Terms of Reference

EU Twinning Project IL/12 CRIS 2015/370-467

4-6 September 2016

Component D: Methodological and – geo-spatial tools for Improving the quality and efficiency of field surveys

Activity D.2: Preparation of design for methodology to allocate interviewers' workload in multi-field surveys

0. Mandatory results and benchmarks for the component

Mandatory results:

- *Optimization of field workload allocation using geo-spatial tools for managing field surveys in designated area (end of February 2017).*

Benchmarks:

- **ID1:** *Definition of indicators to measure the efficiency of field work and reliability of estimates with a view to reduce costs and improve sample quality developed (end of November 2016).*
- **ID2:** *Methodological paper on managing and monitoring field work using geo-spatial procedures during data collection process (end of November 2016).*
- **ID3:** *Methodological paper on optimization of workload allocation of fieldwork using geo-spatial procedures and other tools (end of November 2016).*
- **ID4:** *Feasibility test for managing and monitoring field work evaluated (end of August 2017).*
- **ID5:** *Feasibility test for optimizing workload allocation of field work evaluated (end of August 2017).*
- **ID6:** *Design specification of a geo-spatial application, to identify and analyse regional non-response and enable rapid reaction and handling of problematic "hot spots" (end of November 2017).*
- **ID7:** *Design specification of a geo-spatial application, to optimize allocation of field workers' workload and enable multi-survey sampling (end of November 2017).*

1. Purpose of the activity

This mission is a follow up on the "Position analysis of methodology to allocate interviewers' workload in multi-field surveys (Before) in May 2016. In the current Mission ICBS Staff from the Survey Department will discuss the possibilities to optimize the allocation of workload to interviewers in more details with the Polish GIS expert Janusz Dygaszewicz as well as GIS Experts from ICBS and central Staff Members from the Methodology Department at the ICBS.

The main activities of the Mission are:

- To discuss the requirement for spatial databases to be used as input for allocation of field work to interviewers (address and statistical data containing x,y coordinates)

- To discuss and evaluate methodologies for designing multi-field surveys, taking into account the constraints dictated by each survey (reference time, allocation to filling in in the questionnaire etc.)
- To discuss needed input and output in order to design multi workload allocation tools. Combining samples from different surveys and taking into consideration the place where the interviewer's live and by using GIS information on respondents into account in order to optimize workload.
- To demonstrate an ongoing ICBS pilot for optimizing multi-field workload allocation (methods, description, data and first findings)
- To analyze and evaluate the ongoing ICBS pilot initiatives for optimizing multi-field workload allocation
- To initiate a first draft for functional requirements for IT - Tools to be designed (for Headquarter)
- An outline for methodological paper on workload allocation using geo-spatial procedures

2. Expected output of the activity

- Activity report
- A draft for functional requirements for IT - Tools to be designed in order to allocate interviewers' workload in multi-field surveys
- An outline for methodological paper on workload allocation using geo-spatial procedures
- A time schedule for including responsibility for the methodological paper

3. Participants

Survey Department ICBS

- **Mr. Nitzan HaCohen**, BC Component Leader , Deputy Senior Director, ICBS Survey Department; nitzanh@cbs.gov.il
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- **Ms. Galina Shienberg,** Director of IT developer for Census**,** Galiash@cbs.gov.il
- **Ms. Anna Binstok Cohen,** Director of GIS for Census division, annabc@cbs.gov.il
- **Mr. Eyal Maharian,** Director of GIS and Geography Sector, eyalm@cbs.gov.il
- **Ms. Rinat Calvo,** Director of GIS-IT Sector, Rinatc@cbs.gov.il

MS experts

- **Mr. Janusz Dygaszewicz,** Director Department of Programming and Coordination of Statistical Surveys, Central Statistical Office of Poland; j.dygaszewicz@stat.gov.pl

  Specialist knowledge: Methodologies and GIS tools for managing and monitoring field work, Cenus, Big Data.

Twinning Staff

- **Mr. Yoel Finkel,** BC Project Leader, Associate Government Statistician, yoel@cbs.gov.il, assisted by **Ms. Sigalit Mazeh**, Director, International Relations and Statistical Coordination Department, sigalit@cbs.gov.il
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4. Current Status of Methodological and Geo-spatial Tools for Improving the Quality and the Efficiency of Field Surveys *(quotes from the Twinning contract)*

The ICBS is regularly improving the quality and efficiency of field data collection in surveys. Nonetheless, no attempt was ever made to achieve this goal through optimal use of geo-spatial tools. Geo-spatial tools can support field surveys from the early stage of sample design up to the dissemination phase. In this Twinning project, ICBS seeks to focus on fieldwork management and monitoring, following the recommendations of the experts in the previous twinning project. More specifically: The daily management of field interviews should be improved: Data collection in several surveys should be combined and be performed by the same interviewers; local response rates should be identified by areas, in order to be able to address region-specific problems. Geo-spatial technologies can support the identification and analysis of regional under-coverage, and enable rapid reaction and handling of problematic "hot spots ".

There are two main sampling frames: The Population Register – for sampling individuals and households, and the Dwelling Register for sampling dwelling units. Currently, all field surveys conducted by ICBS are sampled after geocoding of each unit in the sampling frames. ICBS conducts four main field surveys - Labour Force Survey, Household Expenditure Survey, Social Survey and Longitudinal Survey. However, the samples of these surveys are drawn separately for each survey. Moreover, the distribution of the workload units between the field interviewers is also performed independently for each survey, which has its own constraints dictated by its methodology: data collection period, time span feasible for collection, reference period, and so on.

Effective and economic work processes would maximize the time allocated by interviewers to data collection and minimize travelling time. ICBS is looking for a methodology that would yield optimized planning and allocation of workload units to interviewers, to reduce travelling time and increase data collection time, by combining data collection for various surveys while taking into account their respective constraints.

The second possible contribution of geospatial methodology deals with the optimal management of the fieldwork in real time. The goal is not only to achieve high response rates (ICBS enjoys a field response rate of 80% and more), but also to identify under-coverage areas and pockets of nonresponse in the midst of data collection and reallocate resources for their optimal treatment. In the current situation, problematic areas of coverage are acknowledged only at the end of the fieldwork.