

TWINNING CONTRACT

AM/14/ENP/ST/15

Strengthening of the National Statistical System of Armenia – Phase II



STUDY VISIT REPORT

on

Innovation Statistics

Activity 5.3: Study visit

Study visit to Statistics Finland

7-10 June 2016

Version: Final draft



National Statistical Service
Republic of Armenia



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List of Abbreviations

EU	European Union
NSI	National Statistical Institute (e.g. NSSRA)
NSS	National Statistical System (of official statistics)
NSSRA	National Statistical Service of the Republic of Armenia

1. General comments

This study visit report was prepared within the Twinning Project ” Strengthening of the National Statistical System of Armenia – Phase II ” and organised under component 5, activity 5.3.

The purpose of the study visit was to gain knowledge on the Finnish experience and the practical application related to Innovation Statistics, and to draft description on how this knowledge can be used in NSSRA.

The staff of NSSRA would like to express their thanks to all officials and individuals met for the kind support and valuable information which they received during the stay in Finland and which highly facilitated the work.

This views and observations stated in this report are those of the participating staff of NSSRA and do not necessarily correspond to the views of EU, NSSRA, Statistics Denmark or Statistics Finland.

2. Lessons Learned

During the study visit the following topic were discussed:

- Statistics Finland’s experience in the field of the science, technology and innovation (STI),
- Eurostat and OECD methodologies, revision on the Oslo manual,
- Production of the R&D statistics at Statistics Finland,
- Public sector innovation, pilot survey carried out by Statistics Finland,
- Business register of Statistics Finland (statistical units, identification, classifications, business register as a frame of business surveys),
- Sampling, data collection, editing and estimation issues,
- First remarks from the data collection for pilot innovation survey in Armenia,
- Dissemination of the STI statistics, databases, reporting to Eurostat and OECD,
- Researcher use of innovation micro-data at Statistics Finland,
- Further ways of cooperation and expected outcome.

On the *1st day* of the study visit Ari Leppälahti and Mervi Niemi introduced in details the practice at Statistics Finland in the production of the science, technology and innovation (STI) statistics, referred to Eurostat and OECD methodologies, in particular touching upon the new Frascati manual and revision of the Oslo manual:

- Oslo manual is undergoing the process of revision and will be completed by 2017.
- New Frascati manual consists of five main criteria to identify R&D – novel, creative, uncertain, systematics, transferable and/or reproducible.
- R&D statistics have been compiled since 1960s using Frascati manual, while innovation statistics since 1990.
- First innovation survey in Finland was carried out in 1991.
- R&D and innovation common survey was carried out in 1999 and 2002, and the results showed decrease in the innovation data.

On the *2nd day* of the study visit Outi Ahti-Miettinen presented sampling, data collection, editing and estimation issues in Finland, Mervi Niemi introduced some remarks on data editing and imputation processes, Satu Nurmi touched upon researcher use of innovation micro-data at Statistics Finland and Mervi Härkönen talked about dissemination of the STI statistics, databases, reporting to Eurostat and OECD.

- Basic sampling techniques include - simple random sampling, Bernoulli sampling, systematic sampling, cluster and stratified sampling.
- Sample frame should include such factors as coverage, completeness, timeliness, information content, accuracy.
- During data editing and imputation mostly logical checks are applied and a specially developed SAS program is used.
- Since 2013 researchers can apply to Statistics Finland for a licence to use micro data or get access to anonymous database through a remote access system, however there is no access from outside EU.
- All licences are temporary, usually for a maximum of 5 years, but they can be extended with another application.
- Statistics Finland website includes articles, tables and graphs, while the database contains large tables with time series by topic and NSSRA ArmStatBank is very much alike.
- Other sources of dissemination and public awareness are Facebook, Twitter, LinkedIn and SlideShare for presentations.

On the 3rd day of the study visit Hanna Heljala gave a comprehensive overview of business register, and Ari Leppälahti talked about the public sector innovation pilot survey carried out by Statistics Finland.

- Business Register is situated under Data Collection Department and since 2013 is part of an integrated production platform.
- Business Register is available to everyone at Statistics Finland upon having access rights.
- Business Register services provide monthly deliveries to Bank of Finland and Finnish Customs.
- Since 2011 Business Register data is received only electronically.
- 2010-2011 a pilot survey on innovation in public sector was conducted in the Nordic countries. Sample size was 90 out of 500.
- OECD and Eurostat have discussed the issue of conducting a systematic survey on innovation in public sector and have come to the conclusion that there is no need for it now, also considering the fact that there are no related international guidelines.

On the 4th day of the study visit Mr. Kai Husso, Chief Planning Officer from the Ministry of Employment and Economy paid a visit to Statistics Finland and made a very interesting presentation on “R&D and innovation statistics and indicators in the context of the national policy-making”, followed by questions and answers.

- Because Finnish people have a strong faith in education, science, technology and innovation, every 25th taxpayer's euro is invested in R&D through the government budget.
- Finnish Research and Innovation Policy Council is chaired by the Prime Minister. Every 5 years the Council develops and publishes the R&D and Innovation Policy.
- Transition from traditional R&D policy to modern R&D + innovation + industrial policy poses a challenge to statistics and statistical services.
- As of 2016, government funding on R&D and Innovation has decreased by 18%, however due to effective policies of the Council R&D and Innovation volumes have marked an increase.

3. Conclusions and recommendations

During the study visit the presentations were very interesting and informative. Statistics Finland experience on conducting innovation surveys was very exemplary. Taking into account the increasing user demands, budget cuts, rising non-response rate, it was suggested to develop model-based statistics as a solution, as well as create combined data sources (registers, administrative data, survey data, etc.). Ms. Nelli Baghdasaryan, Head of Social Sphere and Nature Protection Division presented the preliminary results of the pilot innovation survey among legal entities and private entrepreneurs. The sample was comprised of 1719 units, 84.5% of which filled in the questionnaires, but it was noted that the number of completed questionnaires would grow as the process was still ongoing. A brief summary of the main questions in the questionnaire was presented. Finnish experts mentioned that it was a good result and it was agreed to complete the collection of questionnaires by the end of June. They also offered to carry out R&D survey in private sector based on the results of the pilot survey.

It was also proposed to translate the open responses (descriptions) in the survey and send to Finland in advance, so as to be able to discuss and edit them during the next mission in the month of October in Yerevan.

Statistics Finland experts also suggested to study R&D and innovation indicators in OECD website. It is preferable to have the indicators at a regional level.

The visit provided an opportunity to get familiar with the real picture in the frame of R&D and innovation statistics, reflect on the main principles of evaluation and accounting, data collection mechanisms, as well as discuss the existing issues in the field from the point of view international comparability, improve R&D and innovation statistics methodology and toolkit, enhance the knowledge of participants on R&D and innovation statistics in general and give them a deeper understanding of the issues present in all statistically observable and measurable areas. The visit was also valuable in terms of the opportunity to compare the applicable tools, information sources and developing indicators used by the NSSRA and Statistics Finland.

The study visit was a unique contribution to the pilot innovation survey among legal entities and private entrepreneurs in terms of questionnaire indicators coverage and improvement of the presentation format in the prospect of completing the statistical information on innovation and developing a sustainable statistical system, as a result of which it would be possible to not only develop an evidence-based policy, but also identify the achievements and weaknesses of policies, strategies and projects being implemented in the country.

Annex 1. Programme

Date Tuesday 7 June – Friday 10 June, 2016

Venue Statistics Finland, Työpajankatu 13, Helsinki, 10th floor's meeting room and meeting room Varianssi (2nd floor)

Programme

Tuesday 07 June 2016 (meeting room, 10th floor)

- | | |
|-------------|--|
| 9.30–12.00 | <p>Welcome and general presentation of Statistics Finland
Ari TYRKKÖ</p> <p>International consultancy work of Statistics Finland, Statistics Armenia EU Twinning project, practical matters of the study visit
Ulla-Maarit SAARINEN</p> <p>Introduction to the programme:
Ari LEPPÄLAHTI and Mervi NIEMI</p> <ul style="list-style-type: none"> • Points of interest and expectations of the NSSRA delegation
Delegation of NSSRA • Discussion, objectives of the study visit |
| 12.30-13.30 | Lunch |
| 13.30–16.00 | <p>Production of the science, technology and innovation (STI) statistics: Eurostat and OECD methodologies, practice at Statistics Finland
Ari LEPPÄLAHTI, Mervi NIEMI and Mervi HÄRKÖNEN</p> <ul style="list-style-type: none"> • International context of the STI statistics, revision of the Oslo manual • Production of the R&D statistics at Statistics Finland • Production of innovation statistics at Statistics Finland |

Wednesday 08 June 2016 (meeting room Varianssi, 2nd floor)

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|-------------|--|
| 9.30–12.30 | <p>Sampling, data collection, editing and estimation issues
Outi AHTI-MIETTINEN</p> |
| 12.30-13.30 | Lunch |
| 13.30–16.00 | <p>Researcher use of innovation micro-data at Statistics Finland
Satu NURMI</p> <p>Presentation of the service facility at Statistics Finland, which provides access to researchers to use enterprise-level data for research purposes and discussion on preliminary editing rules</p> |

Quality reporting of the innovation survey, incl. metadata
Mervi NIEMI

Dissemination of the STI statistics, databases, reporting to Eurostat and OECD

Mervi HÄRKÖNEN, Ari LEPPÄLAHTI

- StatFin's web-site, publishing results in the internet, databases
- Reporting to OECD/Eurostat

Thursday 09 June 2016 (meeting room Varianssi, 2nd floor)

9.30–12.30 **Business register**
Hanna HELJALA

- Presentation of the business register of Statistics Finland
- Statistical units, identification, classifications

Business register as a frame of business surveys

Public sector innovation, pilot survey carried out by Statistics Finland (no international guidelines)

Ari LEPPÄLAHTI and Mervi NIEMI

12.30-13.30 **Lunch**

First remarks from the data collection for pilot innovation survey in Armenia

Delegation of NSSRA

13.30–15.00 **Discussion on preliminary editing rules**

Mervi NIEMI

Stocktaking of the study visit, preparation for concluding discussion

NSSRA and Statistics Finland

Friday 10 June 2016 (meeting room Varianssi, 2nd floor)

9.00–12.00 **A meeting with the Ministry of Employment and Economy**
Innovation statistics and policy use

12.00-13.00 **Lunch**

13.00–14.30 **Concluding discussion, next steps of the component 5**

Annex 2. Persons met

NSSRA

Mr Gagik GEVORGYAN, Member, State Council on Statistics of RA

Ms Nelli BAGHDASARYAN, Head, Social Sphere and Nature Protection Division

Ms Anna HAKOBYAN, Main Specialist, Social Sphere and Nature Protection Division

Ms Alina GRIGORYAN, Main Specialist, Social Sphere and Nature Protection Division

Twinning Project

Ms Sona MIRZOYAN, Interpreter

Statistics Finland

Mr Ari TYRKKÖ, Head of Unit, Office of Director General

Ms Ulla-Maarit SAARINEN, Planning Officer, Office of Director General

Mr Ari LEPPÄLAHTI, Senior Adviser, Department of Business Statistics

Ms Mervi NIEMI, Planning Officer, Department of Business Statistics

Ms Mervi HÄRKÖNEN, Senior Statistician, Department of Business Statistics

Mr Jaakko SALMELA, Senior Statistician, Department of Business Statistics

Ms Marjo PYY-MARTIKAINEN, Senior Researcher, Department of Standards and Methods

Ms Satu NURMI, Head of Research, Department of Standards and Methods

Ministry of Employment and Economy

Mr Kai HUSSO, Chief Planning Officer, Enterprise and Innovation Department