TWINNING CONTRACT

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Strengthening the capacity of Jordan's Department of Statistics in terms of compilation, analysis and reporting of statistical data in line with International and European best practices

MISSION REPORT

on

Component 1
**Roadmap for the development of an integrated administrative data system in Jordan
with pilots on Statistical Business registers (SBR) and population statistics**

Activity: 1.5.1:
Metadata awareness and reference metadata

Mission carried out by
Ms. Karin Blix

Amman, Jordan

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Authors' names, addresses, e-mails

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List of Abbreviations

- BC – Beneficiary Country
- DoS – Department of Statistics
- MS – Member State
- PL – Project Leader
- RTA – Resident Twinning Advisor
- STE – Short-term Expert
- ESS – European Statistical System
- EU – European Union
- GSBPM – Generic Statistical Business Process Model
- SIMS – Single Integrated Metadata Structure

1. General comments

This mission report was prepared within the Twinning Project "*Strengthening the capacity of Jordan's Department of Statistics in terms of compilation, analysis and reporting of statistical data in line with International and European best practices*". This Mission related to the following Mandatory Results (MR) and indicators:

MR 1.5: Implement training programmes and develop training materials both within DoS and with partner institutions on the use of administrative records for statistical purposes, based on pilot projects above.

- **Indicator 1.5.A:** Detailed documentation on statistical standards, classifications, identifiers etc. developed.

- **Indicator 1.5.B:** Comprehensive training programs and workshops provided for DoS staff and partner institutions

- **Indicator 1.5.C:** DoS leadership role in ensuring proper statistical standards applied across the Jordanian statistical system reinforced.

The purpose of this activity was:
- To introduce definitions and importance of metadata – both reference and structural metadata
- To provide input for a Metadata Management Guide drafted by DoS before the Mission
- To introduce DoS to best international practices for Quality reporting of Statistical output
- To provide DoS with detailed understanding of purpose and content of each field of the European standard for Quality reporting of Statistical output – the Single Integrated Metadata Structure (SIMS)
- To provide input for a new quality reporting standard in DoS taking outset in the SIMS standard proposed by DoS
- Provide feedback on examples for filed out Quality reports

The consultant would like to express her sincere thanks to all officials and individuals met for the kind support and valuable information, which she received during the sessions, which highly facilitated her work. The views and observations stated in this report are those of the consultant and do not necessarily correspond to the views of EU, Statistics Denmark.

2. Assessment and results

Type and definition of metadata:

Ms. Karin Blix initiated her presentation by an introduction, definitions and explanations of the value of metadata. Ms. Karin Blix explained that there are two types of metadata – structural metadata and reference metadata. ***Structural metadata*** are used to identify statistical data such as titles, subtitles, short descriptions, dimension names or variable names and reference metadata. Data and structural metadata must go together. This can be illustrated by the following example: the number 2 881 620 is meaningless unless its accompanying structural metadata is provided. Namely that this is the total number of men in Denmark in the third quarter of 2018 (Figure 1). ***Reference metadata*** on the other hand describe statistical concepts

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and methodologies used for the collection and generation of data. They provide information on data quality and, since they are strongly content-oriented, assist users in interpreting the data. Reference metadata, unlike structural metadata, can be decoupled from the data. This means that they can be generated, collected, or disseminated separately from the statistics to which they refer. They can also be associated with different levels of data, such as with entire collections, datasets from a given country, or a single data item concerning 1 country and 1 year.


Figure 1: *Illustration of the two types of metadata – structural and reference metadata. As appears data without structural metadata has no value. The reference data is used to provide the users with information about fitness for use e.g. information of data sources, population, production process, coverage etc. which is essential for the user in order for the users to understand what the data can be used for.*

Ms. Blix illustrated the importance of reference metadata was by the example of the declaration of contents on packs with biscuits and sweets that was in the meeting room. Allergic people will need to know what is in the packs before eating them – e.g. a person who is allergic to gluten cannot eat a biscuit or sweets containing wheat that contains gluten and hence need to read the declaration of content to make sure the biscuit or sweet does not contain wheat before eating it. The same goes for statistics. Defining quality in statistics as fitness for use the, user will be the one to decide whether the statistics at hand are of good quality for them or not – on the basis on the information given in the reference metadata. The reference metadata should therefore be presented to the user in very close connection to the statistical data.

Mrs Blix continued by giving a presentation on standards for metadata reporting (Fig 2) – highlighting the fact that following the European standard for Quality reporting Statistical output – the Single Integrated Metadata Structure (SIMS) allow the National Statistical Institution to provide required reference metadata to any international statistical Institution. However, note that SDMX – is a standard for sharing data and metadata between institutions and set standards for both data, structural metadata and reference metadata.
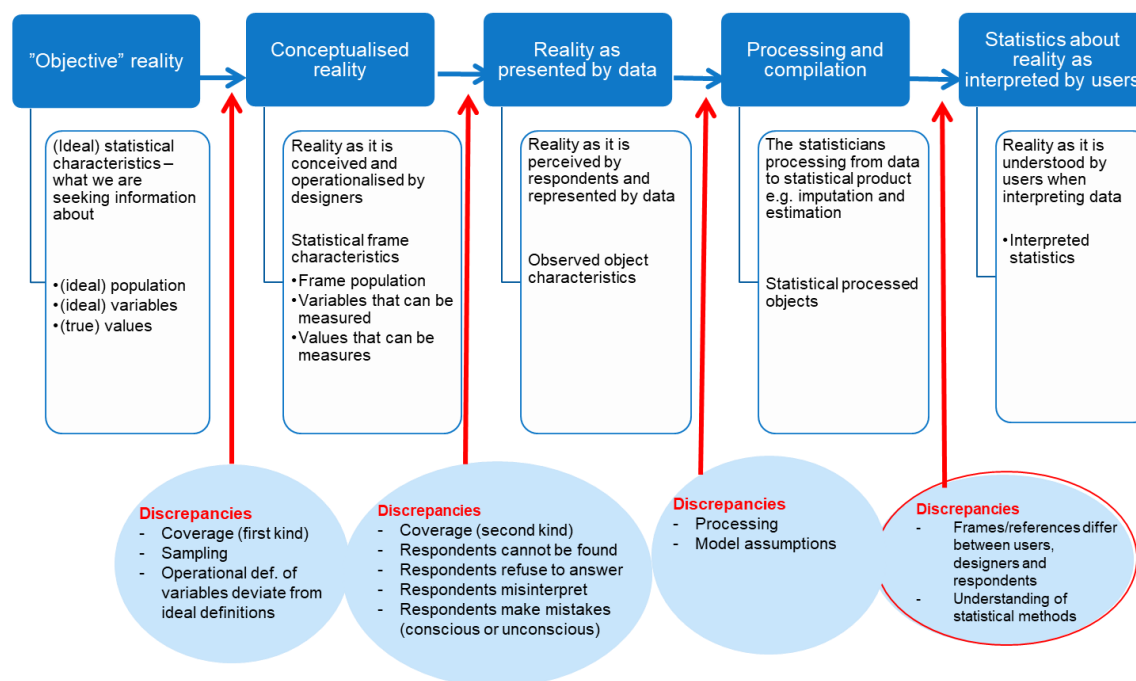
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- ➤ SDMX – Statistical Data and Metadata eXchange
- ➤ SDDS – Special Data Dissemination Standard (IMF)
- ➤ DSBB – Dissemination Standards Bulletin Board(IMF)
- ➤ SIMS – Single Integrated Metadata Structure (EU)
- ➤ ESMS – Euro-SDMX Metadata Structure (EU)
- ➤ ESQRS – ESS Quality Reporting Structure (EU)
- ➤ SDG Metadata – Sustainable Development Goals (UN)

- ➤ Until now has used selected fields of SIMS (20 fields)
- ➤ Now 55 fields
- ➤ In the process of expanding no of fields – driving force has been to increase the ODIN Score
- ➤ Metadata for about 60 Statistical output compiled using the new template
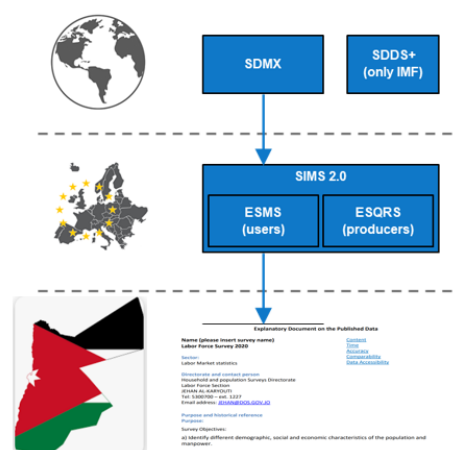
Figure 2: List of international standards for reference metadata.

To ensure a solid knowledge of the content of European standard for metadata reporting for the representatives from the quality unit and other staff members from DoS Ms Blix introduced the illustration in figure 3 about production of statistics. The illustration gives a general overview of production of statistics and explanations were given to point out where the connections to the standard for metadata reporting of the European Statistical System, the Single Integrated Metadata Structure (SIMS) could be found.

Figure 3: Illustration of production of statistics – from objective reality to statistical output

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Great emphasis was put on SIMS and a thorough presentation of and discussion of the production of statistics related to SIMS became the central part of this mission. Switching back and forth between the illustration of the production of statistics in figure 3 and figure 4 showing SIMS 2.0. For every part of figure 3 explanations on what to inform the users of via SIMS was discussed.

2. SIMS V2.0

Item No	Concept name
S.1	Contact
S.1.1	Contact organisation
S.1.2	Contact organisation unit
S.1.3	Contact name
S.1.4	Contact person function
S.1.5	Contact mail address
S.1.6	Contact email address
S.1.7	Contact phone number
S.1.8	Contact fax number
S.2	Metadata update
S.2.1	Metadata last certified
S.2.2	Metadata last posted
S.2.3	Metadata last update
S.3	Statistical presentation
S.3.1	Data description
S.3.2	Classification system
S.3.3	Sector coverage
S.3.4	Statistical concepts and definitions
S.3.5	Statistical unit
S.3.6	Statistical population
S.3.7	Reference area
S.3.8	Time coverage
S.3.9	Base period
S.4	Unit of measure
S.5	Reference period
S.6	Institutional mandate
S.6.1	Legal acts and other agreements
S.6.2	Data sharing
S.7	Confidentiality
S.7.1	Confidentiality - policy
S.7.2	Confidentiality - data treatment
S.8	Release policy
S.8.1	Release calendar
S.8.2	Release calendar access
S.8.3	User access
S.9	Frequency of dissemination
S.10	Accessibility and clarity
S.10.1	News release
S.10.2	Publications
S.10.3	On-line database

Item No	Concept name
S.10.3.1	AC1. Data tables - consultations
S.10.4	Micro-data access
S.10.5	Other
S.10.5.1	AC 2. Metadata - consultations
S.10.6	Documentation on methodology
S.10.6.1	AC 3. Metadata completeness - rate
S.10.7	Quality documentation
S.11	Quality management
S.11.1	Quality assurance
S.11.2	Quality assessment
S.12	Relevance
S.12.1	User needs
S.12.2	User satisfaction
S.12.3	Completeness and R1. Data completeness - rate for U
S.12.3.1	R1. Data completeness - rate for P
S.13	Accuracy and reliability
S.13.1	Overall accuracy
S.13.2	Sampling error and A1. Sampling errors - indicators for U
S.13.2.1	A1. Sampling errors - indicators for P
S.13.3	Non-sampling error and A4. Unit non-response - rate for U and A5. Item non-response - rate for U
S.13.3.1	Coverage error
S.13.3.1.1	A2. Over-coverage - rate
S.13.3.1.2	A3. Common units - proportion
S.13.3.2	Measurement error
S.13.3.3	Non response error
S.13.3.3.1	A4. Unit non-response - rate for P
S.13.3.3.2	A5. Item non-response - rate for P
S.13.3.4	Processing error
S.13.3.5	Model assumption error
S.14	Timeliness and punctuality
S.14.1	Timeliness and TP2. Time lag - final results for U
S.14.1.1	TP1. Time lag - first results for P
S.14.1.2	TP2. Time lag - final results for P
S.14.2	Punctuality and TP3. Punctuality - delivery and publication for U
S.14.2.1	TP3. Punctuality - delivery and publication for P
S.15	Coherence and comparability
S.15.1	Comparability - geographical
S.15.1.1	CC1. Asymmetry for mirror flows statistics - coefficient
S.15.2	Comparability - over time and CC2. Length of comparable time series for U
S.15.2.1	CC2. Length of comparable time series for P

Item No	Concept name
S.15.3	Coherence- cross domain
S.15.3.1	Coherence - sub annual and annual statistics
S.15.3.2	Coherence- National Accounts
S.15.4	Coherence - internal
S.16	Cost and burden
S.17	Data revision
S.17.1	Data revision - policy
S.17.2	Data revision - practice and A6. Data revision - average size for U
S.17.2.1	A6. Data revision - average size for P
S.18	Statistical processing
S.18.1	Source data
S.18.2	Frequency of data collection
S.18.3	Data collection
S.18.4	Data validation
S.18.5	Data compilation
S.18.5.1	A7. Imputation - rate
S.18.6	Adjustment
S.18.6.1	Seasonal adjustment
S.19	Comment

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Figure 4: List of SIMS vers. 2.0 concepts

When the production of statistics in relation to SIMS was thoroughly discussed the next step was to go through the template and guide for quality reports that DoS had developed. Some possible changes to the template was discussed in the light of the relations between the production of statistic and SIMS – and some changes were deemed natural.

The expert suggested ordering the template of the reference metadata/quality reports of DoS in the direction of the order given in the table below. The concept *Introduction* was part of SIMS 1.0, but is not part of SIMS 2.0. The staff from DoS and the expert discussed the advantages of keeping this concept in the quality reports in line with what Statistics Denmark has chosen to do for their quality reports (Documentation of Statistics).

It was suggested to first give the user a statistical presentation i.e. an overview of what the statistics will show and the frame for the statistics – definitions of central concepts, statistical classifications, the statistical unit and population etc. As a next step, it was suggested to give an overview over the statistical processing – the source data, a description of the sample selection, size of the sample size, if relevant, and the data collection, data validation and data compilation. It was then suggested to complete the quality report describing the quality of the statistics related to the five classic quality indicators; relevance, accuracy and reliability, timeliness and punctuality, coherence and comparability and finally, accessibility. A proposal for a revised template is shown in figure 5.

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Headline	SIMS-reference
Introduction	No SIMS reference – just overall description of the statistical product at hand
Content/Statistical presentation	S3.1-3.9, S4, S5, S6.1, S9, S16, S19
Statistical processing	S18.1-18.6
Relevance	S12.1-12.3
Accuracy and reliability	S13.1-13.5
Timeliness and punctuality	S14.1-14.2
Coherence and comparability	S15.1-15.4
Accessibility and clarity	S7.1-7.2 S8.1-8.3 S10.1-10.7
Contact	S1.1-1.8

Figure 5: *Possibly overall template and order of fields for quality reporting in Jordan*

After having discussed the possible changes to the template the group went through two of the examples of filled out quality reports given by DoS. After the thorough discussions about the production of statistics related to SIMS, the group was in agreement on where improvements were needed.

The expert provided comments on the examples of quality reports from DoS in writing along with and the formulas used to change the order in the quality reports in Excel after the mission. DoS had drafted a Metadata guide for internal use in DoS.

Finally, the Ms. Blix commented on the overall impression of the Metadata guide. The Guide gives an introduction to metadata and explanations to all the fields going into the quality reports. There was no time to go through the draft Metadata guide from DoS in detail. Again, the expert will give comments in writing after the mission.

3. Conclusions and recommendations

The main conclusion from the Mission was that the Quality Unit of DoS is making great progress in enhancing and expanding their reference metadata.

- Reorganise the order of the updated Jordanian quality template
- Some of the field guidelines need to be revised in order to ensure that content is filled out with the expected content by the statistical units
- Organise training courses or 1:1 discussions with data producers in DoS
- Consider implementing a review process for the Quality Reports

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Annex 1. Terms of Reference

Terms of Reference

EU Twinning Project JO 21 ENI ST 01 22

Component 1:
Roadmap for the development of an integrated administrative data system in Jordan
with pilots on Statistical Business registers (SBR) and population statistics

Activity 1.5.1: Metadata awareness and reference metadata

Dates: 26 – 29 august 2024

Content

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List of abbreviations

BC   Beneficiary Country
DoS   Department of Statistics
ESS   European Statistical System
MS   Member State
RTA   Resident Twinning Advisor
STE   Short Term Expert
ToR   Term of References

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0. Objective and Mandatory Results for the component
Objective

To prepare a roadmap for the development of an integrated administrative data system for Jordan, and conduct pilot projects on creating an SBR and strengthening population statistics.

As the development of a fully integrated administrative data system is a long-term project. The main focus of the Twinning project will be on specific pilot projects where the use of administrative records can address key challenges currently faced by the DoS. These pilot projects will constitute the first steps in rolling out a roadmap for the Jordanian statistical system by providing a template for expanding the use of administrative data across the wider statistical system over time. Specifically, the pilots for the Twinning project will focus on the development of a statistical business register (SBR), a population register as well as an address register.

Recently the Jordan Economic Modernization Vision 2030 was launched and "Smart Jordan" was identified as one of the eight Growth Drivers to implement the Economic Modernization Vision. The 'Smart Jordan Driver' includes seven sectors where data is one of them. This indicates the national interest to ensure constant and reliable data sources, and robust statistical systems that contribute to timely and informed policy making. It is expected that one of the measures that will be taken is to transform Jordan's Department of Statistics (DoS) into an interactive National Statistical Center (NSC).

Component 1 is sub-divided in six sub-components each with a Mandatory Results (MR) with indicators of achievements associated with the sub-component.

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Mandatory results and indicators for achievement for each sub-component

Table 1: Mandatory results and indicators for achievement (IA) for each sub-components within Component 1: an integrated administrative data system for Jordan.

MR from the Twinning Fiche	Indicator
MR 1.1: Compile an inventory of administrative data on business and households and an indicative roadmap for inclusion in an integrated system	**Indicator 1.1.A:** Inventory of administrative data variables and detailed supporting metadata prepared **Indicator 1.1.B:** Tentative roadmap prepared for inclusion of data in integrated system
MR 1.2: Pilot project to develop strategy for integrating administrative data sources for the purposes of creating an SBR	**Indicator 1.2.A:** Administrative data sources identified and assessed and plan developed for integrating these with Census of Establishments (CoE) information in an SBR **Indicator 1.2.B:** Documentation prepared on database structures and compliance with statistical standards, classifications (e.g. ISIC, Rev 4) etc. and use of common identifiers etc. **Indicator 1.2.C:** Explore how SBS can benefit other statistical domains in the DoS
MR 1.3: Undertake pilot project on how administrative records can be used to strengthen population statistics and inform framing of the 2025 CoP questionnaire	**Indicator 1.3.A:** Inventory of data sources prepared and assessed and action plan for incorporation in DoS statistics developed **Indicator 1.3.B:** Methodology developed for incorporating administrative data **Indicator 1.3.C:** Documentation prepared on statistical standards, classifications, identifiers, mapping etc. **Indicator 1.3.D:** Review of how administrative data can assist in developing the COP 2025 questionnaires
MR 1.4: Develop strategy for ensuring flows of data between the DoS and counterpart institutions are established on an ongoing basis for pilot projects above	**Indicator 1.4.A:** Review of technical infrastructure for data transfers and action plan prepared based on 1.1 and 1.2 above **Indicator 1.4.B:** MoUs agreed between DoS and partner institutions **Indicator 1.4.C:** Agreement on statistical standards, classifications, identifiers etc. between DoS and partner institutions **Indicator 1.4.D:** Review of data flows within the DoS
MR 1.5: Implement training programmes and develop training materials both within DoS and with partner institutions on the use of administrative records for statistical purposes, based on pilot projects above	**Indicator 1.5.A:** Detailed documentation on statistical standards, classifications, identifiers etc. developed. **Indicator 1.5.B:** Comprehensive training programs and workshops provided for DoS staff and partner institutions **Indicator 1.5.C:** DoS leadership role in ensuring proper statistical standards applied across the Jordanian statistical system reinforced.
MR 1.6: A governance roadmap for decisions makers data access and use of a National Data Center (NDC) for model based analyses in Jordan prepared	**Indicator 1.6.A:** Best international practices for NDC's outlined **Indicator 1.6.B:** Stakeholder awareness raised and needs from stakeholder mapped **Indicator 1.6.C:** Organizational structure and required skills for staffing the National Data Center outlined **Indicator 1.6.D:** Requirements and standards for data and metadata layer outlined

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2. Purpose of the activity

The purpose of this activity is for DoS to get feedback and comments for material and guidelines produced by DoS based on previous missions in Jordan in particular Activity 1.3.6 in December 2023.

More concretely the Quality Department would appreciate having feedback on the following documents

- Metadata Management Guide (Annex A)
- Quality reporting of Statistical output in Jordan - Guidelines and examples (Annex B)

3. Expected output of the activity

- Activity report;
- Feedback the Metadata Management Guide produced by DoS (Annex A)
- Feedback the Quality reporting of Statistical output in Jordan (Annex VB)
- Plan for next steps outlined

4. Participants

4.1 MS Short Term Experts (STE's)

- **Ms. Karin Blix,** Chief adviser – Quality Coordinator, Methodology and Analysis at Statistics Denmark. Ms. Blix is responsible for coordinating quality and metadata activities and building a quality management system and a coherent metadata system for Statistics Denmark. This includes a system for quality reviews and lSO performing quality reviews on statistical products, review of quality reports, implementing GSBPM and running peer reviews of other national authorities' compliance with the national guidelines for official statistics (based on the ESS Code of Practice). Besides that Ms. Blix has since April 2021 been Member of the Peer review expert team for European Commission in order to conduct the third round of peer reviews on the European Statistical System in 2021 – 2023.

4.2 DoS experts

COMPONENT LEADER
- Mr. Jaffar Ababneh, Director of Data Management Directorate
  Jafaar.Ababneh@DOS.GOV.JO

DIRECTORATE OF METHODOLOGY AND STUDIES
Quality Assurance Division
- Mr. Dhafer Shawarwaewh, Dhafer.alshawawreh@dos.jo - Head of the Quality Assurance Division
- Mr. Derar Jawarneh, derar.jawarneh@DOS.GOV.JO
- Ms. Roqayah Alsanabra, roqayah.alsanabra@dos.gov.jo

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Twinning team
- Dr. Charlotte Nielsen (RTA)
- Mr. Tamer AlRosan (RTA counterpart)
- Ms. Zaina Amireh (Language Assistant)
- Ms. Thekra Altorah (RTA Assistant)

5. Resources

Translation and interpretation will be provide throughout the activity. Translation will be provided as sequential translation. Therefore, please keep frequent pauses when presenting and talking allowing our project translator to provide as accurate a translation as possible.

6. Overall agenda

Day 1: (09:30 – 15:00):
- Welcome
- Type and definition of metadata
- Production of statistics – from objective reality to statistical output

Day 2: (09:30 – 15:00):
- Introduction to the European standard for Quality Reporting - Single integrated metadata structure (SIMS)
- Joint review of examples of Quality Reports in DoS after implementation of new standard (Order and content)

Day 3: (09:30 – 15:00):
- Meeting with the National Data Center (NDC) Team
- Individual work

Day 4: (09:30 – 15:00):
- Joint review of examples of Quality Reports in DoS after implementation of new standard (Order and content) – continued
- Summary and conclusions

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Annex 2: Programme for the mission

Day 1: (09:30 – 15:00):
- Welcome
- Type and definition of metadata
- Production of statistics – from objective reality to statistical output

Day 2: (09:30 – 15:00):
- Introduction to the European standard for Quality Reporting - Single integrated metadata structure (SIMS)
- Joint review of examples of Quality Reports in DoS after implementation of new standard (Order and content)

Day 3: (09:30 – 15:00):
- Meeting with the National Data Center (NDC) Team
- Individual work

Day 4: (09:30 – 15:00):
- Joint review of examples of Quality Reports in DoS after implementation of new standard (Order and content) – continued
- Summary and conclusions

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Annex 3. Persons met

Data Management Directorate
- Mr. Jaffar Ababneh, Director of Data Management Directorate
- Ms. Safa Abo-Aitah, Business Record Division
- Ms. Bothyna Al Alawneh, Gender Statistics Division

Directorate of Methodologies and Studies
- Mr. Derar Jawarneh, Quality Assurance Division
- Ms. Roqayah Alsanabra, Quality Assurance Division
- Ms. Wafaa Amer, Methodology and Research Division
- Mr. Ayman Al Qasem, Methodology and Research Directorate

Public Relations and International Relation Directorate
- Ms. Nusaibh Abdullah, Public Relations Division

Information Technology and Electronic Transformation Directorate
- Ms. Abrar Al Qudah, Electronic Dissemination Division