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MISSION REPORT

on

Component C **Infrastructures for agricultural statistics**

Activity C.5 **Long-term work plan for agricultural statistics**

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List of Abbreviations

BC	Beneficiary country
EU	European Union
EAA	Economic Accounts for Agriculture
FADN	Farm Accountancy Data Network
FR	Farm Register
FSS	Farm Structure Survey
GIS	Geographic information system
ICBS	Israeli Central Bureau of Statistics
MARD	Ministry of Agriculture and Rural Development
SDG	Sustainable Development Goals
MS	Member State (of the EU)
ToR	Terms of Reference

Executive Summary

Relevant and adequate preparations have been done for conducting the ongoing 2018 agricultural census.

ICBS has made arrangements for securing access to relevant registers as sources for the Farm Register and has outlined a roadmap and major principles for maintaining the Farm Register, although details and a time schedule need to be completed.

The new Farm Register that will be established upon the results from the 2018 census should be used for evaluating the quality of the available registers and rank them according to their quality and relevance.

A detailed roadmap for maintaining the Farm Register, including a time schedule, should be completed.

A detailed long term plan for data collection from various sources for agricultural statistics, based on the information gathered from the 2018 census should be completed as well.

ICBS should, at a later stage, consider how to link between the Farm Register and the Business Register.

The opportunity to publish statistics based on the Farm Register should be investigated. Two major issues are the roadmap for updating the farm register and future surveys.

1. General Comments

This mission report was prepared as part of the Twinning Project "Support to the Israeli Central Bureau of Statistics (ICBS) in Enhancing the Quality of Official Statistics". It was the fifth and final activity within component C: Infrastructures for Agricultural Statistics. The mission was dedicated to a long-term work plan for agricultural statistics.

Most of the issues raised and discussions were concerned with topics under discussion in the EU framework as well. In particular, much effort is going to be put into defining a system of integrated agriculture statistics on the view both of statistics and indicators to be produced on routine basis, founded on a farm register that has still to be set up.

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

The views and observations stated in this report are those of the consultants and do not necessarily represent the views of EU, ICBS, ISTAT or Statistics Denmark.

2. Assessment and Results

During the first two days of the mission and according to the ToR, the following topics were presented and discussed: the maintenance of the Farm Register (FR), the existing main statistical sources, the ways to check their quality and the production of farm statistics by Israel, Denmark and Italy.

There was useful interaction between the experts. The two case studies of Denmark and Italy represent two different approaches: while the former is more based on administrative data, the latter is still strongly linked to surveys even though many administrative sources are already used or are under investigation. The Italian context seems to be more similar to the Israeli one.

Regarding the Farm Register, some of the main outcomes are the following:

- The need to list all the potential sources to be used for building up and updating the FR.
- Ranking sources according to a certain set of indicators which may be used for assessing the degree of usability of sources (for instance: accessibility, costs, timeliness, steadiness, fitting with the observation domains and with main definitions, completeness and number of records).
- Unique identification code which can be linked with an ID code adopted for the FR.
- Methodological treatment of cases for which it is difficult to link a unit identifier with the identifiers used in the other sources (record linkage).
- Definition of a set of basic rules to be used for assessing the degree of eligibility of a statistical unit, on the basis of "signals" of activity present in the various sources. These rules may be deterministic (as it happened in Italy until the 2014 version) or probabilistic.
- Capability of monitoring the units demography (in Israel the general trend shows an increase of the agricultural units without significant decreases, even though that may imply over-coverage of the FR. Dead records remain in the registry as the land is still there even if the business closed).
- Agreeing on the list of main variables to be included in the FR (basically there should be identification variables, structural variables related to agriculture – lands, livestock – and economic variables at the second stage).
- Methodological decisions about the logic to be used for making imputations for partial non responses.
- Definition of a steady updating system using both administrative sources and surveys' results as well.
- Treatment of units belonging to some kinds of partnerships (same treatment of single units?).
- Quality evaluation of FR data, even according to a specific area survey.
- How to integrate the census results into the FR.
- Potential double use of the FR: 1) as the starting list on the basis of which sample surveys will be based; 2) tool for releasing statistical data (tables) for users.

Regarding the system of surveys in agriculture, the ICBS elaborates on data derived from existing sources, with a few surveys. These data are not the results of an integrated system but cover most of the data needs in agriculture, with some exception (for instance, crop production estimation which can be improved). It is difficult to plan new surveys since they are costly (same situation in Italy and Denmark). Topics not fully covered by the actual existing surveys concern food safety/security, agro-environmental indicators, SDGs and food loss.

Farm register implementation and maintenance

The 2018 Census will be the first assessment for the integrated list which will be the base for the FR. The files will be ranked on the basis of different criteria (steadiness, timeliness coverage, quality related to presence of ID, quality of variables). Coverage can be related to specific topics (labour force, livestock, crops, etc.) or the whole list. Under-coverage can be detected with another survey to be run eventually afterwards the census. Maybe a follow up can be possible using the TAIX

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instrument. The ICBS might have the knowledge of Post Enumeration Survey through methodologists that are already involved in the population census.

Making an agreement with data providers, including specific issues to be respected (deadline for transmission, content, contact person), would be recommended, as well as discussion with data source providers in order to improve the content of their data sets. Periodical meetings should be planned in order to present results to them, to exchange experiences and to improve communication. The ICBS already has some protocols with governmental institutions.

It is also recommended that the ICBS give general feedback back to the administrative owners.

MARD has geographical coordinates for buildings and some merging can be performed for checking purpose during census data validation.

ICBS recommend another census maybe with 5 years interval or at least every tenth year as in EU Member States. Changes in farm structure are quite quick and an update at a census level is necessary.

Related to ID, the ICBS is considering giving an ID to each farm (instead of assigning the personal or legal ID to the farm). Maybe some geographical information can be included in the code (for example region, districts, municipalities) or in a bridge table.

One of the objectives will be to extract samples from the FR (timing can depend on administrative data updates and releases).

Another objective is the direct Publication from the FR. The ICBS has to assess which variables can be published directly from the FR, probably using a progressive approach.

Regarding *maintenance*: sample survey results can be used to update single units. The overall updates of the FR have to follow a defined procedure that would cover different issues. A strong governance for all these task is necessary.

Surveys

Issues raised by Ministry of Agriculture

Detailed data on farms by branches. It has to be assessed whether to do it by available data sets or surveys. The ICBS already tried to analyse the situation and they didn't reach any results. Perhaps it should be agreed to find a way to reach this goal.

Quantities of production for selected crops. One possibility is to make specific surveys once the census frame will be settled. They have some problems to quantify fruits and vegetable production and prices too. Prices used to come from MARD and now they outsourced the activity to a private company (producer prices). Time series comparability might not be good.

Italy and Denmark explained how the system works in their countries.

More specific issues concerned:

- *Land conservation.* Few questions are included in the questionnaire in order to have a frame in the future.
- *Agriculture machinery.* So far there is no information. Some of them are provided by companies and some are owned by the farmers. Administrative data sets on this topic only arise from imports data.
- *Pesticide and fertilisers.* ICBS has a survey on sales.

Food loss questions are not included in the census questionnaire, due to the decision of the census board. The ICBS is interested in *loss in the food chain* from production to the last chain, the consumer.

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Interest on the food chain ending in public institutions, defence, hospitals, hotels. Estimates can come from differences arising from marketed food and total production.

Information on next generation of farmers. Information on average age of farmers is gathered. *Labour force survey?* Can be used for gathering data on this issue.

Use of technology in agriculture. Information will be required in the census questionnaire. Irrigation method and characteristics of greenhouses.

It may be useful to build up and to update a table where each sector variable (agricultural surfaces, livestock, etc.) is associated with the correspondent statistical sources from which data can derive.

Moreover, it has been suggested to identify with a priority flag each influential statistical unit for any variable significant for agriculture analysis purposes

In order to provide data for specific issues those can be included in modules to be included in new survey.

Regarding the Sustainable Development Goal (SDGs), it assess the availability and defines improvements that can be done in data availability. In short – medium period of time. All SDGs are considered important by ISTAT. There is a roadmap to get all of them. Some are readily available, some are not. Delivery of the list of indicators with related priority, to be provided by ISTAT. In Denmark, SDG implementation task has been given to Statistics Denmark as coordinator.

Another task that has already been done by the ICBS includes, setting up a table with availability of data to fulfil requirements and who are the institutions and reference persons in charge for each of them and possible actions for the ones not available.

According to this overview, it is necessary to define a roadmap to be drafted at a certain point. Define main milestones to be filled in with timetables. The Steering Committee could define priorities for the future surveys.

3. Conclusions and Recommendations

Main conclusion

- Relevant and adequate preparations have been made for conducting the ongoing 2018 agricultural census, including the preparation of the questionnaire and a plan for data collection. Hence, a successful implementation of the census can be expected and the results will provide the basis for establishing a comprehensive Israeli Farm Register and future statistics.

Other conclusions

- ICBS has made arrangements for securing access to relevant registers as sources for the Farm Register.
- ICBS has outlined a roadmap and major principles for maintaining the Farm Register, although details and a time schedule need to be completed.
- ICBS has drafted a list for a long term plan for data collection from various sources for agricultural statistics that will follow the 2018 census. The needs of major users have been considered.
- ICBS has taken steps to extend the work of the Steering Committee of the 2018 Agricultural Census and engaged the Committee in elaborating a plan for future data collection for agricultural statistics. The Committee will be involved in prioritisation and identification of the most important fields for data collection and should also take into account the needs of the users.

Recommendations

- The new Farm Register established upon the results from the 2018 census, should be used for evaluating the quality of the available administrative datasets and rank them according to their quality and relevance. ICBS should share the results of the quality analysis with the owners of the registers and initiate a dialogue on how to improve quality, and in particular, stress the need to have unique identifiers
- A detailed roadmap for maintaining the Farm Register, including a time schedule, should be completed.
- A detailed long term plan for data collection from various sources for agricultural statistics, based on the information gathered from the 2018 census, should be completed. A time schedule should be included in the plan.
- ICBS should consider how to involve MS experts in evaluating the results from the census and the lessons learned. One option could be a TAIEX seminar.
- The experts recommend that the next census should be conducted in five years, and no later than ten years.
- In addition to the ID of the farmer, a unique and sustainable farm ID should be added to the Farm Register
- ICBS should consider how link between the Farm Register and the Business Register.
- ICBS should consider how to freeze and keep frozen versions of the Farm Register.
- ICBS and MARD should consider how to use GIS as a tool to maintain the farm Register.
- Provide user documentation with relevant metadata.
- Publishing statistics based on the Farm Register should be investigated.

Two major issues are the roadmap for updating the farm register and future surveys.

ICBS stated that the Census will create the frame and then, hopefully, more censuses will be carried out every 10 years – including the option of having sample surveys in between in the unorganized sector.

Probably the strategy that will be adopted for managing the farm register will be based on testing the sources according to specific ranking criteria (as is done in ISTAT) and then use only the sources with the highest ranks. The ICBS has formal agreements with public bodies about sharing administrative

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datasets. The ICBS will establish a unique farm number in the census and not only a farmer ID. Statistics released after the census will be based on the farm register.

MARD needs financial information about farms and different activities. Quantities of production of vegetables may derive from the Plants Board even though fruit production is a problem and data are based on their estimations.