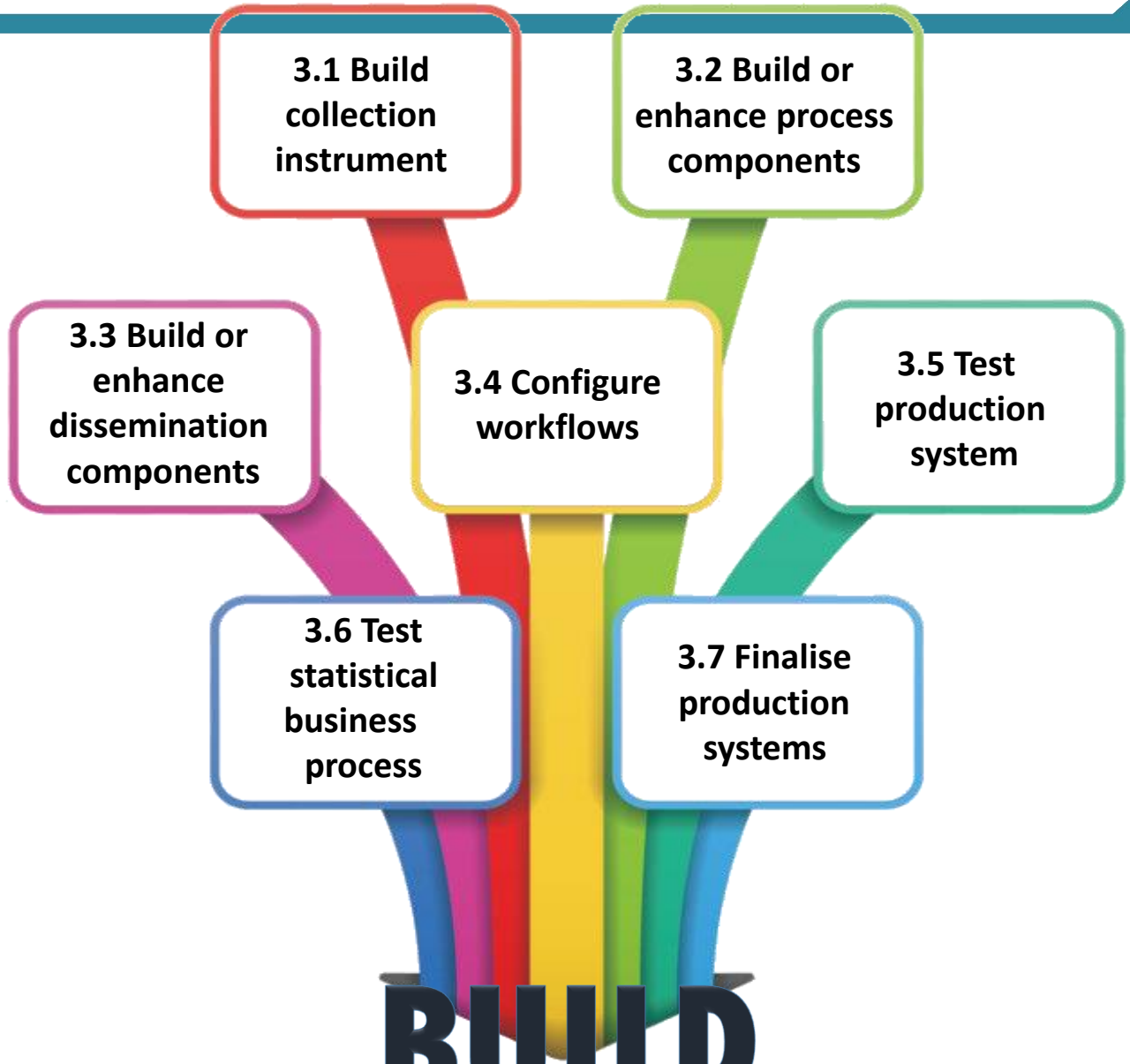
Generic Statistical Business Process Model

2 Design

- **2.1 Design outputs**
- **2.2 Design variable descriptions**
- **2.3 Design data collection methodology**
- **2.4 Design frame and sample methodology**
- **2.5 Design statistical processing methodology**
- **2.6 Design production systems and workflow**

- Detailed design of the statistical outputs to be produced
  - Functional Design Specification (FDS).
- Variable descriptions – determined by SMD, follow international standards
- Sub-processes 2.3 - identified and determined by SMD – questionnaire (face to face interview) and e-survey (online data entry)
- Population of interest identified and specified by Methodology Management Division. Frame sources from business registers, census and sample surveys.
- Sub-process 2.5 – specifications prepared by SMD
- Production systems and workflow – implemented and documented align with MS ISO 9001:2008 requirement

PLANNING – build



Generic Statistical Business Process Model

3 Build

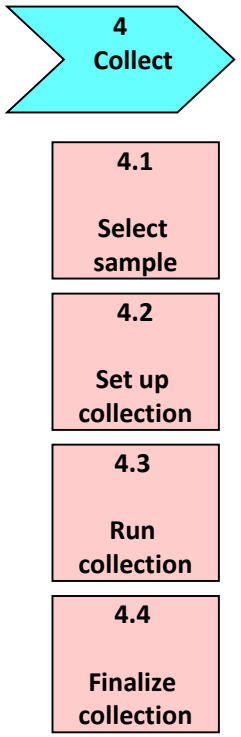
- **3.1 Build data collection instrument**
- **3.2 Build or enhance process components**
- **3.3 Build or enhance dissemination components**
- **3.4 Configure workflows**
- **3.5 Test production system**
- **3.6 Test statistical business process**
- **3.7 Finalize production system**

- Data collection instrument built based on specifications created during phase 2 (Design). Multiple modes of data collection used – questionnaire : face to face interview, facsimile, e-mail and e-survey.
- Enhancement of existing system occurs in NEWSS Phase III, includes Force Accept Report, Question 2 Layout display, time out session for e-Survey & Flow Registration for e-Survey.
- Workflows configured include all activities – from data collection, right through to archiving the final statistical outputs.
- Testing of computer systems and tools conducted thoroughly to ensure the interactions between modules involved works as a coherent set of modules.
- Comprehensive documentation (URS, BP, FDS) accessible easily by users through intranet.
- Training on how to operate the system conducted for all users (internal and external).

COLLECT


4.1
Create frame and select sample
4.2
Set up collection
4.3
Run collection
4.4
Finalise collection

Generic Statistical Business Process Model



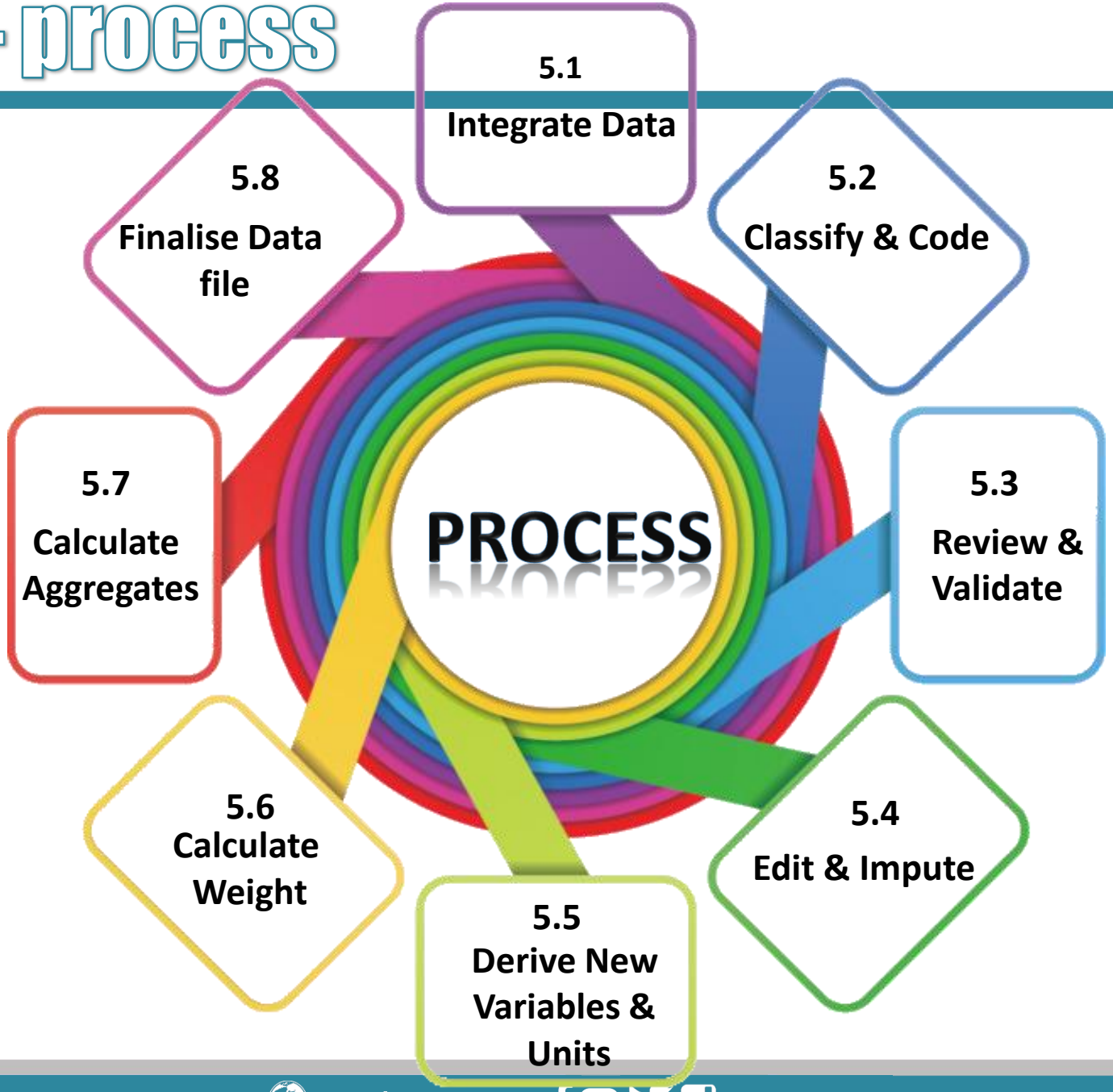
- Sample selected from business frame established in sub process 2.4 (Design frame and sample methodology). Compliance with MS ISO procedures : Technical Instructions (JPSP-AK-PP-02)

- Strategy, planning and training activities prepared and conducted in compliance with MS ISO procedures (JPSP-PK-04 & JPSP-AK-SPB-01)

- Data Collection monitored through Operational Information Control (MKO) module where response rate and data collection mode reported at real time basis. Records of when and how providers were contacted are also included.

- Data collected stored automatically in the system for further processing phase. However, metadata are stored in different module. Data entry either done manually or via e-survey.

RUNNING – process



Generic Statistical Business Process Model

5 - Process

5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8
Integrate data	Classify and code	Review, validate and edit	Impute	Derive new variables and statistical units	Calculate weights	Calculate aggregates	Finalize data files

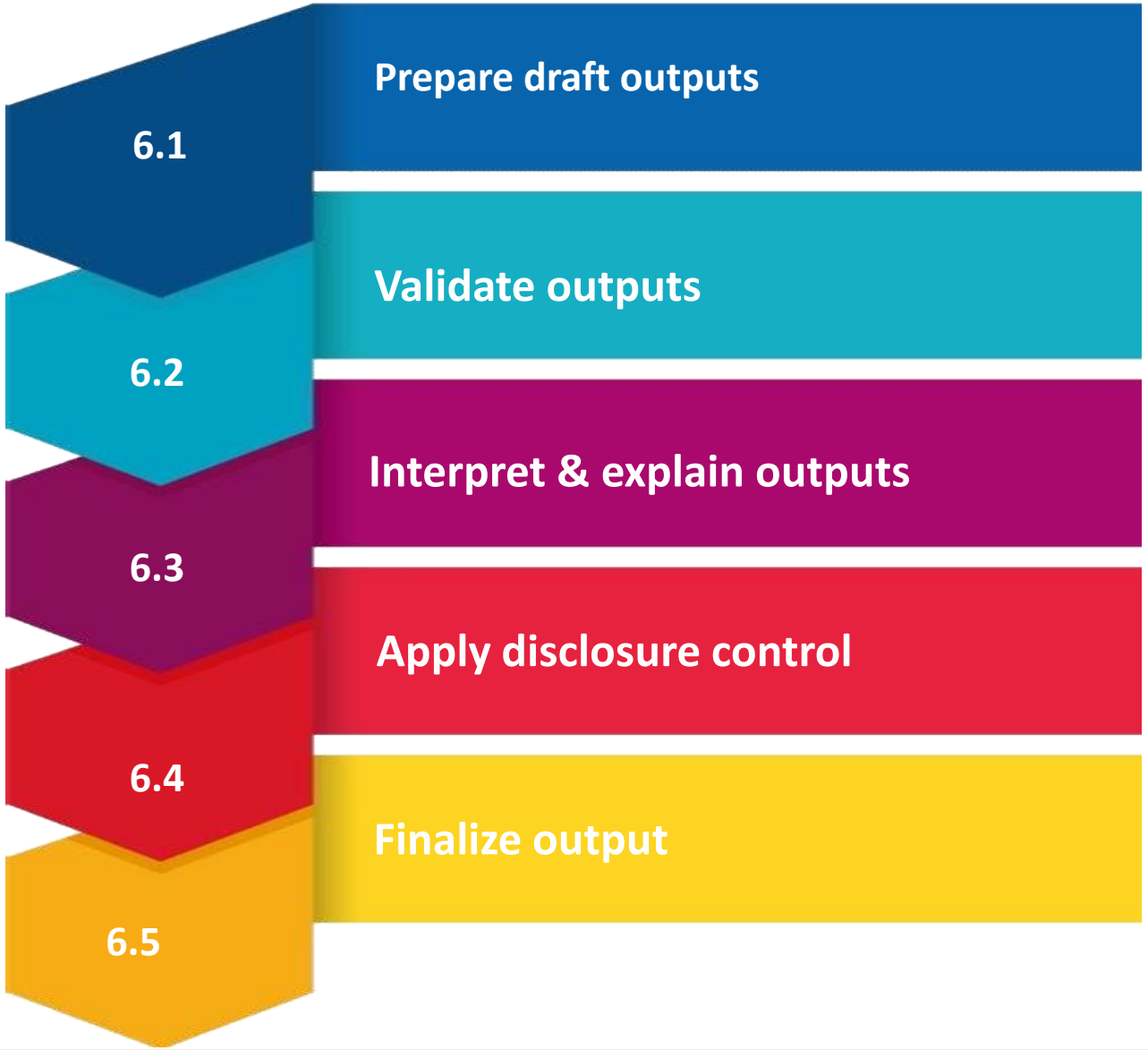
- Data collected via paper questionnaires and e-survey are matched and linked automatically in the system. The process takes place at real time based, regardless of whether the data collection has been completed or not.

- Input data classified and coded within the system, where coding routines done according to a pre-determined classification scheme prepared by the SMD.

- Errors and data discrepancies (outliers, non-response & miscoding) identified and validated within the system, run iteratively based on predefined edit rules.

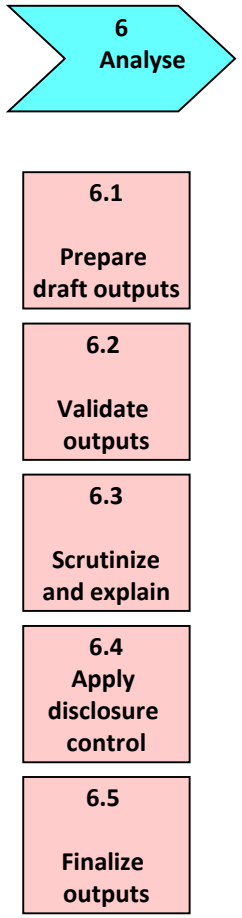
- Imputation routines done automatically by the system for non-response cases, according to pre-defined methods. Imputed cases are flagged by the system.

RUNNING – analyse



ANALYSE

Generic Statistical Business Process Model



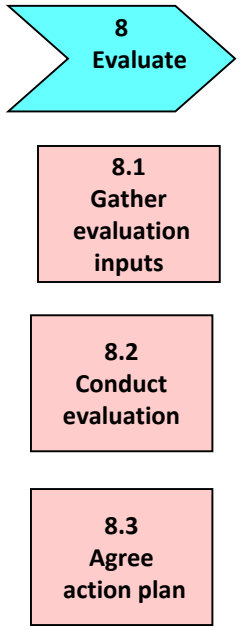
- Data collected transformed into statistical outputs, to indicate the latest trends of manufacturing sector and compiled for the production of Industrial Production Index.
- SMD responsible in validating the outputs produced, in accordance with the Quality Check procedures described in the MS ISO 9001:2008 quality document (JPSP-06-AK-SPB- 01 & JPSP-06-AK-SPB-02).
- Improvement in carrying out in-depth statistical analysis is an essential aspect to be taken into account especially in assessing how well the statistics reflect the initial expectations.
- Data Dissemination Policy and Statistics Act established for the purpose of protecting the confidentiality of the data and metadata released.
- Output finalized after the completion of relevant processes (consistency checks, determine level of release, collating supporting information, etc) and reached the required quality level.

ASSESSING – evaluate

EVALUATE

- 8.1 Gather evaluation inputs
- 8.2 Conduct evaluation
- 8.3 Agree an action plan

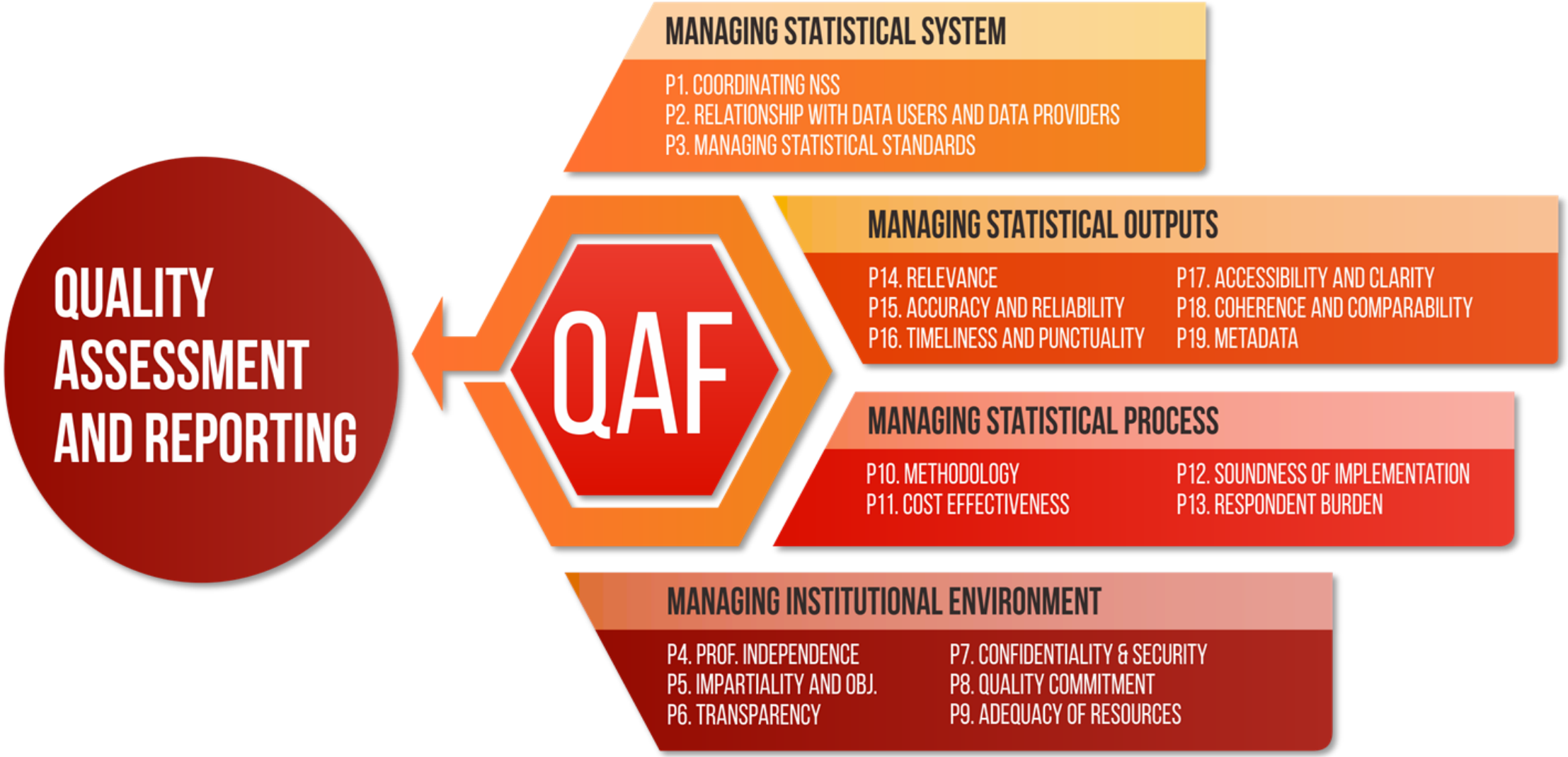
Generic Statistical Business Process Model



- Evaluation inputs include feedback from users, staff suggestions and also internal auditor and SIRIM (Standards & Industrial Research Institute of Malaysia)
- Audit Committee was formed to monitor the quality of all statistical business process involved in producing the outputs
- The evaluation report will become the basis for decision-making power to form and agree an action plan. Corrective action and improvement plan must be included into consideration as a mechanism of monitoring the quality of the outputs

Generic National Quality Assurance Framework - UNSD

Four components of Quality Assurance



IMPLEMENTATION STRATEGY

HIES/BA 2019 FRAMEWORK

Specify needs
Design
Build
Collect
Process
Analyse
Dissemination
Evaluation

Generic Statistical Business Process Model **(GSBPM)**

01 Preparatory Work

- **i. Administration, finance and publication**
- **ii. Household framework update**
- **iii. Survey instrument/ pre-test**
- **iv. Field enumerator**
- **v. Publicity**

02 Enumeration

- i. Face-to-Face Interview
- ii. Training / Briefing
- iii. Data collection
- iv. Quality control

03 Data Processing and Databases

- **i. Data Capture system**
- **ii. Processing and data analysis**
- **iii. Processing specification/ quality**
- **iv. Data quality control by state office**
- **v. StatDW – data warehouse**

04 Dissemination

- i. Published report
- ii. Data communication (Social media: Facebook/ Twitter/ Instagram/ Whatsapp
- iii. Data visualization
- iv. Table/ geospatial format

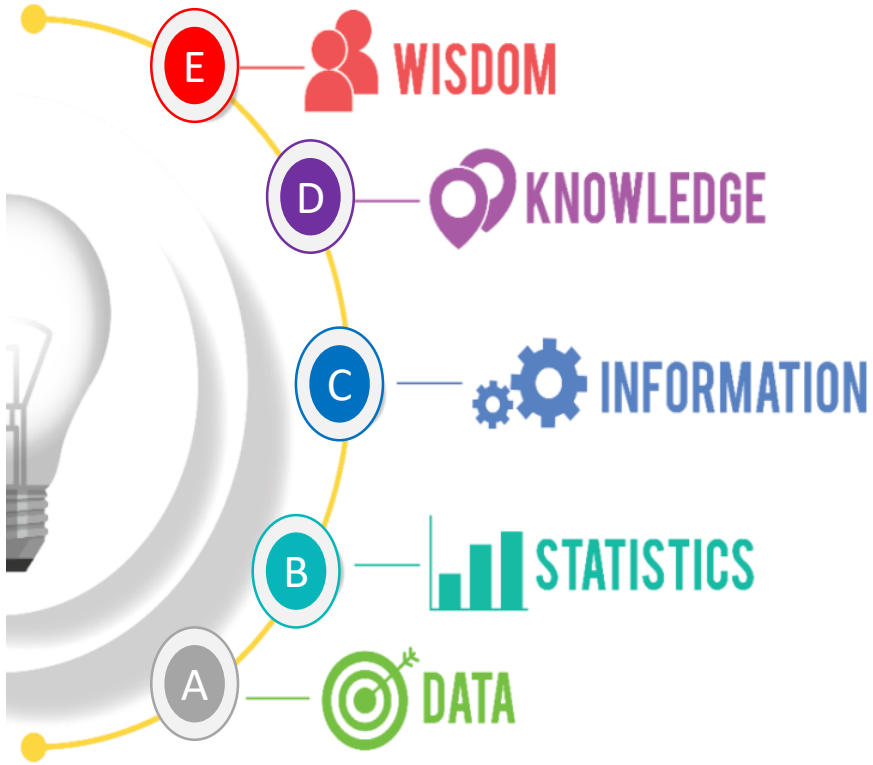
05 Evaluation

- **i. Data quality analysis by round**
- **ii. Survey's post-mortem**

Basic Principle of Official Statistics

Jabatan Perangkaan MALAYSIA

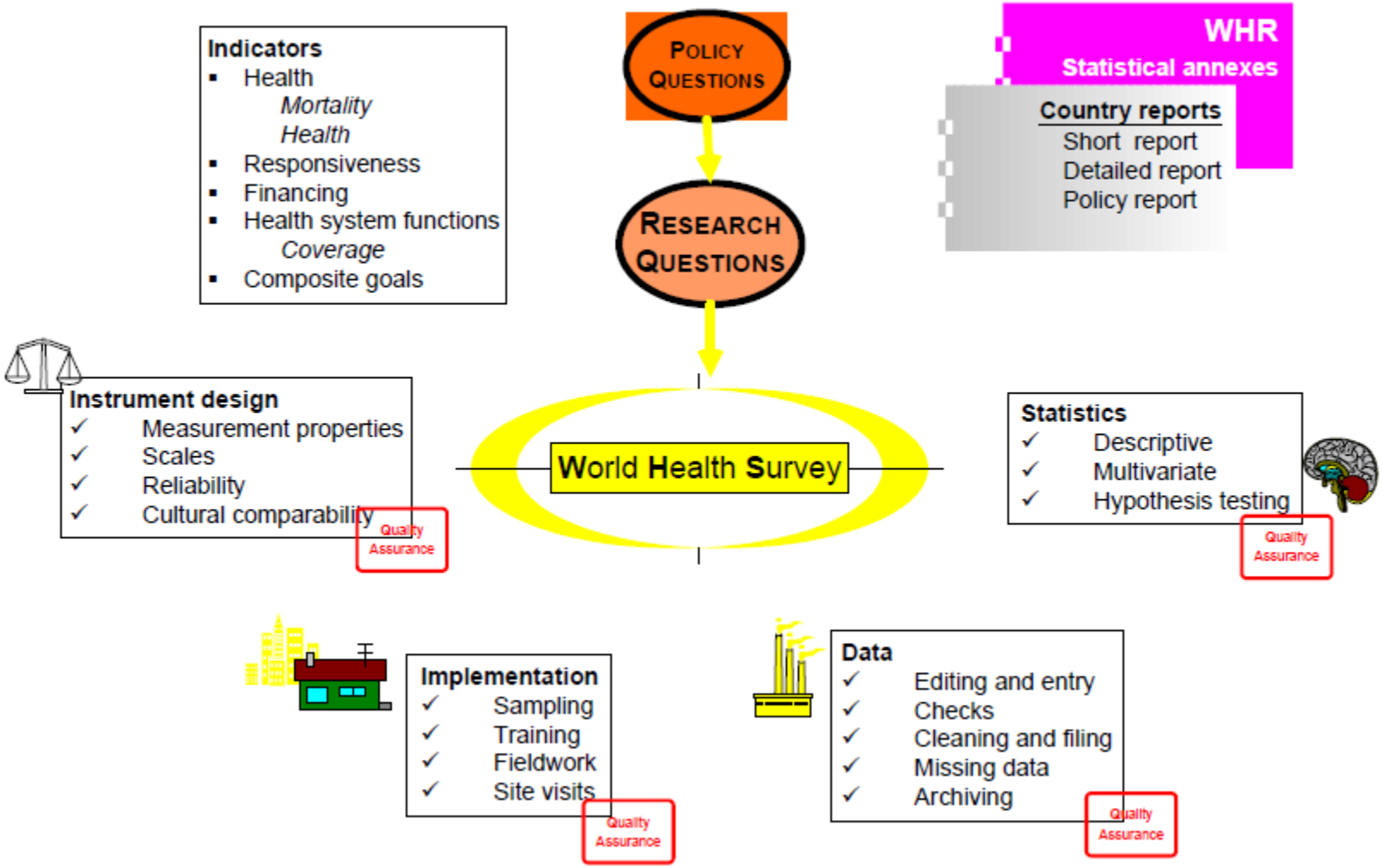
United Nations Fundamental Principles Of Official Statistics (UNFPOS)



FUNDAMENTAL PRINCIPAL OF OFFICIAL STATISTICS

1. RELEVANCE, IMPARTIALITY AND EQUAL ACCESS
2. PROFESSIONAL STANDARDS & ETHICS
3. ACCOUNTABILITY & TRANSPARENCY
4. PREVENTION OF MISUSE
5. SOURCES OF OFFICIAL STATISTICS
6. CONFIDENTIALITY
7. LEGISLATION
8. NATIONAL COORDINATION
9. USE OF INTERNATIONAL STANDARDS
10. INTERNATIONAL COOPERATION

Quality assurance guidelines: example of World Health Surveys



Source: Household Sample Surveys in Developing and Transition Countries, Series F No.96, United Nations, New York , 2005

62nd ISI World Statistics Congress
ISI 2019 Kuala Lumpur

Welcoming 62nd ISI WORLD STATISTICS CONGRESS 2019

18 - 23 AUGUST 2019 | KUALA LUMPUR

TERIMA KASIH

KE ARAH

BANCI PENDUDUK DAN PERUMAHAN MALAYSIA 2020

Data Anda Masa Depan Kita

BANCI PENDUDUK & PERUMAHAN MALAYSIA 2020
DATA ANDA MASA DEPAN KITA