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Report 1a2.1:

## Review of the processes & data flows and necessary improvements in INSTAT

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## PROJECT REFERENCES

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## REPORT OVERVIEW

<b>Project:</b>	Support to the Improvement of Statistical Information System
<b>Component:</b>	<b>Component 1</b> - Redesign and improve corporate statistical business processes and enhance institutional capacities in the production and usage of Agricultural and Labour Force statistics
<b>Sub-component:</b>	1a. Redesign and improve corporate statistical business processes
<b>Activity:</b>	1a.2 Review and improve core statistical business process environments
<b>Task 1:</b>	Review of the existing processes and data flows in statistical processing
<b>Sub-activities:</b>	1a2.1: Review of internal processes and metadata 1a2.2: Review on integration of the processes in the Quality management framework 1a2.3: Evaluation of existing supporting infrastructure and tools 1a2.4: Review of available sources of data 1a2.5: Report preparation
<b>Output:</b>	1a2.1: Report: Review of the processes & data flows and necessary improvements in INSTAT
<b>Expert:</b>	Dragan Vukmirovic
<b>Date of report:</b>	12 <sup>th</sup> of September 2016
<b>Reporting period:</b>	04 <sup>th</sup> August – 12 <sup>th</sup> of September 2016
<b>Venue:</b>	Tirana, Albania



## BACKGROUND

The production processes for the various statistical domains within Institute of Statistics of Albania (INSTAT) over recent years have been subject of changes due to increment of the work program and the introduction of the new methodologies, technologies and techniques. This has contributed to the progress of the Institute towards its alignment with the European best practices and the EU acquis in statistics. However, this expansion may lead to the devoting insufficient attention to the standardisation and integration of processes and the usage of common tools and applications.

The report is related to the work within the IPA 2013 Project: Support to the Improvement of Statistical Information System (Project). Project is conceptualized into three main components with large number of activities, sub-activities and tasks having a different degree of complexity and largely depending on a number of various factors, of internal and external nature.

**Component 1** - Redesign and improve corporate statistical business processes and enhance institutional capacities in the production and usage of Agricultural and Labour Force statistics

**Component 2** - Develop and test system for upgraded corporate ICT infrastructure with inclusion of establishment and pilot implementation of centralised Data Warehouse(s)

**Component 3** - Strengthen communication function and statistical coordination role of INSTAT with focus on dissemination and quality management.

The activities to be performed during the Project have been singled out according to the objectives of the Project and were further defined according to discussions made during the meetings with the beneficiary's - INSTAT nominated experts. The institutional framework provides solid background, so that the project is managed in an efficient and transparent way at high professional level and respecting existing legislation.

The purpose of this Project is to enhance the institutional capacities in the Albanian Statistical System (ASS), and in particular in INSTAT, for streamlining the statistical processes and development of a redesigned IT architecture based on the data warehouse concept, enabling efficient and effective production, analysis and dissemination of official statistics meeting the requirements of the acquis in statistics and following best practices as implemented in the European Statistical System (ESS).



***This report, Review of the processes & data flows and necessary improvements in INSTAT,*** is an output 1a.2.1 for the:

- **Component 1:** Redesign and improve corporate statistical business processes and enhance institutional capacities in the production and usage of Agricultural and Labour Force statistics;
  - **Sub-component 1a:** Redesign and improve corporate statistical business processes;
    - **Activity 1a.2:** Review and improve core statistical business process environments

## **DESCRIPTION OF REPORT OBJECTIVES**

The project will help INSTAT to update and upgrade in a structured way the processes' documentations in the framework of enhanced Quality management. The targeted result is the improvement of the efficiency and effectiveness of the INSTAT's operation and at the same time preparation the Institute for the establishment of centralised data warehouse(s) and for the introduction of the new information technologies and methodologies. Also the statistical business process environments shall be reviewed and upgraded. Clearly defined business process is the essential for the successful production of the official statistics. The development of the business process is the base for the implementation of this Project but also for the further modernization of the statistical production processes in INSTAT.

For the full implementation of the business process model, two activities should be undertaken:

- the review of the existing processes in INSTAT *with focus on data flows,*
- identification of necessary improvements,

in order to assistance in the implementation of the business process model. Expected results related with this Activity (formalised as Activity 1a.2: Review and improve core statistical business process environments, Task 1: Review of the existing processes and data flows in statistical processing) is presented as this Output 1a.2.1: Review of the processes & data flows and necessary improvements in INSTAT. This report is designed based on an inventory of the actual processes, taking into account the expectations with respect to future changes.

This report follows Output 1a.1 Blueprint of a corporate statistical business process architecture aligned with the Generic Statistical Business Process Model (GSBPM)<sup>1</sup>.

These two reports are the basis for the other activities to be undertaken under the Component but also the basis for the IT systems developments as identified under Component 2.

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<sup>1</sup> <http://www1.unece.org/stat/platform/display/GSBPM/GSBPM+v5.0>



## METHODOLOGICAL APPROACH

The methodological approach for creating this Report was based on several sub-activities.

1a2.1: Review of internal processes and metadata

1a2.2: Review on integration of the processes in the Quality management framework

1a2.3: Evaluation of existing supporting infrastructure and tools

1a2.4: Review of available sources of data

1a2.5: Report preparation

The first step was to review the Input documents and other necessary information as the basis for analysis:

- Law no. 9180, dated 05.02.2004 "official statistics",
- Official Statistics Programme for the period 2012-2016,
- IPA 2014 Multi-beneficiary statistical cooperation programme, MISSION REPORT - DRAFT, Pilot Project 18, Developing a Metadata System, May, 2016,
- Project output 1a.1 Blueprint of a corporate statistical business process architecture aligned with the Generic Statistical Business Process Model (GSBPM)
- Sector review of Implementation of the Labour Force Survey in Albania, Draft report ver. March, 2016,
- Case Study: Albania INSTAT, Ertugrela Curumi, Specialist of Databases and Metadata Management Unit,
- Adapted Global Assessment of the National Statistical System of Albania, 2010,
- Light Peer Review of the Implementation of the European Statistics Code of Practice in the Republic of Albania - Final Report, 2014 (LPR 13)
- Report on Limited Peer Review of the Institute of Statistics of Albania, 2015 (LPR 15),
- List of tools (existing and envisioned),
- The list of all administrative data sources available and supporting documentation (such as definitions, data collection and checking methodologies, thresholds, quality reports and summary statistics,
- Quality reports and definitions,
- NKE mission reports





Furthermore, consultation with INSTAT staff regarding the business processes and data flows in use in INSTAT, as well as on the production of metadata, and Quality Reports were conducted.

## **THE OVERVIEW OF THE EXISTING PROCESSES AND DATA FLOWS IN INSTAT**

For the basic Review of the processes & data flows we used five years strategic plan named Official Statistics Programme for the period 2012-2016 (OSP 2012-2016)<sup>2</sup>. Five year program of official statistics is the basic document that provides the production of statistical data by the National statistical system needed for the observation of economic, social and environmental situation in the Republic of Albania, respecting the guarantee of the implementation of statistical principles provided in law and in the European Statistics code of Practice. New programme for the period from 2017-2021 is in preparatory phase.

INSTAT and statistical agencies have played a very important role in the processes of formulation of the national programs for the implementation of the Stabilization and Association Agreement as well as the fulfilment of the Questionnaire for EU membership, providing all public users involved, the necessary information for the evaluation of situation and formulation of the policy integration. INSTAT's Official Statistics Programme follows The Statistical requirements compendium<sup>3</sup>. The Statistical requirements compendium is a well-established reference document for the EU acquis in statistics. The Compendium summarises the key reference information for European statistical production. Eurostat, the statistical office of the European Union, updates the Compendium to take into account new legislation and other developments relevant for European statistics. The structure of the 2016 edition of the Compendium generally follows the structure of the European Statistical Program 2013-2017 and the corresponding Annual Work Programs of Eurostat. Modules are grouped according to their priority area in the statistical program. The presentation of the priority areas and modules is made from the perspective of a statistical data provider in a country. It means that in general only modules for which there is a legal or methodological basis that influences the way statistics are produced in countries being part of the European Statistical System or for which there are obligations to provide data to Eurostat are included.

For candidate countries such as Republic of Albania, the compendium is used to assess compliance level with the EU acquis in the area of statistics. The Compendium provides a short description for each statistical module as well as legal

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<sup>2</sup> [http://www.instat.gov.al/media/207341/official\\_statistics\\_national\\_program\\_2012\\_-\\_2016.pdf](http://www.instat.gov.al/media/207341/official_statistics_national_program_2012_-_2016.pdf)

<sup>3</sup> <http://ec.europa.eu/eurostat/documents/3859598/7535696/KS-GQ-16-003-EN-N.pdf/d3f54ab4-97af-4f53-be59-45aca3ecfb80>





acts with other documents relevant for the compilation of statistics, including methodological information, and data requirements.

Official Statistics Programme for the period 2012-2016, which, according to Article 6 of the statistical law<sup>4</sup>, covers statistical data needed for the observation of economic, social and environmental situation in the Republic of Albania, focusing on phenomena which are essential for decision makers, and respecting the right of citizens to official data. For the realization of the program takes into account the principle of cost-effectiveness.

Existing processes in INSTAT have to follow proposed Blueprint of corporate statistical business process architecture aligned with the Generic Statistical Business Process Model (Model) (Output 1a.1 of this Project).

The blueprint lay present the reference model for all statistical business processes conducted by INSTAT and it is based on an inventory of the actual processes and flows, but taking into account the expectations with respect to future changes. This model describes and defines the set of business processes and flows needed to produce official statistics. It provides a standard framework for integrating data and metadata standards, for process documentation, harmonizing statistical computing infrastructures, and also provides a framework for process quality assessment and improvement.

## **REVIEW OF THE NECESSARY IMPROVEMENTS IN INSTAT**

The structure of GSBPM proposed to INSTAT for the adoption is given in figure 1. INSTAT has to follow the logical sequence of steps in most statistical business processes, according the proposed GSBPM model – level 1 of the Model:

1. Specify Needs,
2. Preparation and development of statistical methodologies,
3. Build necessary instruments for enforcement,
4. Data collection,
5. Data processing,
6. Analyse,
7. Dissemination, and
8. Evaluate.

Under each process there are corresponding sub-processes (level 2 of the Model).

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<sup>4</sup> Law no. 9180, dated 05.02.2004 "official statistics"

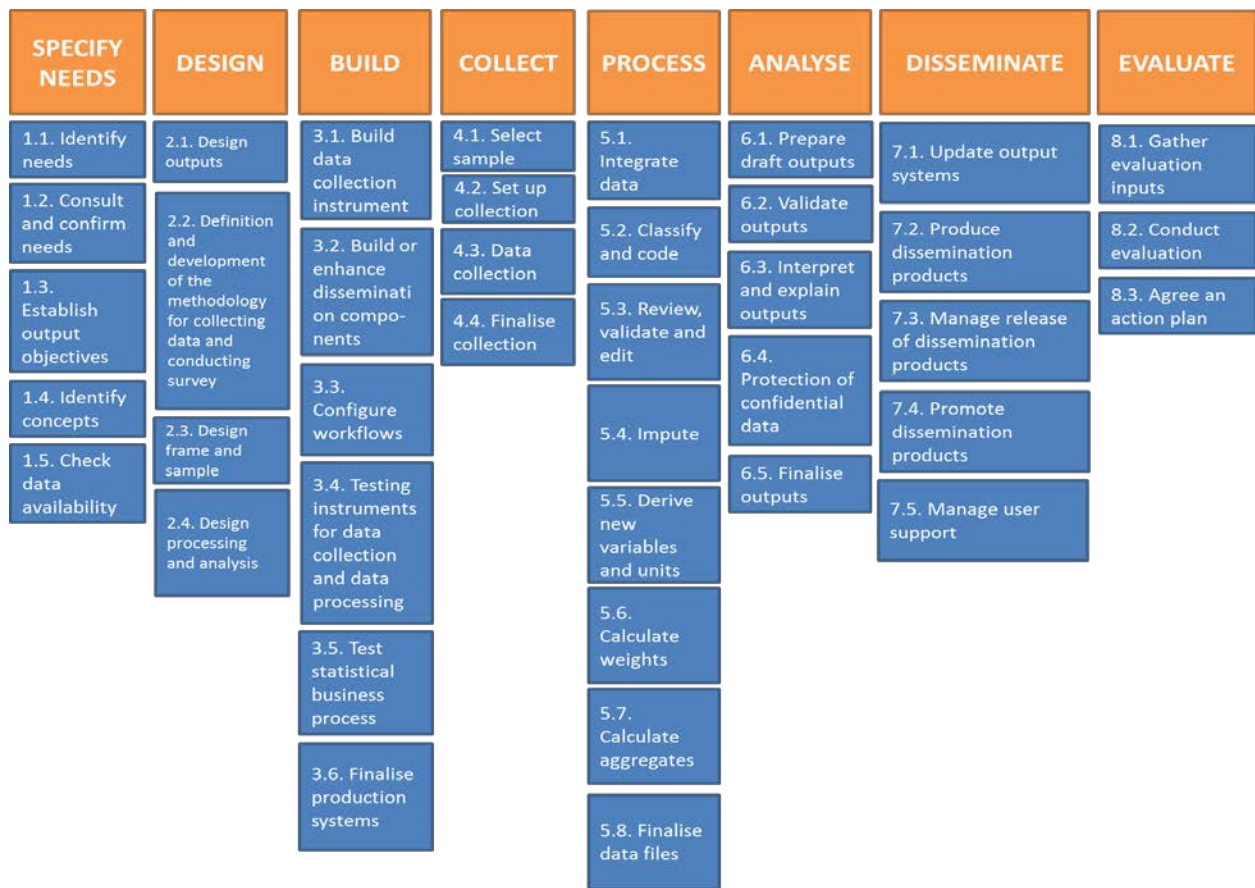


Figure 1. Phases (level 1) and sub-processes (level 2) in GSBPM

In this report **Review of the processes & data flows and necessary improvements in INSTAT**, (output 1a.2.1) we analysed all the processes and data flows in INSTAT as phases in Model and proposed necessary improvements.

## THE "SPECIFY NEEDS" PROCESS (PHASE 1)

### Review:

In this phase INSTAT should take following sub-process:

1. Identifies the need for the statistics;
2. Confirms, in more detail, the statistical needs of the stakeholders;
3. Establishes the high level objectives of the statistical outputs;
4. Identifies the relevant concepts and variables for which data are required;
5. Checks the extent to which current data sources can meet these needs;
6. Prepares the business case to get approval to produce the statistics.

When a new survey is being planned, or substantial changes have to be made to existing surveys, a working group or a steering committee is established. Such groups mainly comprise INSTAT staff in the relevant fields, representatives of interest groups (governmental and other international organisations) and experts in



the subject matter from outside INSTAT. The groups are responsible for the development and validation of the questionnaire or the major changes in it. Questionnaires are always tested before the survey takes place so that both respondents and interviewers understand the meaning of the questions, and to check the length of the interviews. However, the procedures and results are not fully documented.

**Prioritisation of user needs** is done in the annual work programme after meetings with users. Negative priorities are evaluated annually in the work programme. INSTAT established user group as an effective instrument for collecting user needs and feedback on statistical products and methodology (instruments, of first place). This is an opportunity for informing users about metadata and quality reports, and for promoting other topics for discussion as the format and the content of related user-oriented quality reports<sup>5</sup>.

Until now four regular user groups have been established, for the:

- National Accounts,
- Media relations,
- Agricultural statistics, and
- Gender statistics.

### **Suggested improvement actions:**

- 1.1. User groups should be established for social statistics and business statistics. As part of INSTAT's co-ordination role, there is a need to strengthen awareness about quality among other important producers of official statistics.

Although the concept of an **Albanian Statistical System** is recognised by law, in practice the ASS does not operate as a system. Also, there is no coordinator or centralised unit to handle the coordination of the ASS within INSTAT responsible for maintaining relationships within the statistical system; instead the General Director of INSTAT takes the role as coordinator.

### **Suggested improvement actions:**

- 1.2. Intensify efforts in further strengthening by INSTAT to develop a well-coordinated national statistical system through the establishing working groups in selected statistical domains where continuous cooperation between stakeholders is necessary<sup>6</sup>.
- 1.3. INSTAT should prepare a list of stakeholders in statistics and indicate the role that each should play:
  - Other National Authorities for statistical production

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<sup>5</sup> LPR 15

<sup>6</sup> LPR 15



- Provider of administrative data for statistics with/without Memoranda of understanding (MoU)
- 1.4.** Introducing ASS coordinator in INSTAT reporting directly to the Director General. Such a unit should be established in collaboration with all other statistical agencies. It would deal with: developing procedures for designing and implementing statistical programmes, ensuring the consistent and appropriate use of methodology when conducting statistical surveys, standardising the statistical production processes, controlling adherence to statistical quality principles, and building and encouraging the use of a common statistical portal.

## **THE "DESIGN, BUILD, COLLECT, PROCESS AND ANALYSE" PROCESSES (PHASES 2 TO 6)**

### **Review:**

In these phases INSTAT should take following sub-process:

2.1 Design outputs

2.2 Definition and development of the methodology for collecting data and conducting survey

2.3 Design frame and sample

2.4 Design processing and analysis

3.1 Build data collection instrument

3.2 Build or enhance dissemination components

3.3 Configure workflows

3.4 Testing instruments for data collection and data processing

3.5 Test statistical business process

3.6 Finalise production systems

4.1 Select sample

4.2 Set up collection

4.3 Data collection

4.4 Finalise collection

5.1 Integrate data

5.2 Classify and code

5.3 Review, validate and edit

5.4 Impute

5.5 Derive new variables and units

5.6 Calculate weights

5.7 Calculate aggregates

5.8 Finalise data files

6.1 Prepare draft outputs

6.2 Validate outputs



- 6.3 Interpret and explain outputs
- 6.4 Protection of confidential data
- 6.5 Finalise outputs

### **Overall assessment:**

Two methods for data collection are in place in INSTAT:

- a. Primary research – surveys
- b. Secondary research - use of administrative records and data from administrative registers

Data collection, data entry and coding are performed according to international recommendations. In INSTAT there are separate teams/sectors responsible for the methodology development, data entry and data coding. Those teams collaborate closely with each other having in mind that survey activities are interlinked. The subject-matter units prepare working plans, with defined deadlines for each activity. The work plans are shared and agreed with other relevant teams.

INSTAT ensures the right processing of statistics production in each phase<sup>7</sup>. The processes very much dependent on specific survey since there are no general guidelines or recommendations in the organisation. In order to ensure a degree of consistency in the design of the surveys, methodology units follow and implement the European recommendations and statistical legislation for sample survey design or estimation requirements – for example, relating to the degree of accuracy required.

The logical controls are implemented directly during data entry by using CsPro<sup>8</sup>. Those controls reduce non-sampling errors (logical control: consistency checking, route checking, etc.) For example, filter questions are skipped automatically and not manually as happens in paper questionnaires).

Before the data collection phase, respondents are provided with all necessary documents (leaflets, letters, and guidelines which are regularly updated and reviewed). Data collection process is being controlled periodically in the field. The controls consist of monitoring how the data collection is proceeding, monitoring the presence of the enumerator (interviewer) in the survey unit, and so on.

Interviewers and other supporting staff are trained for each survey. In addition each interviewer is given an interviewer's manual. It contains detailed information about the survey process and guidance for dealing with respondent behaviour. Interviewers are advised to collect information about non-responding cases, which are addressed through imputation or re-weighting processes according to the survey methodology.

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<sup>7</sup> LPR 13 and LPR 15

<sup>8</sup> <http://www.census.gov/population/international/software/cspro/>



Data coding is done centrally in INSTAT. The coding is done in full accordance with the international classifications.

Administrative data are used for comparison and to improve the accuracy of survey-based estimates.

INSTAT has made good progress in use of technology (including tablets, web-based questionnaires, and scanning technology - OCR) in data collection and data entry.

### a. Primary research

Primary researches include surveys as the main data source in INSTAT. Most of the surveys are done on paper (PAPI – Paper and Pencil Interviewing<sup>9</sup>). The data-entry process (CADE – Computer Assisted Data Entry) is done manually by INSTAT staff using CPro, Microsoft Access or other tools (and some of them which are rather specific were custom developed by software development sector for that particular purpose). This process is demanding and, taking a validation process into account, it requires a lot of resources. For the surveys using CAPI (Computer Assisted Personal Interview) method for data collection on laptops. Collected data are transferred through VPN and FTP to file servers in INSTAT for further processing (quality checks, data cleaning and data tabulation are some of the processes conducted by INSTAT).

CAWI (Computer Assisted Web Interview) – used for some surveys; Web form STS questionnaires are being tested currently with big enterprises.

CATI – not used in INSTAT

#### Software solutions used in INSTAT for **data collection and data entry process**

- **CPro** is used for conducting surveys and data collection. A benefit of this software is that it is free and it works on Android platform so it can be easily used for the fieldwork using a tablet version without additional cost.
- Survey results are exported to **IBM SPSS** tool for further analysis.
- **Visual Studio 2015**<sup>10</sup> is used for development of some custom modules and data-entry applications (but CPro is most used for that purpose)
- Software development unit also tests **Lime Survey platform**<sup>11</sup> based on PHP and MySQL<sup>12</sup> for conducting surveys but it was not used in the production yet.
- Some survey results processing rely on the **scanning process** and the results are later manually validated before the final entry to the system.

#### Software solutions used in INSTAT for **data analysis process**

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<sup>9</sup> Data obtained from the interview is filled in on a paper form using a pencil

<sup>10</sup> <https://www.visualstudio.com>

<sup>11</sup> <https://www.limesurvey.org>

<sup>12</sup> <https://www.mysql.com>





- Main tool for the **statistical analysis** is SAS (Statistical Analysis System<sup>13</sup>) which is, among other surveys, used for Population Census and Agriculture Census. There are lot of macros and pre-programmed data analysis and data cleaning tools which cannot be easily replaced with substitutes.
- IBM SPSS<sup>14</sup> is being used for data-processing and analysis
- Microsoft Access (programmed with VBA) is being used for analysis and querying. Each Access database is saved as a single file (in embedded MDB format) and shared with other stakeholders on a network file share. Subject matter specialists often use Access to visually design queries and aggregations because they lack the knowledge of the SQL language.
- Software development unit also tests Lime Survey platform based on PHP and MySQL for conduction of the surveys but it was not used in the production yet.
- Some data processing relies on the scanning process and the results are manually validated before the final entry to the system.
- Web-portals are based on Microsoft technology stack - Umbraco CMS hosted on IIS and Microsoft SQL Server as content database
- SQL Server version 2008 is used for data-analysis directly with the Transact-SQL, but Integration Services or Analysis Services functionalities are not utilized. IT staff uses Microsoft SQL Server Management Studio to access the database and perform queries and analysis.
- Visual Studio 2015 is used for development of some custom modules and data-entry applications (but CPro is most used for that purpose)
- PC-Axis<sup>15</sup> which should be replaced by PX-Win<sup>16</sup>
- PX-Web<sup>17</sup>

The overall procedure for editing and imputation of non-response is designed to take into account the following issues:

- survey characteristics;
- amount and type of data to be checked;
- data timeliness;
- available methods,
- auxiliary information, and
- resources.

Editing and imputations are done in collaboration with the subject-matter specialist and the relevant methodologist. The technical rules are specific for each survey. These techniques are documented internally but not in standardised formats. Office-wide guidelines for editing and imputation in INSTAT are necessary for standardisation.

## Software licensing

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<sup>13</sup> [http://www.sas.com/en\\_us/home.html](http://www.sas.com/en_us/home.html)

<sup>14</sup> [www.ibm.com/software/products/en/spss-statistic](http://www.ibm.com/software/products/en/spss-statistic)

<sup>15</sup> [http://www.scb.se/sv\\_/PC-Axis/Programs/PC-Axis/](http://www.scb.se/sv_/PC-Axis/Programs/PC-Axis/)

<sup>16</sup> <http://www.scb.se/pc-axis/px-win/>

<sup>17</sup> [http://www.scb.se/sv\\_/PC-Axis/Programs/PX-Web/](http://www.scb.se/sv_/PC-Axis/Programs/PX-Web/)



The cost of software licensing is one of the main reasons for consideration of open source and closed source freeware solutions (like The R Project for Statistical Computing<sup>18</sup>). For instance, a single new SAS license costs around 15.000 Euros, while single annual license extension costs around 5.000 Euros. IBM SPSS software licensing is also considered expensive because a single user license costs around 12.000 Euros, while single annual license extension costs around 3.000 Euros. So far, the licensing costs were covered through IPA and SIDA projects, but their high cost is the main culprit for considering other solutions.

R programming language has been mentioned as a potential replacement for SAS, SPSS and MS Access but INSTAT representatives noted that although they had some trainings in R programming (precisely there were two trainings: training for IT professionals (data preparation, cleaning, validation, etc.) and training for business users (plotting, using data etc.), they find it hard and are sceptical regarding the ability to directly reproduce existing functionalities using only it. Some INSTAT experts had a basic training in the programming language "R" and they are looking forward to adopting it, but not immediately because they are not sure if the usage of new tools could produce the same results as they could get it with SAS in terms of regression, pivot and tabulation for instance.

One of concerns is the lack of resources and especially IT specialists. For instance, there are only three members of the software development team and they cannot fully engage in project activities.

Another concern is general problem with slowness of the bidding, tendering and procurement processes.

### **Suggested improvement actions**

- 2.1. Transition to open source software for data analysis, like "R" – this operation should not be immediate but rather gradual process
- 2.2. Consider the lack of resources and especially IT specialists – and find temporary solutions for the first moment
- 2.3. Increase the using of CAPI and CAWI and to consider CATI

### **b. Secondary research**

INSTAT is aware that Official Statistics should be based on administrative records and registers to the greatest possible extent. In addition, INSTAT has set a target to increase the use of administrative data to replace variables in its surveys. The Law "On Official Statistics" gives INSTAT the mandate to have an access to administrative data produced by other governmental institutions for statistical purposes. In most cases working arrangements with different authorities are functioning well. Administrative data are, at the moment, mostly used either for

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<sup>18</sup> <https://www.r-project.org/>



checking or improving the accuracy of data. The data are also used to update the business register. INSTAT is working with around 30 administrative data sources. Differences in concepts and definitions are studied in the case of each administrative data file and, after considerations; a decision is being taken as to whether the data can be used for statistical purposes.

INSTAT is not involved in the design of administrative data, although according to the Law “On Official Statistics”, article 7, it has the responsibility to collaborate with all administrative data providers and has the authority to define standards for the method of data gathering. Based on the Law, INSTAT should clearly have a stronger role when administrations are designing their databases.

At the moment the formats and data structures of the administrative data can be completely different from the needs of INSTAT. Different institutions like the Tax Authority and the General Registration Authority and INSTAT undertake a great deal of duplicative work with data entry, since the data are not entered once into electronic databases and are not in the format which could be useable for various authorities<sup>19</sup>.

There are many issues which still prevent the full use of administrative data in statistical production in INSTAT, as:

1. Development of the methodology for collecting secondary data
2. Provide administrative data sources
3. Using the data

In short, for the development of the methodology for collecting secondary data, INSTAT must provide training for their statisticians. For data providing is necessary to have Memoranda of Understanding with the respective external administrative data producers and for data using to introduce a data warehouse following metadata concepts and quality procedures.

Two separate methodological units support statistics production: one for social and the other for economic statistics. They cooperate closely with the production units which are responsible for providing statistical indicators in each area. In the case of new surveys or variables, the relevant production unit makes proposals for different aspects of methodology. The approaches, definitions, statistical methods, validation of results, and so on are agreed between the production units and methodological units<sup>20</sup>.

## **Suggested improvement actions**

- 2.4.** From the efficiency perspective it might be worth considering integrating the two methodological units

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<sup>19</sup> AGA, LPR 13, LPR 15

<sup>20</sup> LPR 15

- 2.5.** A continuous staff training programme is needed, and a good start is the establishment of the training school with the support of SIDA project. It will provide a good opportunity to offer continuous training not only for INSTAT staff but also to other producers of statistics. INSTAT is proposing to develop a comprehensive long-term training programme for the staff, as part of the human resource policy. Training curriculum for the training school is intended to be developed for internal needs as well as for other stakeholders. Continuous vocational training of staff shall help to update skills and special training shall service the rapid growth in numbers of junior staff. Participation in training shall be valued in the career plan.
- 2.6.** INSTAT should develop and implement a comprehensive training plan, aimed at:
- Other producers of official statistics with different levels of experience, and including both technical (statistical, IT) skills and non-technical skills (communication, management, etc.); and
  - Data providers and users (about issues such as the use of standard classifications, and how to access and interpret INSTAT's statistics and how to use microdata in the on-site laboratory).

There are many issues which still prevent the full use of administrative data in statistical production. First of all, INSTAT is not involved in the design of administrative data. Consequents: the formats and data structures of the administrative data can be completely different from the needs of INSTAT. Different institutions like the Tax Authority and the General Registration Authority and INSTAT undertake a great deal of duplicative work with data entry, since the data are not entered once into electronic databases and are not in the format which could be useable for various authorities.

The level of each interaction differed considerably. The topic of access to and use of administrative records and data from administrative registers points to the position of INSTAT as a coordinator of the ASS and also as the focal point in the ASS. The coordinating competence of INSTAT refers in particular to issues such as methods, classifications, and other standards that administrative data should meet.

The legal requirement is currently not well known in the administration. The proper implementation of the task might require further clarifications in the statistical legislation<sup>21</sup>. According to the Law "On Official Statistics", article 7, INSTAT has the responsibility to collaborate with all administrative data providers and has the authority to define standards for the method of data gathering. Based on the Law INSTAT should clearly have a stronger role when administrations are designing their databases.

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<sup>21</sup> LPR 15



On the other hand, INSTAT is not permitted by the Law to supply identifiable microdata from its business register (names, addresses and NACE codes) to other state agencies. However, contrasting sectoral legislation hinders the proper use of administrative data.

Efforts need to be strengthened for achieving agreements on the use of administrative data and on the general exchange of unit-level data across the ASS. In this respect INSTAT would like to formalise co-operation with other institutions which hold administrative data in order to support its statistical activity, as well as to be able to share its own data with other statistics producers.

INSTAT have to continue institutionalise its contacts with administrative authorities by signing memoranda of understanding or framework agreements with various administrative authorities to guarantee the data delivery needed for statistical production. This is represent a significant step towards greater cooperation between entities and integration of the ASS.

A Memorandum of Understanding between INSTAT and Ministry of Agriculture (MARDWA) was signed in March 2016. On the basis of this agreement, INSTAT and MARDWA secure the data exchange produced within the scope of respective institutional statistical activities. For the production of official statistics, MARDWA has obligation to transmit to INSTAT the data and the results included in the Official Statistics Program which shall serve for the production of official statistics and key indicators such as those of the contribution of agriculture to the Gross Domestic Product. Also, INSTAT is given the right of access to administrative data at the macro level or at the level that is required for the production of these statistical indicators.

In 2015 a MoU was signed with the Tax Authority. INSTAT has signed also earlier MoUs with the Bank of Albania, the Ministry of Finance, the General Directorate of Customs, and the Ministry of Education.<sup>22</sup>

## **Suggested improvement actions**

- 2.7.** Based on the Law, INSTAT should develop and document a strategy and a master plan for improving the statistical methodology used by other producers of official statistics within the ASS. A strategy shall be developed for the future use of administrative data sources and registers in the ASS in dialog with the relevant shareholders. Final goal is gradually replace survey data by administrative data where it is feasible. The limitations of sectorial legislations should be eliminated.
- 2.8.** As INSTAT is not involved in the design of administrative data, INSTAT should work with other authorities to ensure that data needed both for administrative and statistical purposes are entered into computer-readable

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<sup>22</sup> LPR 13



format at one point only in order to avoid duplication of work<sup>23</sup>. Data entry should be done at an early stage in the process that leads to statistical production and should preferably be linked to activities for the digitalisation of economy and society.

- 2.9.** INSTAT shall improve data sharing practices through the implementation of two-way exchanges of data between the different parts of the national statistical system implemented through:
- a) Agreements about definitions and formats,
  - b) Establishing a repository of available data,
  - c) Enabling web services, and
  - d) Creating common databases.
- 2.10.** The response burden should be reduced by all means available by cooperating with businesses, by exploring and using administrative data and by development of a web form questionnaire.
- 2.11.** INSTAT should propose to the Government the introduction of legislation which:
- Requires other state agencies to provide INSTAT with administrative and register data required to implement the 2017-21 Work Programme, making consequent changes to other agencies' legislation where necessary.
  - Enables INSTAT to receive data from non-state agencies, for statistical purposes.
  - Enables INSTAT to supply identifiable business register data to other state agencies for the sole purpose of improving the quality of other agencies' registers.
  - Makes provision for Memoranda of Understanding to address operational issues<sup>24</sup>.
- 2.12.** The current process of establishing a MoU is rather cumbersome; it takes a long time and requires protracted negotiations. The formal MoUs regarding the formats and frequencies for data transmission to INSTAT for statistical purposes have turned out to be too rigid to enable the acquisition of new and emerging data. The process of establishing a MoU have to be streamlined: at the highest level of the organisation there should simply be a framework agreement; the technical part (an annex) of the agreement should be developed by subject-matter experts. The technical annex could then be updated annually to cover any changes that are required<sup>25</sup>.
- 2.13.** INSTAT should discuss with the Statistical Council and the Bank of Albania the scope to enable the Bank to access administrative data for statistical purposes, as part of the forthcoming change to Bank's law<sup>26</sup>.

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<sup>23</sup> LPR 15

<sup>24</sup> LPR 15

<sup>25</sup> LPR 15

<sup>26</sup> LPR 15





- 2.14.** A memorandum on data exchange between INSTAT, the Bank of Albania and the Ministry of Finance should be signed by the three statistical producers. This memorandum should specify data sources of common interest and the responsibility of each producer towards the other two<sup>27</sup>.

We mentioned that development of the methodology for collecting secondary data need training for statisticians in INSTAT; for data providing is necessary to have Memoranda of Understanding with the respective external administrative data producers and for standardised programmes and procedures for statistical processes shall be implemented a data warehouse (DW).

One of the main priorities in five years strategic plan named (OSP 2011-2016) was creating the Statistical information system (SIS) - data warehouse for the integration of databases INSTAT including metadata.

Related with introducing the Data Warehouse concepts in INSTAT:

- Integration of statistical information systems requires the consideration of different specific needs of individual data processing stages and in different contexts. Therefore, the creator of integrated statistical information systems should, as a first step, create a model to describe the statistical office functions. INSTAT takes a large amount of administrative data from other institutions. These data are collected in different ways and in different formats. These data are used to produce statistics on social and economic statistics. Lack of the interoperability administrative data affects the process of production of official statistics, based on multi-year program of official statistics.
- Implement a system for the automation of data collection and processing of administrative resources will increase the quality and reduce the statistical distribution of the processing time. Within the context of a statistical office, in general, a statistical data warehouse can be defined as a single stock, full and part-s metadata which are acquired from different sources, collected and combined to form a structure; documented in a standard format and stored in a facility that allows users to view, execute the query, combine unloading data for analysis at different levels. To achieve the goals mentioned above, data warehouse as a storage place should be established, but also to document the overall process of data storage, in which the institution collects, transforms and loads data in different physical systems, optimized for decision making. The solution should be oriented metadata.
- One of INSTAT's main objective is to have a full operational and integrated Metadata system in the INSTAT database system by 2018 and this system shall be fully compatible with ESMS.
- At this moment we have to underline that IT staff in INSTAT has no previous experience with the DW concepts and they are reluctant to the idea of dismissing all the tools that are already in place and have been proven to

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<sup>27</sup> LPR 15



produce satisfying results but they are looking forward to adopt DW into business processes in INSTAT.

### **Current metadata work in INSTAT**

The current Metadata work by INSTAT has led to the development of the MetaPlus system with the support of Statistics Sweden. This MetaPlus is quite detailed in its level holding its Metadata at for variables and values (within a variable) for the surveys that INSTAT carries out.

INSTAT have to decide – strategic way for future Metadata work: MetaPlus or Eurostat. In front of INSTAT there are two options that have been considered:

1. To continue with implementation MetaPlus System such that metadata for the SIMS was integrated within MetaPlus
2. To start with developing Metadata systems based on the Single Integrated Metadata Structure (SIMS), and the Euro-SDMX Metadata Structure (ESMS) and the ESS Standard for Quality Reports Structure (ESQRS) that form part of the SIMS.

#### *Benefits for the first option - to continue with implementation MetaPlus System*

INSTAT have created a documentation team which includes everyone responsible for documenting in MetaPlus<sup>28</sup>

It does seem possible that the MetaPlus system could be developed such that the SIMS was integrated within it. While this would have the advantage that all Metadata work within INSTAT was carried out within one system. However, it is not clear what other advantages there are in this integration<sup>29</sup>.

#### *Benefits for the second option - to start with developing Metadata systems based on the SIMS, and the ESMS and the ESQRS*

The ESMS are based on the Euro SDMX Metadata Structure. It aims at documenting methodologies, quality and the statistical production process in general. It uses (in its pre V2.0 version) 21 high-level concepts with a limited breakdown of sub-items, strictly derived from the list of cross domain concepts in the SDMX Content Oriented Guidelines.<sup>30</sup>

The SIMS data is far more aggregate in its nature than the very detailed Metadata INSTAT currently holds within MetaPlus. It is not clear how the SIMS data would link with the detailed MetaPlus metadata.

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<sup>28</sup> Case Study : Albania INSTAT, Ertugrela Curumi, Specialist of Databases and Metadata Management Unit,

<sup>29</sup>IPA 2014 Multi-beneficiary statistical cooperation programme, MISSION REPORT - DRAFT, Pilot Project 18, Developing a Metadata System, May, 2016

<sup>30</sup>IPA 2014 Multi-beneficiary statistical cooperation programme, MISSION REPORT - DRAFT, Pilot Project 18, Developing a Metadata System, May, 2016



A further reason for INSTAT to develop its own national Metadata system is that Eurostat is both likely to introduce further updates to SIMS, one of which is likely to be quite major when (EPMS) are introduced.

INSTAT may well find it easier to cope with updating its SIMS Metadata systems where there is a specific SIMS based national Metadata system, rather than a national Metadata system that also serves other purposes (such as if MetaPlus were to be expended to integrate the SIMS).

INSTAT regard it as important, including at its senior levels, that metadata for Albania should be available in both the Albanian and English languages. Having it available in Albanian will enable the metadata to be made available to users in Albania in Albanian, while having it available in English will enable INSTAT to meet its obligations to provide its metadata in English in ESMS and ESQRS formats to Eurostat. INSTAT see the development of an IMS as essential in achieving these aims of meeting the needs of Eurostat and Albanian users in a consistent and efficient manner.

For at least the duration of IPA 2014 (so effectively 2016 and 2017) INSTAT will carry out its work on the IMS for the purposes of INSTAT only. So INSTAT will work to first develop its IMS, and then to add its metadata to the IMS (and so for Eurostat via the Metadata Handler) for its own surveys that are covered by EU Regulations. It is expected that INSTAT will start to send its SIMS based metadata to Eurostat via the MH shortly after the IMS becomes operational in INSTAT<sup>31</sup>.

The INSTAT Metadata team has produced a first list of these surveys for which it plans to add metadata to the IMS and so to Eurostat via the MH. This will need some modification as surveys such as Short Term Statistics are included on the list as one survey, when in fact INSTAT carries out a whole set of STS surveys based on the nine STS modules.

In addition to its surveys INSTAT has a set of products which are often statistics based on administrative sources. INSTAT will investigate 5 to 10 of these products to see if they are appropriate to add to the IMS.

### **Suggested improvement actions**

- 2.15.** INSTAT have to decide – strategic way for future Metadata work: MetaPlus or Eurostat.
  
- 2.16.** INSTAT should consider the option of developing a separate INSTAT metadata system (IMS) in which to hold the SIMS-based metadata:
  - hold its SIMS data in both the Albanian and English languages,
  - link with the Eurostat Metadata Handler,
  - link with the INSTAT website, and

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<sup>31</sup>IPA 2014 Multi-beneficiary statistical cooperation programme, MISSION REPORT - DRAFT, Pilot Project 18, Developing a Metadata System, May, 2016

- link with the narrative Quality Reports that are in ESQRS format.
- 2.17.** For further improvements related with Metadata we suggest to apply recommendations from IPA 2014 Multi-beneficiary statistical cooperation programme, MISSION REPORT - DRAFT, Pilot Project 18, Developing a Metadata System, May, 2016. On this place we underline the Summary of this report. The ESMS are based on the Euro SDMX Metadata Structure (ESMS). It aims at documenting methodologies, quality and the statistical production process in general. It uses (in its pre V2.0 version) 21 high-level concepts with a limited breakdown of sub-items, strictly derived from the list of cross domain concepts in the SDMX Content Oriented Guidelines
- The main priority for INSTAT over the next few months is to develop its Metadata system – the IMS.
  - After this the SIMS V2.0 can be entered into the IMS and used by INSTAT to transfer metadata to Eurostat via the MH, and also to the INSTAT website
  - The first step for INSTAT is to prepare its Technical and Operation specifications for its IMS needs to be developed to reflect the structure of SIMS V2.0, taking note of the potential issues raised in this mission report.

## **THE "DISSEMINATE" PROCESS (PHASE 7)**

This phase manages the release of the statistical products to customers. It includes all activities associated with assembling and releasing a range of static and dynamic products via a range of channels. These activities support customers to access and use the outputs released by the statistical organization and consists of 5 sub processes:

- 7.1 Update output systems
- 7.2 Produce dissemination products
- 7.3 Manage release of dissemination products
- 7.4 Promote dissemination products
- 7.5 Manage user support

### **Review of current Disseminate process**

Dissemination process in INSTAT is conducted mainly via web-portals. There are two web-portals currently in place:

- First one is informative web-portal containing general information and INSTAT publications including Excel, PDF, SPSS microdata and other downloadable files for off-line analysis. It is an Umbraco CMS based web-portal available at the URL address <http://www.instat.gov.al>
- Second web-portal is called Statistical Database and it is available at the URL address: <http://databaza.instat.gov.al>



Statistical Database web portal is PX-web based solution, which allows for establishment of dynamic tables on the Internet based on the data contained in the PC-Axis files. PX-Web can also be a part of a solution with connection to SQL databases as well. Both PX-Web and PC-Axis are developed by Statistics Sweden and are based on the Nordic Data Model<sup>32</sup>. PX-Web solution is widely recognized, used by many Statistical Institutions in the world and it is free of charge starting 1st of January 2016.

The publication of the data is going through approval process conducted by the Subject Matter Specialists (SMS). Each time SMS updates the data for particular domain, based on the Publication Calendar, the data would be refreshed through manual process conducted by IT staff - particularly software development sector. This process includes preparation of Excel files based on prepared templates which would later be populated with the actual data prepared for the import process. The data is then loaded through the PX-Loader software into Nordic SQL Server Database used by PX-web web-portal solution. Before the official publication, the data is being released on the testing environment with limited access, and once the SMS approves it, it's being released on the production environment.

Both web-portals are hosted on the INSTAT's own infrastructure and all servers are located on one location in INSTAT. Google Analytics tool is used for the web statistics analysis, and there are around 17.000 total number of visitors per month (of which 3.000 are unique visitors), and around 600 downloads of the microdata. On the both web site, all information is available in English and Albanian.

Dissemination practices are in place but are not consolidated in a dissemination policy. The peer review team was told that a communication and dissemination policy in INSTAT will be developed with support from current IPA programme<sup>33</sup>. There are no procedures in place to review the standards for the dissemination of statistical results.

INSTAT has arranged special meetings with media representatives to explain how to interpret its statistics.

During the last two years, there have been no training courses delivered to those INSTAT staff who prepare press releases.

An IT-related back-up strategy for data exists, but there is no policy for archiving statistics or metadata.

Dissemination services use modern information and communication technology but, at the same time, still rely on printing statistical publications. In 2015 the number of

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<sup>32</sup>[http://www.scb.se/sv\\_/PC-Axis/Documentation/SQL-Metadatabase/](http://www.scb.se/sv_/PC-Axis/Documentation/SQL-Metadatabase/)

<sup>33</sup>LPR- 15



printed publications will be reduced but maintained. Printing is outsourced subprocess. The main reason for maintaining printed dissemination is that libraries and embassies request printed publications.

All statistical results are disseminated using formats which make it easy for the media to re-disseminate. Excel and pdf are the main formats in which INSTAT disseminates statistics. The availability of metadata is a weakness in the dissemination services because INSTAT does not have a standardised metadata system yet.

The web tool PX Web – based on PC Axis – enables self-tabulation from the dissemination database on the web site; outputs can be created in several common file formats.

### **Suggested improvement actions**

**3.1.** INSTAT shall do its utmost to improve its public image in order to build trust and to raise the public's perception of its professional independence. An important element of this recommendation should be for INSTAT to improve its working relationship with the media.

**3.1.1.** Development of a communication strategy with media

**3.1.2.** INSTAT shall improve the contacts and communication with the media, by:

- Organising special seminars and events for media
- Providing them with specific services as study visits
- Staff members who work together with media people should receive training on writing press-releases or on dealing with representatives of media.
- Introducing media briefing

**3.2. Improving Press release**

**3.2.1.** Guidelines for the conduct of press releases and press conferences shall be developed.

**3.2.2.** A system for monitoring actual timing of releases compared to the release calendar shall be established. Statistics on delays (report on monitoring actual timing of releases) shall be prepared and published in regular short reports, to be discussed by the board of INSTAT for potential corrections or adjustments of the statistical production processes.

**3.2.3.** The advance release calendar shall contain the release dates of all statistical products, including press releases, of the ASS for at least the coming three months. The release time should be the same for all releases, and should only exceptionally be disrespected. This calendar have to be fully consistent with the European statistics Code of Practice for all releases of statistics included in the 2017-21 Work Programme

**3.3. Improving Revision policy**





- 3.3.1. A revision policy shall be developed and made public, describing principles and guidelines for the producers. A procedure shall be put in place for regular and standardised analyses of revisions in key statistical domains, notably national accounts
- 3.3.2. The policy on error treatment should be formalised and communicated.
- 3.4. **User satisfaction** shall be measured regularly in a standardised way in order to be able to monitor its evolution over time.
  - 3.4.1. Implement regular user satisfaction surveys
  - 3.4.2. Implement a user engagement action plan based on the results of user satisfaction surveys.
- 3.5. **Dissemination strategy** shall be developed in agreement with all producers of official statistics.
  - 3.5.1. User engagement – including sectoral or domain specific user groups covering a wide range of users and potential users – supported by user satisfaction surveys
  - 3.5.2. Media engagement – including the provision of material about INSTAT and its statistical activity. Broaden the media engagement to wider circles of staff at INSTAT.
  - 3.5.3. The need to ensure clear communication (in statistical releases and supporting material on the website) of complex or high-profile statistical issues.
  - 3.5.4. A release calendar, including specifying a standard release time.
  - 3.5.5. A web portal enabling straightforward access to all releases of statistics covered by the 2017-2021 Work Programme.
  - 3.5.6. Transition to web-only publishing.
  - 3.5.7. Responding to public criticism of INSTAT and its statistics.
  - 3.5.8. Making the results of meeting tailor-made requests publicly available
  - 3.5.9. Publishing rules and guidelines for access to INSTAT's statistical microdata; monitoring their implementation; and publishing information – relating to intended purpose, the datasets in question, confidentiality protection, and research findings – about each provision of microdata access.

## **THE "EVALUATE" PROCESS (PHASE 8)**

This phase manages the evaluation of a specific instance of a statistical business process. It logically takes place at the end of the instance of the process, but relies on inputs gathered throughout the different phases. It includes evaluating the success of a specific instance of the statistical business process, drawing on a range of quantitative and qualitative inputs, and identifying and prioritising potential improvements.

The Evaluate process is consists of 3 sub processes:

### **1. Gather evaluation inputs**



Evaluation material can be produced in any other phase or sub-process. It may take many forms, including feedback from users, process metadata (paradata), system metrics, and staff suggestions. Reports of progress against an action plan agreed during a previous iteration may also form an input to evaluations of subsequent iterations. This sub-process gathers all of these inputs, and makes them available for the person or team producing the evaluation.

## 2. Conduct evaluation

This sub-process analyses the evaluation inputs and synthesises them into an evaluation report (**qualitative report**). The resulting report should note any quality issues specific to this iteration of the statistical business process, and should make recommendations for changes if appropriate. These recommendations can cover changes to any phase or sub-process for future iterations of the process, or can suggest that the process is not repeated.

## 3. Agree an action plan

This sub-process brings together the necessary decision-making power to form and agree an action plan based on the evaluation report. It should also include consideration of a mechanism for monitoring the impact of those actions, which may, in turn, provide an input to evaluations of future iterations of the process.

## QUALITY

Quality in INSTAT is implemented in a piecemeal, rather than a holistic manner – it is seen as being related to the various aspects of statistical products, rather than as a guiding philosophy for the whole organisation. Responsibility for statistical quality is given to various departments and there are only a few overall guidelines for handling quality. Co-ordinator on quality matters are nominated from April 2016 with responsibility for the overall co-ordination of quality matters in the organisation.

The quality dimensions of statistical products are widely recognised among the staff of INSTAT. Indicators relating to statistical quality are produced and monitored internally; some of these indicators are included in the quality reports provided to Eurostat.

Although for the ESS Standard for Quality Reports Structure (ESQRS) some quality concepts are part of the ESMS, the need of a more detailed standard structure for the collection and dissemination of quality reports has grown up during recent years, since there was no homogeneity between the existing quality reporting structures used in the different statistical domains. Narrative Quality Report template in INSTAT has been developed using the structure of ESQRS. It is expected that ESQRS data will be entered into the IMS, and then transferred into the appropriate survey Quality Report template<sup>34</sup>.

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<sup>34</sup> IPA 2014 Multi-beneficiary statistical cooperation programme, MISSION REPORT - DRAFT, Pilot Project 18, Developing a Metadata System, May, 2016



Quality reviews of key statistical outputs are planned in the statistical programme 2017-2021. The plan for systematic and regular quality reviews will be prepared, with a focus on the statistical programmes for the coming years. In the longer run these reviews have to cover all statistics produced by the ASS. Internal auditors should be trained in auditing techniques and self-assessments; this will support the quality review programme and ensure its effectiveness and sustainability.

Procedures are in place for data quality assessment.

INSTAT has clearly increased the information on the web site about the methods underpinning different statistics, but information published describing quality from a user-perspective are missing.

Source data are assessed by INSTAT. In the case of a database of company accounts that is delivered by the Tax Authority, INSTAT has to spend its own resources in rearranging the information in a format that is suitable for statistical production.

Intermediate results and statistical outputs are assessed and validated by comparison with previous results or with other sources of data held by INSTAT.

INSTAT compares statistical outputs with other statistical or administrative data wherever possible. The divergences from different sources are identified, such as VAT data compared with SBS/STS results, administrative employment data with the LFS results, and so on. Reasons for divergences are explained and made public. Statistical outputs are reconciled whenever possible, e.g. SBS/STS with VAT reconciliation at individual level for internal use.

Labour market statistics are drawn from two sources, the labour force survey and the register of employed and unemployed. INSTAT has started to publish labour market data from both sources on the same day, with a double set of press releases and data disseminated in distinct places on the web site of INSTAT. This practice has reduced the intensity of the debate about the differences between the two sources.

The LPR-2013 recommended INSTAT to follow international best practice by making reference to the principles and commitments related to quality in its Mission/Vision Statement and by introducing a publically available Quality Policy/Commitment Statement. The peer review team was told that the quality commitment of the organisation is part of internal guidelines. A reference to the principles and commitments related to quality shall be given in the Mission Statement of INSTAT and a formal Quality Commitment Statement should be shown on a prominent place of the INSTAT website.

The INSTAT website includes conceptual and methodological information for each statistical theme, helping users to understand and assess the quality of the statistics. Some quality indicators (like coefficients of variation, variance, standard errors, non-sampling errors, and imputations) are compiled for internal use and are made



available to the public for a few surveys (Labour Market 2014, Labour Cost Survey 2012). The Quality Report of the Population and Housing Census 2011 has been published and made available on INSTAT's website.

INSTAT does not regularly measure the reporting burden associated with its business surveys.

### Suggested improvement actions

- 3.6. The new quality co-ordinator needs to have strong support both from top management.
- 3.7. Two important documents have to be prepared:
  - Development and implementation of a user-oriented **quality management strategy** as the guidelines on how to implement quality management within the statistical production process have to be produced. Such quality guidelines would facilitate the work of the line departments and would improve the efficiency of statistical processes. These guidelines would help the implementation of quality management within the statistical production processes based on the Generic Statistical Business Process Model (GSBPM), a modified version of which is adopted by INSTAT. These guidelines have to take the situation of other producers within the ASS into account.
  - **A specific action plan** (Quality Assurance Plan) should be prepared to describe working standards, formal obligations such as laws and internal rules, and a set of quality control actions to prevent and monitor errors, to evaluate quality indicators, and to control relevant points at all stages of the statistical process in a harmonised way.
- 3.8. Methodological information on the website should be extended into user-oriented quality reports. These should follow a uniform and standardised format for all statistics and provide users with all relevant metadata and quality indicators. This would help the media and the general public to understand the published statistical figures.
- 3.9. Comprehensive producer-oriented quality reports will be developed and made available for all statistical products. The process is a part of the large metadata project assisted by SIDA. Metadata descriptions and quality reporting will follow the European SIMS (which ties together ESMS and ESQRS) standard.
- 3.10. The monitoring of quality indicators should be used as the basis for the improvement of the statistical products. It should cover all European statistics that are produced within the ASS.
- 3.11. Regularly measure the response burden of business surveys. Implementation of a instruments for response burden measurement. Set numerical targets for the reduction of response burden. In order to monitor progress against the target, it will be necessary to start the regular measurement of response burden of business surveys.
- 3.12. Organise a public relations campaign for the promotion of web data collection.



- 3.13. User satisfaction survey have to be prepared.
- 3.14. INSTAT's training programme should offer relevant courses on quality issues, including on the quality guidelines. This should be done for both newcomers and for more experienced staff. INSTAT should also offer training courses to the staff of other statistical agencies as a part of its role as the ASS coordinator.

## COMMON CONCLUSIONS

In this report, an overview of the existing processes and data flows in INSTAT statistical processing and recommendations for necessary improvements taking into account the business flows are presented.

We concluded (in line with conclusions of the LPR 13 and LPR 15 teams) that INSTAT ensures the right processing of statistics production in every phase<sup>35</sup>. The processes defer for each survey since there are no general guidelines or recommendations in the organisation. In order to ensure a degree of consistency in the design of the surveys, methodology units follow and implement the European recommendations and statistical legislation for sample survey design or estimation requirements.

We underlined that this report follow Output 1a.1 Blueprint of a corporate statistical business process architecture aligned with the Generic Statistical Business Process Model (GSBPM). This model describes and defines the set of business processes produced in INSTAT. It provides a standard framework for integrating data and metadata standards, and also provides a framework for process quality assessment and improvement. In this report we will not go into the details of the processes and data flows, that are given in the Blue print, but will focus on the necessary improvements in INSTAT.

There are expectations that the implementation of the Data Warehouse (DW) solution in INSTAT will enable more standardised way of working. Developments such as the greater use of administrative data and web-based data collection will improve the efficiency of statistical production in the long term. In addition, the consistent management of administrative data requires more internal co-ordination and standardised procedures and strengthening the role of the ASS particularly in the area of data exchange – interoperability.

In order to achieve this, it is necessary to establish the consistent management of administrative data based on more internal co-ordination and standardised metadata and quality procedures. The role of staf education and training are crucial.

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<sup>35</sup> LPR-13 & LPR-15



This report 1a2.1: Review of the processes & data flows and necessary improvements in INSTAT (as well as Output 1a.1: Blueprint of a corporate statistical business process architecture aligned with the Generic Statistical Business Process Model (GSBPM)) is the basis for the other activities to be undertaken under the Component 1, sub-component 1a: Redesign and improve corporate statistical business processes as well as form the basis for the IT systems developments as identified under Component 2: Develop and test system for upgraded corporate ICT infrastructure with inclusion of establishment and pilot implementation of centralised Data Warehouse(s) and Component 3: Strengthen communication function and statistical coordination role of INSTAT with focus on dissemination and quality management





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[http://www.sas.com/en\\_us/home.html](http://www.sas.com/en_us/home.html)



## **ANNEX 2: ABBREVIATIONS AND ACRONYMS**

List of abbreviations and acronyms, included in the report.

**ASS** – Albanian Statistical System

**CADE** – Computer Assisted Data Entry

**CAPI** – Computer assisted personal interviewing

**CATI** – Computer assisted telephone interviewing

**CAWI** – Computer assisted web interviewing

**CMF** - Common Metadata Framework

**CSPA** - Common Statistical Production Architecture

**DDI** - Data Documentation Initiative: An international standard for describing data from the social, behavioral, and economic sciences.

**DW** - Data Warehouse

**ESS** – European Statistical System

**EU** – European Union

**ESMS** - Euro-SDMX Metadata Structure

**ESQRS** - ESS Standard for Quality Reports Structure

**FTP** – File Transfer Protocol

**GSBPM** - Generic Statistical Business Process Model

**INSTAT** - Institute of Statistics of Albania

**ICT** - Information and Communications Technology

**IPA** - Instrument for Pre-Accession Assistance

**IPA 2014** - Multi-beneficiary statistical cooperation programme

**IT** – Information Technology

**LPR – 13** - Light Peer Review of the Implementation of the European Statistics Code of Practice in the Republic of Albania – Final Report, 2014

**LPR – 15** - Report on Limited Peer Review of the Institute of Statistics of Albania, 2015

**MARDWA** - Ministry of Agriculture, Rural Development and Water Administration

**METIS** - The "brand name" for work on Statistical Metadata under the Conference of European Statisticians.



**MoU** – Memoranda of Understanding

**NACE** - Statistical Classification of Economic Activities

**OCR** - Optical Character Recognition

**OECD** - Organisation for Economic Cooperation and Development

**PAPI** – Paper and Pencil Interviewing

**OSP 2012-2016** - Official Statistics Programme for the period 2012-2016

**SDMX** - Statistical Data and Metadata eXchange

**SIDA** - Swedish International Development Cooperation Agency

**SIMS** – Single Integrated Metadata Structure

**SIS** - Statistical information system

**SMS** - Subject Matter Specialists

**UNECE** - United Nations Economic Commission for Europe

**VPN** - Virtual Private Network

**XML** - eXtensible Mark-up Language