TWINNING CONTRACT

AM/14/ENP/ST/15

Strengthening of the National Statistical System of Armenia – Phase II

MISSION REPORT

on

Demographic statistics – IT capacity

Activity 2.10: IT capacity, security and back-up systems

Mission carried out by

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16-18 May 2017

Final version

National Statistical Service
Republic of Armenia

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List of abbreviations

EU	European Union
NSSRA	National Statistical Service of the Republic of Armenia
RA	Republic of Armenia

1. General comments

This mission report was prepared within the Twinning Project "Strengthening of the National Statistical System of Armenia – Phase II". This was the ninth activity in component 2 and the actions planned for this activity were carried out as scheduled on 16-18 May 2017.

The purposes of the mission were:
- o Recommendations provided on how to improve IT capacity, security and back-up systems.
- o An overview of the technical challenges with the wider use of administrative data sources.
- o Input on IT needs provided (as basis for the upcoming World Bank project)

The planned activities and the expected output were all achieved.

The MS experts 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 Armenia and which highly facilitated their work. The views and observations stated in this report are those of the MS experts and do not necessarily correspond to the views of EU, NSSRA or Statistics Denmark.

2. Assessment and results

An assessment was carried out by the MS experts during the stay and meetings with two members of of the State Council on Statistics of RA, Ms. Anahit Safyan and Mr. Vanush Davtyan were conducted as an initial step. It was agreed that the work should also focus on a Digitalization and IT strategy for NSSRA which therefore was integrated into the above mentioned purposes of the mission.

3. Conclusions and recommendations
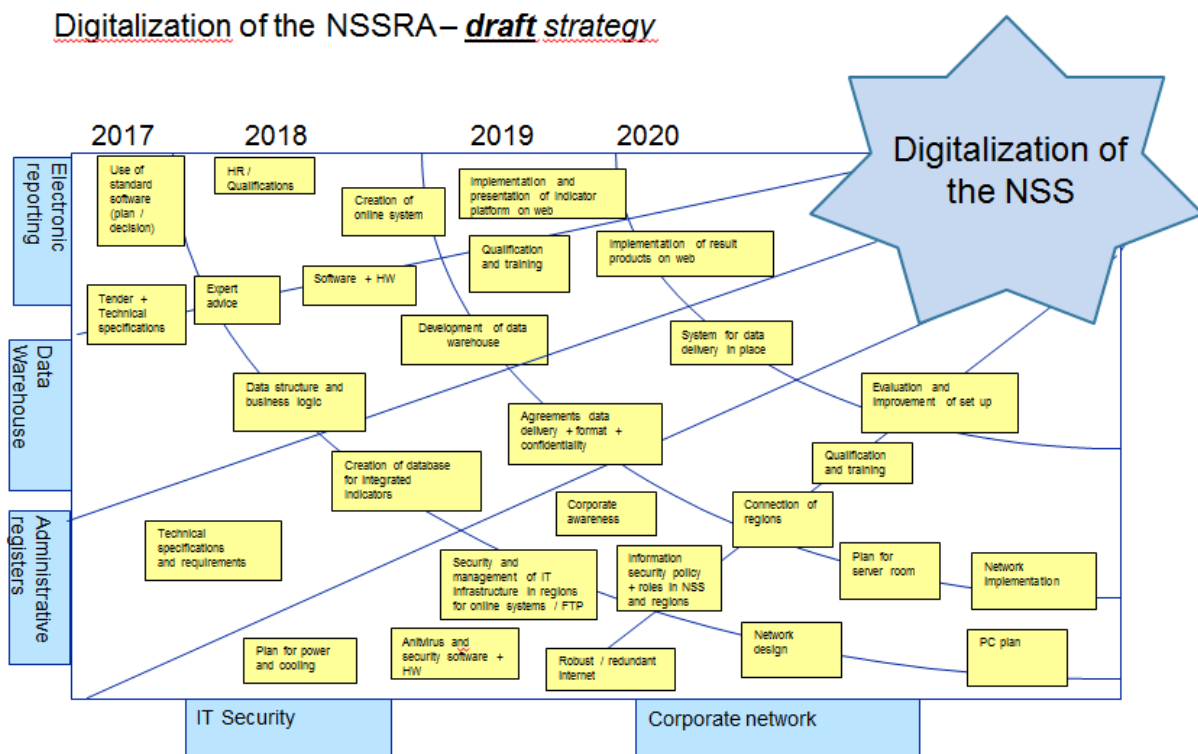
3.1 Proposal for a new IT strategy

The purpose of an IT strategy at the NSSRA is to identify the preconditions and foundations needed at corporate level for obtaining the overall goal of a wider use of administrative data and the goal of reducing paper-based processes and make a turn to electronic data sources.

The IT strategy must also support the goals and corporate strategy of NSSRA.
The top management should have ownership of the IT strategy, and the strategy must be visible and known all over the organization in all subject matter divisions in order to have full effect.

During the mission the first draft version of a future Digitalization and IT strategy for NSSRA was developed by using a diagram technique called "Transformation Maps" – see the diagram below. The star in the upper right corner represents the goal with the title "Digitalization of

the NSS" and the yellow boxes mark the steps and activities that are needed in different subject matter tracks in different years in order to reach the goal.

Digitalization of the NSSRA – *draft* strategy

	2017	2018	2019	2020

Electronic reporting — Data Warehouse — Administrative registers

Digitalization of the NSS

- Use of standard software (plan / decision)
- HR / Qualifications
- Creation of online system
- Implementation and presentation of indicator platform on web
- Qualification and training
- Implementation of result products on web
- Tender + Technical specifications
- Expert advice
- Software + HW
- Development of data warehouse
- System for data delivery in place
- Evaluation and improvement of set up
- Data structure and business logic
- Agreements data delivery + format + confidentiality
- Qualification and training
- Creation of database for integrated indicators
- Corporate awareness
- Connection of regions
- Technical specifications and requirements
- Security and management of IT infrastructure in regions for online systems / FTP
- Information security policy + roles in NSS and regions
- Plan for server room
- Network implementation
- Network design
- Plan for power and cooling
- Antivirus and security software + HW
- Robust / redundant internet
- PC plan

IT Security   Corporate network

The Digitalization and IT strategy works on two axes: a digitalization axis on the left emphasizing on electronic reporting, a data warehouse and the use of administrative registers, while the axis at the bottom illustrates the need for a strengthening of the more technically 'hard' IT capacity such as IT security and establishment of a corporate network.

All the heads of IT as well as the employees took part in the creation of this first version of a Digitalization and IT strategy for NSSRA and the result was presented to the top management on May 18th, 2017 at the NSSRA.

Apart from the steps and activities represented in the transformation map as necessary steps in strengthening the IT capacity for NSSRA, a set of observations and recommendations are added by the expert:

- There is generally a need for more skills in using standard software for analyzing and processing of data within the statistical subject matter divisions. The subject matter divisions would benefit from becoming more self supporting and independent from the staff of the IT-division in terms of assistance on basic calculations and tabulations.

- NSSRA is recommended to consider a standard software for statistical analysis and production to be introduced in all units. The decision on the software must be taken by the top management of NSSRA and approved by the State Council on Statistics. A common software throughout the organization will open up for an easier exchange of staff skills, knowledge sharing, internal training courses, staff rotation, dissemination

efforts, etc. This could eventually make NSSRA less dependent on different external funding projects.

NSSRA is also encouraged to explore the possibilities of open source software, which to a high degree complies with the needs of the statistical production. At the moment, open source software (like e.g. "R") is considered as state-of-the-art by many NSI's.

- The IT strategy can also provide a basis for a clear plan for coordination of external donor fundings and can be used as a guideline for needs and investments regarding digitalization.

- Easy pickings and tasks that require no funding should be carried out as soon as possible; e.g. the writing of an information security policy and cleaning up of the server room could be carried out with little or no pecuniary support.

Annex 1. Terms of Reference

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Terms of Reference

EU Twinning Project AM/14/ENP/ST/15

16-18 May 2017

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Component 2: Demographic Statistics - IT capacity

Activity 2.10: IT capacity, security and back-up systems

0. The mission in context

For the general agenda of transforming the production of statistics in Armenia from paper to administrative data sources, NSSRA needs an overview of the technical challenges with the wider use of administrative data sources. The outcome from this mission on IT capacity will also be a sound basis to serve as input to the upcoming World Bank project, with a clear description of actual IT needs.

This mission on IT capacity is held within the component on Demographic Statistics, but the outcome and the recommendations can be used horizontal in NSSRA because it covers general challenges for the whole organization.

1. Purpose of the activity

- Recommendations provided on how to improve IT capacity, security and back-up systems
- An overview of the technical challenges with the wider use of administrative data sources
- Input on IT needs provided (as basis for the upcoming World Bank project)

2. Expected output of the activity

- Follow-up on issues discussed at study visit to Statistics Denmark in March
- Assessment of current status on IT capacity
- Recommendations on how to deal with the technical challenges that come with the wider use of administrative data sources
- Provision of a check list with vital IT related issues that NSSRA will need to improve in the future

3. Participants

<u>**NSSRA**</u>
Component leaders
- Mr. Vanush Davtyan, Member of State Council on Statistics

Other staff
- Ms. Aida Martirosyan, Head of Information Resources Management and Technologies Department
- Ms. Armenuhi Arushanyan, Head of Information Technologies Development Division

<u>**MS experts**</u>
- Mr. Bo Guldager Clausen, Expert, Statistics Denmark
- Ms. Annie Stahel, Expert, Statistics Denmark

Annex 2: Programme for the mission

Time	Place	Event	Purpose / detail
Tuesday, noon *(16/5)*	NSSRA	Meeting with RTA	To discuss the programme of the week
Tuesday, afternoon *(16/5)*	NSSRA	Meeting with BC Component Leader and BC Experts	Assessment of situation and discussions of findings during the study visit in March Presentation by BC of the expected outcome of current mission. Discussions of the current status on IT capacity, infrastructure, security and back-up systems
Wednesday, morning *(17/5)*	NSSRA	Meeting with BC Component Leader and BC Experts	Workshop on IT strategy
Wednesday, afternoon *(17/5)*	NSSRA	Meeting with BC Component Leader and BC Experts	Discussion on how to deal with the technical challenges that come with the wider use of administrative data sources
Thursday, morning *(18/5)*	NSSRA	Meeting with BC Component Leader and BC Experts	Preparation of final conclusions, recommendations and Mission Report
Thursday, afternoon *(18/5)*	NSSRA	Debriefing with BC Project Leader	Discussion of MS Experts' findings and agreement on the reached conclusions De-briefing and presentation for BC Project Leader

Annex 3. Persons met

<u>NSSRA:</u>

Top Management
- Mr. Levon Mirzoyan, Vice President of NSSRA
- Ms. Anahit Safyan, Member of State Council on Statistics, International Statistical Cooperation
- Mr. Vanush Davtyan, Member of State Council on Statistics, Information Technologies
- Mr. Araik Hayrapetyan, Chief of Staff of NSSRA

Information Resources Management and Technologies Department
- Ms. Aida Martirosyan, Head of Department

Data Base Development and Programming Division
- Ms. Ruzanna Petrosyan, Head of Division
- Ms. Karine Yesayan, Main Specialist
- Ms. Tatevik Avetisyan, Specialist of first class category
- Mr. Vrezh Matshkalyan, Specialist of first class category

Information Resources Management Division
- Mr. Armen Shahinyan, Head of Division
- Mr. Aram Kyoseyan, Main Specialist
- Mr. Karen Mnatsakanyan, Specialist of first class category

Information Technologies Development Division
- Ms. Armenuhi Arushanyan, Head of Division
- Ms. Sona Shakhgeldyan, Main Specialist
- Mr. Movses Chapanyan, Specialist of first class category

<u>RTA Team:</u>

- Mr. Peter Bohnstedt Anan Hansen, Resident Twinning Adviser
- Ms. Liana Atoyan, RTA Assistant
- Ms. Anush Poghosyan, RTA Language Assistant