



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 3 **Strategy for missing or erroneous data**

Activity 3.0 **Assessment of current situation and development of the first rolling work plan**

Mission carried out by
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Table of contents

1. General comments..... 5
2. Assessment and results..... 5
3. Conclusions and recommendations 7

Annex 1. Terms of Reference 8
Annex 3: Programme for the mission 11
Annex 3. Persons met..... 12

List of Abbreviations

- BC – Beneficiary Country
- CoP – General Population and Housing Census 2015
- DoS – Department of Statistics
- HEIS – Household Expenditure and Income Survey
- MS – Member State
- PL – Project Leader
- RTA – Resident Twinning Advisor
- SBR – Statistical Business Register
- STE – Short-term Expert
- ToR – Terms of Reference

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 was the first activity in component 3 and the actions planned for this activity were carried out partly as scheduled.

The purposes of the mission were (according to the ToR):

- Assessment of current situation for missing or erroneous data in Jordan.
- Drafting the first rolling work plan for the component 3.
- Defining indicators for Mandatory Results (MR’s).

The consultants would like to express their sincere thanks to all officials and individuals met for the kind support and valuable information which they received during the stay in Jordan and which highly facilitated their work. The views and observations stated in this report are those of the consultants and do not necessarily correspond to the views of EU, Destatis, or Statistics Denmark.

2. Assessment and results

Assessment of current situation for missing or erroneous data in Jordan

We have established that missing or erroneous data are indeed a big challenge in Jordan. The missing data occur due to several factor: Willingness of respondents to participate, elaborate questionnaires, insufficient training of enumerators. Also, the lack of rich registers on the subjects hampers the possibility to effectively deal with the missing data.

The flagging of erroneous data was in the ToR not foreseen to be an activity within this component, but the DoS staff has expressed a wish to include this (to the extent this is possible) in the component as well. However, this is a very elaborate topic, and there is already a quite large number of topics in the component, so this is not considered to be realistic. In this report, we will consider missing data to describe both missing data as the result of (item or unit) nonresponse and missing data as the result of single data points being flagged as erroneous following some data editing exercise.

During the mission we have not been presented with any specific examples of the treatment of missing data. However, this is our impression that the procedures applied are not very standardized and often restricted to weight adjustment to remedy unit nonresponse.

Drafting the first rolling work plan for the component 3

A draft covering 13 missions has been made. The missions are arranged in four sub-components according to the four mandatory results (MR) for the component as defined in the Fiche:

- MR 3.1: Review current methodology for dealing with missing or erroneous data by sector, and make recommendations.
- MR 3.2: Explore how administrative data can help update the farm register, improve the sampling framework for agricultural surveys and enhance agricultural statistics.
- MR 3.3: Review quality framework for survey data and make recommendations.
- MR 3.4: Review and update training programmes and manuals for DoS staff, and provide training to survey respondents.

The missions are described according to the standard template using the following dimensions: Title, Subject, Methods, Resources, Duration, Output, and Time schedule. This information is available in the supplementary material (Excel-file).

Defining indicators for Mandatory Results (MR's)

Defining relevant indicators has been a challenging task. The experts suggest to make the indicators reflect the achievements within each sub-component (which as described above is aligned with the mandatory results) relative to the expected output. By nature, this is a comparison in many dimensions subject to various practical constraints met during the activities, and reducing this to a few scalars will not reflect the situation.

Meeting with Mr. Omar Hakouz

DoS currently runs another project aiming at strengthening the National Accounts (NA) system. A meeting with project leader, Mr. Hakouz, discussing possible synergies between the two projects added new perspectives to the current project (especially for components 1 and 3). Thus the mentioned needs from the perspective of the NA project are highly compatible with the topics covered by the twinning project.

More specifically, until a SBR is available Mr. Hakouz mentioned the need to develop good methodology for continuous update of the current sampling frames based on census data, e.g. including new statistical units ("births") based on administrative sources or findings during field work. As for the SBR to be constructed within component 1, Mr. Hakouz expressed a need for statistical units at two levels: Institutional level and Establishment level. In an ESS context these levels can probably be recognised as Enterprise level and local kind-of-activity (LKAU) level. Also, the need for more detailed description of activity (ISIC4) was mentioned.

The needs concerning statistical units at two levels are exemplified by the case of agricultural statistics, as some activities clearly identified as belonging to agriculture takes place under statistical units belonging to e.g. manufacturing companies. This means that to get a correct description of agricultural activities, one of two solutions has to be adopted: Either agricultural statistics is allowed to contact (current) statistical units with main activity in manufacturing, or business statistics should also collect information relating to agricultural activities and place this information at the disposal of agricultural statistics to be included in their products.

Another important issue aims at reducing measurement error (a subcomponent of non-sampling error) by making the enumerators more knowledgeable on the subject on which they are gathering information. This will allow them to better explain the content of the questionnaires to the respondents in ordinary (business oriented) language.

Finally, the need for validation of survey data was emphasized, and two levels were identified by Mr. Hakouz:

1. Validation rules built into the electronic questionnaire.
2. Live validation or remote support by subject matter experts, such that the gathered information can be corrected (if needed) before the enumerator leaves the premise of the respondent. This calls for better IT-support (comparison of the current results with previous results for the same respondent, or with current results for similar businesses).

It is highly recommended that the development of terms of reference for the forthcoming activities is coordinated with the NA project in order for the twinning project to create results of the highest possible value to DoS.

3. Conclusions and recommendations

The first draft of the working plan has been made, and the content is agreed upon by the MS experts and the management at DoS. It is acknowledged that the content of the working plan can (and probably will be) changed as the activities of the component progresses. This will be continued to be discussed within DoS in the very next future, especially the workplan (activities) for this component for the first six months of the project.

There have not been any activities involving specific DoS business processes or data. It is recommended that forthcoming missions are focused on specific business processes and data instead of presenting general methodologies at an abstract level.

It is recommended that DoS together with the RTA spend the required amount of time to appoint the relevant DoS staff to participate in the missions on site at DoS. During this mission it was found, that technical material or abstract concept (like representing the raw data as a rectangular data set) was not relevant to part of the participants. This tells the experts that the appointment of DoS staff to the missions on site is a crucial exercise in order to have everyone involved benefit from the mission and in general enjoy the collaboration.

Annex 1. Terms of Reference

0. Objective and Mandatory results for the component

Objective: To develop a strategy for dealing with missing or erroneous data

Mandatory results (MR):

- MR 3.1: Review current methodology for dealing with missing or erroneous data by sector, and make recommendations.
- MR 3.2: Explore how administrative data can help update the farm register, improve the sampling framework for agricultural surveys and enhance agricultural statistics.
- MR 3.3: Review quality framework for survey data and make recommendations.
- MR 3.4: Review and update training programmes and manuals for DoS staff, and provide training to survey respondents.

1. Purpose of the activity

- Assessing the current situation for missing or erroneous data in Jordan
- Developing Indicators for Mandatory Results (MR's)
- Drafting the first rolling work plan for an integrated administrative data system in Jordan

2. Expected output of the activity

The current situation for using administrative data in Jordan:

- The Twinning team, MS experts and DoS experts will obtain a common understanding of current situation, vision and challenges in relation to missing or erroneous data.
- The level of compliance with relevant EU regulations and other international standards will be assessed.

Development of Indicators:

- Indicators for selected MR drafted.

In order to monitor the project implementation, each MR will be decomposed into a number of steps with associated Indicators. The Indicators will follow the SMART principle (Specific, Measurable, Attainable, Relevant and Time bound). The Indicators will allow DoS, the Twinning Team and the Project Steering Committee (SC) to monitor and follow the progress in the project.

Drafting the first rolling work plan for the project:

- Headlines and brief descriptions to all planned activities
- Sequence and timing of activities for the first six month of the project
- Draft detailed description of activities for the first six months, in accordance with EU requirement using the Twinning template.

3. Resources

Translation and interpretation will be provide throughout the activity

4. Overall agenda

Day 1: Current status in Jordan – needs and challenges related to the component

Day 2: Define Indicators for the component

Day 3: Based on Indicators draft the first rolling work plan of activities in Jordan and study visits

Day 4: Summary and conclusions

5. Background information from the Fiche

Background and justification

Good quality statistical outputs are reliant on the quality of source data collected in statistical surveys. Some DoS surveys have suffered in recent times from high levels of non-response or from erroneous responses. In addition, the sampling frames for reporting populations are outdated and unrepresentative in some cases. The methodology for conducting surveys will be reviewed and updated as part of the twinning project in order to improve response rates and data quality, and ensure that data collected are representative of the wider population and in accordance with international standards.

Components and results per component

Component 3 - Develop strategy for dealing with missing or erroneous data

Surveys are a key source for providing consistent measured information to compile accurate statistical outputs and to facilitate analysis. However, missing or erroneous data in surveys provide a significant challenge for statisticians, and can often undermine the level of confidence in survey-based results. Response rates and data quality have been identified as a problem for some DoS surveys. The twinning project will examine the level of missing or erroneous data in DoS surveys, and develop strategies to improve data quality and increase response rates in those surveys most affected. Component 3 will overlap to some extent, with Components 1 and 2 above.

Component 3 is sub-divided into four sub-components with mandatory results applicable to each:

➤ ***Mandatory Result 3.1: Review current methodology for dealing with missing or erroneous data by sector and make recommendations***

This sub-component will focus on current procedures for dealing with missing or erroneous data. The first step is to undertake an assessment of current DoS surveys to identify those most affected by poor or inaccurate responses. A review of the reasons for poor response or non-response is then required. Based on the information collected, an action plan to address the issues raised will be prepared. This sub-component will review the current methodologies for dealing with non-response and poor-quality responses and make recommendations on how these can be strengthened.

➤ ***Mandatory Result 3.2: Explore how administrative data can update the farm register, improve the sampling framework for agricultural surveys and enhance agricultural statistics***

The sampling frame and sample selection for agricultural surveys are outdated and based on historic Agricultural Censuses in some instances. This sub-component will build on the work undertaken under sub-component 1.1 above. It will review the current methodology for selecting samples and examine how administrative data can be combined with Agricultural Census information to update the agricultural register and improve and revise sample selection. In addition, the potential for greater incorporation of administrative data to enhance current agricultural statistics outputs will be examined, and recommendations drawn up.

➤ ***Mandatory Result 3.3: Review quality framework for survey data and make recommendations***

Delivery of the objectives of the twinning project will require a review of the quality controls currently in existence in the DoS for survey-based data, and recommendations for improvement, where necessary. Metadata should cover definitions, classifications and nomenclatures for the variables collected and the statistical methodologies used. The Quality Assurance Framework of the European Statistical System provides an excellent template in this regard.

➤ ***Mandatory Result 3.4: Develop training programmes and manuals for DoS staff, and provide training to survey respondents***

Training programmes are needed both for DoS staff and for survey respondents. To ensure good quality survey responses, respondents, need to understand all variables, classifications etc. and the reasons underlying the collection of these data. Comprehensive training programmes and supporting materials (e.g., videos, workshops), therefore, need to be developed for survey respondents.

Annex 3: Programme for the mission

Date	Place	Topic
Monday – 3 Oct. 09:00 – 15:00	Meeting room	Welcoming, acquaintance, program of the week (Mohammad Khalaf and Charlotte Nielsen) BC: Introduction to component 2 – including introduction to DoS BC: Overview of missing or erroneous data in Jordan – status, needs and challenges MS: Introduction to relevant EU best practice Discussion, questions and remarks
Tuesday - 4 Oct. 09:00 – 15:00	Meeting room	MS: Summary and conclusion from day 1 Defining Indicators
Wednesday - 5 Oct. 09:00 – 15:00	Meeting room	MS: Summary and conclusion from day 2 Drafting the first rolling work plan - Part 1
Thursday - 6 Oct. 09:00 – 15:00	Meeting room	MS: Summary and conclusion from day 3 Summarizing Presentation of the output Final remarks and thanks

Abbreviations:

BC = Beneficiary Country (Jordan);

MS = EU Member State (Denmark, Germany, Italy, Lithuania, Finland);

DoS = Department of Statistics, Jordan

Annex 3. Persons met

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Additional suggested DoS experts:

Mohammad Tawalbeh, Director of Agricultural Statistics Directorate
Thamer Barakat, Head of Employment and Compensations of Employees Division
Mohammad kheir Alomoush, Head of Transport Division
Amal Samawi, Head of Construction Division
Mazen Khalifah, Head of Energy and Industry Division
Faten AlRamini, Head of Trade and Services Division
Mowafaq Abu Mattar, Transport Division / Employee
Bailasan Al Sbehat, Services Division / Employee
Samah AlZuod, Construction Division / Employee
Nour AlKharabsheh, Industry Division / Employee
Fatmeh Awamreh, Head of Household Expenditure and Income Division
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lina Al-youmn, Population and Household Directorate/ Employee
Noor Naimat, Population and Household Directorate/ Employee
Rania Abu Ghaith, Population and Household Directorate/ Employee
Karolean Hamad, Population and Household Directorate/ Employee
Tamer AlRosan, Head of Horticulture Division
Saed Shawawreh, Head of Livestock Division
Sudki Hamdan, Head of Enviroment Division
Munia AlBasti, Head of Agricultural Economics

Twinning team:

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