FAO Statistical Data Quality Framework:

A multi-layered approach to monitoring and assessment
FAO Statistical Data Quality Framework
FAO Statistical Data Quality Framework

Source → \( q_1 \) → Country statistics office → \( \Delta q_1 \) → FAO Statistics Division → \( \Delta q_2 \) → User → \( q_3 \)
FAO Statistical Data Quality Framework
FAO Statistical Data Quality Framework

Source \( q_1 \) \( \Delta q_1 \) \( q_2 \) \( \Delta q_2 \) \( q_3 \) \( \text{User} \)
FAO Statistical Data Quality Framework
FAO Statistical Data Quality Framework

Source → Country statistics office

\[ \Delta q_1 \]

Country statistics office → FAO Statistics Division

\[ \Delta q_2 \]

FAO Statistics Division → User

\[ q_3 \]
FAO Statistical Data Quality Framework

FAO Statistical Data Quality Framework

Source → Δq₁ → Country statistics office → Δq₂ → FAO Statistics Division → User

q₁ → q₂ → q₃
FAO Statistical Data Quality Framework

Source → Δq₁ → Country statistics office → Δq₂ → FAO Statistics Division → User

q₁ → q₂ → q₃
FAO Statistical Data Quality Framework
FAO Statistical Data Quality Framework

<table>
<thead>
<tr>
<th>Core Data Quality Indicators</th>
<th>Point/Domain Specific Data Quality Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>Delta $\Delta q_1$</td>
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<tr>
<td>$q_1$</td>
<td>Country statistics office</td>
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</tr>
<tr>
<td>FAO Statistics Division</td>
<td>$\Delta q_2$</td>
</tr>
<tr>
<td>$q_3$</td>
<td>User</td>
</tr>
</tbody>
</table>
FAO Statistical Data Quality Framework

Core Data Quality Indicators

Point/Domain Specific Data Quality Indicators

Source

Δq1

Country statistics office

FAO Statistics Division

Δq2

User

q1

q2

q3

Stress Factors
Population
Geographical size
Education
Income
Environment

Stress Factors
Availability national registers
for: Population
Administrative records
Resources
Data quality at q1

Stress Factors
Member countries
Budget
Org. Size
Domains
Data quality at q2
FAO Statistical Data Quality Framework

Core Data Quality Indicators

Point/Domain Specific Data Quality Indicators

Stress Factors
- Population
- Geographical size
- Education
- Income
- Environment

Stress Factors
- Availability national registers for: Population, Administrative records, Resources, Data quality at q1

Stress Factors
- Member countries, Budget, Org. Size, Domains, Data quality at q2

Source

FAO Statistics Division

User

q1

Δq1

q2

Δq2

q3

Country statistics office
FAO Statistical Data Quality Framework

Core Data Quality Indicators

Point/Domain Specific Data Quality Indicators

Source → \( \Delta q_1 \) → Country statistics office → \( \Delta q_2 \) → FAO Statistics Division → \( q_3 \) → User

Stress Factors
- Population
- Geographical size
- Education
- Income
- Environment

Stress Factors
- Availability national registers for: Population, Administrative records, Resources, Data quality at \( q_1 \)

Stress Factors
- Member countries
- Budget
- Org. Size
- Domains
- Data quality at \( q_2 \)
FAO Statistical Data Quality Framework

Core Data Quality Indicators

Point/Domain Specific Data Quality Indicators

Source → \( \Delta q_1 \) → Country statistics office → \( q_1 \) → Stress Factors

\( \Delta q_2 \) → FAO Statistics Division → \( q_2 \) → Stress Factors

User → \( q_3 \) → Stress Factors

Stress Factors:
- Population
- Geographical size
- Education
- Income
- Environment

Stress Factors:
- Availability national registers
- for: Population
- Administrative records
- Resources
- Data quality at \( q_1 \)

Stress Factors:
- Member countries
- Budget
- Org. Size
- Domains
- Data quality at \( q_2 \)
FAO Statistical Data Quality Framework

Core Data Quality Indicators

Point/Domain Specific Data Quality Indicators

Stress Factors
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Stress Factors
- Availability national registers for: Population Administrative records Resources Data quality at q1

Stress Factors
- Member countries
- Budget
- Org. Size
- Domains
- Data quality at q2

Source

Country statistics office

FAO Statistics Division

User

Δq₁

Δq₂

q₁

q₂

q₃
Quality of a Statistical Series

1990
Quality of a Statistical Series

- Relevance
- Coherence
- Comparability
- Accuracy
- Timeliness
- Accessibility

2000
1990
Quality of a Statistical Series

- Relevance
- Coherence
- Comparability
- Accuracy
- Timeliness
- Accessibility
Statistical Data Quality by Domain

Haluk Kasnakoglu and Robert Mayo – Data Quality for International Organizations May 2004
Statistical Data Quality by Domain

Haluk Kasnakoglu and Robert Mayo – Data Quality for International Organizations May 2004
Statistical Data Quality by Domain
The ABCDQ Project

The Agricultural Bulletin Board on Data Collection, Dissemination and Quality of Statistics project (ABCDQ) was established in 2000 to guide users that might seek information, on the sources and methods of national agricultural data collection and dissemination. The ABCDQ is an important reinforcing element to the quality of FAOSTAT database.

Quality is defined as:
- Relevance, Accuracy, Timeliness and Punctuality, Accessibility and Clarity, Comparability, Coherence and Completeness, and sound Meta Information.

Metadata in the FAO context here covers data describing different quality aspects of statistical data, e.g.,
1- Contents aspects, describing concepts, definitions and classifications of variables (an example of this is the codes next to items in FAOSTAT).
2- Accuracy and reliability aspects analysing different kinds of errors associated with the estimates.
3- Availability aspects describing which statistical data are available, where located, how easily they can be accessed, etc.
4- Methods of data collection, describing how data were collected.
Data Quality Issues

- Essential data quality dimensions
- Essential benchmark data
- Weights for data quality indicators
- Stress factors and deflators
Work to be done

• Developing domain and point specific data quality indicators
• Developing core indicators to monitor data quality throughout the statistical process
• Developing data quality deflators
FAO Statistical Data Quality Framework

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- Availability national registers for: Population
- Administrative records
- Resources
- Data quality at q1

Stress Factors
- Member countries
- Budget
- Org. Size
- Domains
- Data quality at q2

Δq1

Δq2

Δq3

q1

q2

q3

Haluk Kasnakoglu and Robert Mayo – Data Quality for International Organizations May 2004
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Core Data Quality Indicators

Point/Domain Specific Data Quality Indicators

Source

q₁

Δq₁

Country statistics office

q₂

Δq₂

FAO Statistics Division

q₃

User

Stress Factors
Population
Geographical size
Education
Income
Environment

Stress Factors
Availability national registers for: Population
Administrative records
Resources
Data quality at q₁

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Member countries
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- Relevance
- Accuracy
- Coherence
- Comparability
- Timeliness
- Accessibility

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