

**Sector Review**  
**of Agriculture Statistics**  
**of the Republic of Albania**

*Final Report*

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## **LIST of ABBREVIATIONS**

AAS	Annual Agriculture Survey
AC	Agriculture Census
AMST	Agriculture Monetary Statistics Team
ARDA	Agricultural Rural Development Agency
ASPA	Albanian School of Public Administration
CAPI	Computer aided personal interviewing
CATI	Computer aided telephone interviewing
CSPRO	Census and Survey Processing System
CV	Coefficient of Variations
EAA	Economic Accounts for Agriculture
ESCoP	European Statistics Code of Practice
ESQRS	ESS Standard for Quality Reports Structure
ESS	European Statistical System
ESTP	European Statistical Training Programme
EU	European Union
FADN	Farm Accountancy Data Network
FR	Farm Register
FSS	Farm Structure Survey
GIP	Gross indigenous production
GSBPM	Generic Statistical Business Process Model
HR	Human Resources
IACS	Integrated Agriculture Control System
IMF	International Monetary Fund
INSTAT	Institute for Statistics of Albania
IPA MB	Instrument for Pre-accession Assistance, multi-beneficiary
LOS	Law on Official Statistics
LPIS	Land Parcel Identification System
MARD	Ministry of Agriculture and Rural Development
MoU	Memorandum of Understanding
NSP	National Statistical Programme
NSS	National Statistical System
PAPI	Paper-and-Pencil Interviewing

PC	Population Census
PES	Post-Enumeration Survey
SAQ	Self-assessment questionnaire
SIDA	Swedish International Development cooperation Agency
SO	Standard output
SR	Sector Review
SRP	Statistical Revision Policy

## PREFACE

1. **EUROSTAT supports** both enlargement countries (Albania, Bosnia and Herzegovina, the former Yugoslavia Republic of Macedonia, Montenegro, Kosovo, Serbia, and Turkey) and European Neighbourhood Policy countries (ENP-East: Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine; ENP-South: Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Palestine, Syria, and Tunisia) **in aligning their statistical production with European Union (EU) and international standards and assessing their statistical systems.**
2. **A number of specific tools were put in place** in order to assess and support the efforts of the above-mentioned countries in this regard: *Light Peer Reviews, Adapted Global Assessments and Sector Reviews*. Sector Reviews (SRs) are conceived to support the partner countries in their efforts to align core sectors of statistics (e.g. Agriculture Statistics) with EU principles (e.g. European Statistics Code of Practice [ESCoP] and international standards). The objectives of SRs are:
  - to assess the administrative and technical capacity of the statistical systems to produce high-quality statistics in the reviewed sector Agriculture Statistics;
  - to assess the statistical production in Agriculture Statistics vis-à-vis the *acquis communautaire*;
  - to propose a list of actions to improve and strengthen the Agriculture Statistical system.

An important benefit for the statistical institute is that the SR indicates directions for the development of the statistics under review. The report serves a practical purpose as it may be used as a source document to update the metadata.
3. **The SR reports are published on the EUROSTAT website.** SRs so far implemented in various fields of statistics have shown the importance of such a tool in order to assess and improve the statistical environment, the processes and the production of the National Statistical Systems (NSS) concerned.
4. **The SR aimed at assessing the Agriculture Statistics** of Albania under the EUROSTAT project “*Provision of global assessments, sector assessments and light peer reviews for enlargement and ENP countries*”. The SR process was initiated by EUROSTAT on the basis of a request made by the National Institute of Statistics of Albania (INSTAT).
5. **The SR strictly refers to the EUROSTAT provisions** (ESTA/A/2014/2016) and makes use of all relevant guidelines and standard tools, notable the ESCoP.
6. The SR was organised carrying out a recommendation of INSTAT and conducted by Dr Eva Laczka, and Ms Irena Oresnik. The SR covered: Farm Structure Statistics (FSS), annual crop statistics and statistics on permanent crops, animal production statistics, Economic Accounts for Agriculture (EAA) and agricultural prices and National Accounts for Agriculture.

7. In May 2018, **EUROSTAT announced to INSTAT the possibility for a SR** and INSTAT accepted it in the field of Agriculture Statistics. The review started with the preparation of the **self-assessment questionnaire (SAQ)** on Agriculture Statistics compiled by the above-mentioned experts. Ms Laczka and Ms Oresnik also prepared the **agenda of the SR meeting** to be held in Tirana. The questionnaire corresponded to the needs of INSTAT consisting of the following chapters: *institutional environment, statistical processes, statistical outputs and orientation on future actions*.
8. **The questionnaire was filled in by INSTAT's experts** and it was the basis for the SR discussion carried out in Tirana from 20-23 November 2018. The summary (review findings) are based on the analysis of the documents provided by INSTAT, the documents available on INSTAT's website as well as on the discussions held during the country mission.
9. **The international experts met the heads of departments (directories)** in charge of Agriculture Statistics, National Accounts, dissemination and methodological issues (quality of statistics, metadata, etc.). One of the most valuable discussions during the mission was the **consultation with representatives of users of Agriculture Statistics data** (professor, researcher of the University of Tirana, and deputy minister of the Ministry of Agriculture and Rural Development [MARD]).
10. On the last day of the mission (23 November 2018) a **summary debriefing** – involving the chief statistician of INSTAT – was carried out for the SR team. The preliminary main findings and recommendations were presented by the international experts and discussed with the heads of related departments.
11. On 29 November 2018, the **summary was sent** first to the contractor **ICON and consequently to EUROSTAT**.
12. Since the beginning, the collaboration with INSTAT has been **open and constructive contributing to the success of the mission**.

## EXECUTIVE SUMMARY

1. **The SR on Agriculture Statistics** was requested by INSTAT. The main objective of review was to provide guidelines for the future work in the Agriculture Statistics to INSTAT.
2. According to the **Law on Official Statistics (LOS)**, INSTAT is responsible for the production and dissemination of official Agriculture Statistics in Albania.

**Agriculture and Environment Statistics Directory** consists of 3 units; **Land and Crop Production Statistics Unit, Livestock, Fisheries and Environment Statistics Unit** and **Economic Accounts on Agriculture and Environment Unit.**

3. Another important actor in compiling Agriculture Statistics is the MARD.
4. Statistical work is regularly discussed by **expert groups** (on data collection, methodology to be applied) that are mostly not documented. In the case of **crop statistics** and **livestock statistics**, formal working groups exist with nominated members from INSTAT and from other relevant institutions (such as the MARD, Agricultural University, etc.). INSTAT is member of different technical groups established by other institutions (MARD's Working Group on **Farm Register**, Working Group on reference **prices of agricultural products**, etc.).
5. INSTAT shows big interest and motivation in the development and alignment of Agriculture Statistics in order to fulfil the international standards as well as to fulfil the national and international user needs. Much work was invested in the recent years, while its results (outputs) will be visible for the users in the forthcoming years, when all of the survey data will be published and disseminated.
6. **INSTAT achieved significant progress in improving its Agriculture Statistics.** Developments were supported by EUROSTAT through the Instrument for Pre-accession Assistance multi-beneficiary (IPA MB) projects and IPA national projects. INSTAT staff has a high familiarity with EU concepts and guidelines and has improved knowledge of statistical methodology and best practices.
7. In the recent years, INSTAT has gradually introduced several new surveys **harmonised** with EU and other international standards respecting the concepts and definitions of the EU regulations and handbooks. Despite the above-mentioned developments, the majority of the newly introduced surveys' data are not published yet; the **consistency of the survey's data needs to be improved.**
8. Currently, the **human resources of INSTAT** face overburden in fulfilling the current requirements. Since 2018, the new LOS strengthens the professional independence and financial conditions of INSTAT.
9. INSTAT **has gradually developed the methodological documentation** (metadata) working on and based on the Generic Statistical Business Process Model (GSBPM). Most

of the documents are available on INSTAT's website such as the dissemination policy, revision policy, quality reports, survey methodology, etc.

10. A significant part of the current **official data** – related to agriculture – is based on expert estimates and administrative data sources of the MARD.
11. **In 2012, INSTAT carried out the Agriculture Census (AC)**. The methodology, concepts and definitions of the AC are harmonised with the EU requirements. Some characteristics – that concern not significant products or services in Albania – were not observed. The AC 2012 data were published only in 2017 after its calibration due to the discovered under-coverage of the AC. The AC 2012 data are going to be sent to EUROSTAT – in EUROFARM format – in 2019. In parallel, the standard output (SO) coefficients will also be calculated and delivered to EUROSTAT allowing the calculation of typology and economic size of units/farms.
12. The AC 2012 list of farms is used as a sample frame for **Annual Agriculture Surveys (AAS)**. Due to the lack of other administrative data sources, the sample frame is currently updated only by the previous INSTAT surveys. The sample frame is supplemented by the list of new farms compiled annually by the MARD.
13. In 2010, an **administrative livestock register** was established. It consists of the two registers: individual register of animals and the animal holding register. It is managed by the veterinary service covering all types of livestock (cattle, sheep, goats, pigs, equine, poultry, and bees). Due to the lack of common identifiers, the administrative register data for statistical purposes can currently be used only at aggregated level.
14. **Vineyard register and register of olive trees** are under construction by the MARD – as the first step – the MARD registers the farmers engaged in wine and olive production. The MARD is also working on the **Integrated Agriculture Control System (IACS)** and on the **Land Parcel Identification System (LPIS)**. In the case of IACS and LPIS – projects the MARD is still working on the model of the systems – the registration is not in place yet. The MARD is going to carry out **registration of all farms in Albania** applying a door-to-door method. INSTAT supports the MARD in preparation of questionnaire and methodology to be used. The list of the **farms applying for subsidies** is going to be updated regularly by the MARD but currently the updating system is not worked out yet. The estimated number of units – to be updated regularly – is about 50.000 out of 350.000 (MARD estimation on the total number of farms in Albania).
15. In the recent years, INSTAT has gradually introduced a number of surveys harmonised with **EU and other international standards**.
16. In the case of **animal product statistics**, several monthly surveys are implemented (such as slaughtering of cattle, sheep, goat and pigs in slaughterhouses, slaughtering of poultry in slaughterhouses, milk collection and processing, egg production). In addition, an annual survey on milk processing is running.
17. In Albania, the **AAS** covers the land use, crop production, livestock number and animal production, supply balance sheets, agriculture labour input and expenditures statistics.



Before the AC 2012, the MARD was in charge of the implementation of the AAS. That time, the sample was based on area frame data. In 2013 – after the AC 2012 – INSTAT became responsible for Agriculture Statistics as a whole including implementation of the AAS.

18. The **AAS 2013 was carried out by INSTAT**, based on the AC 2012 list of farms as the sampling frame. In 2014 and 2015, the AAS was not carried out. Since 2016 – based on a new decree – the MARD became responsible for the data collection and data entry of AAS data while INSTAT was in charge of the methodology, data processing and dissemination of AAS data. In 2016, the above-mentioned division of labour – between the MARD and INSTAT – was documented and signed. Although the AC 2012 data and the AAS data correspond to each other, some of the AC and AAS data do not correspond to the MARD (official) data that are based on expert estimates of the MARD and other administrative data sources.
19. The **AAS data are subject to validation** at different levels (at micro and macro levels) as follows:
  - a. within questionnaires;
  - b. across questionnaires, and/or administrative data sources;
  - c. at macro level (at National Accounts level).

However, there is a need for further improvement of data validation and editing procedures. It requires better cooperation between the 3 Units of Agriculture and Environment Statistics Directory agriculture and environment statistics directory as well as better cooperation is required with the Methodology and Quality Statistics Unit of the IT Directory. The documentation of the processes has to improve.

Based on several activities carried out in the recent years (the calibration of AC and AAS data, comparison of AC and AAS data with different data sources as well as the supply balance sheets data-based analysis, quality controls), the quality of **AAS data is considered to be improved** in order to be more in line with the reality. Over and above the mentioned activities, the **revision of time series on crop production data** (on the years of 2013-2017) is running and improving the data quality.

20. Concerning the **price statistics**: a **monthly survey on output prices** is carried out as well as output price indices are published annually at national level.
21. **Prices on inputs** are collected by quarterly surveys (INPUT1 and INPUT2). The majority of input data (INPUT1) have been collected since 2015, while data on **prices on machinery** (INPUT2) have been collected since 2018. Data on **prices of breeding animals** are collected as well as data on **land prices and rents** are gathered.
22. **Agriculture labour input** calculations are based on AC and AAS data.
23. The Economic Accounts on Agriculture and environment Unit compiles and delivers the **Economic Accounts for Agriculture** (EAA) only for internal use, to the National Accounts directory. The EAA data are mainly used for compiling the **yearly and quarterly National Accounts** as well as for compiling the **regional accounts for agriculture**.

Currently, the AMST does not compile and not publish the whole set of accounts and indicators of the EAA for external use; the complete dissemination is planned for the future.

24. From 2019, INSTAT is going to work on **a paradigm shift as they are moving from an expert estimate-based system to survey-based Agriculture Statistics**. The AAS data from 2016 onwards will be based on and published for crop areas and production as well as for livestock number and production. From 2019, the slaughtering in slaughterhouses, data on milk gathering and processing as well as data on egg production will be based on statistical surveys carried out by INSTAT. Data are already available and sent to Eurostat; however, they are not disseminated nationally. In the case of crop production data (for years 2013 – 2015), the data are going to be revised and published together with the AAS data.
25. The **Population Census (PC)** is planned to be conducted in 2020 as well as the AC in 2022. INSTAT has prepared draft questions to be included in the PC with the aim to update the list of agricultural households as a frame for the upcoming AC.
26. **The Farm Accountancy Data Network (FADN)** is not implemented yet. However, the majority of data sources needed for its implementation are available.

#### **Future plans of INSTAT and MARD**

27. INSTAT is going to:
  - a. strengthen the mandate of Agriculture Statistics in the future;
  - b. improve the quality of statistical Farm register (covering commercial farms and small units producing for own consumption);
  - c. provide methodological support to MARD for setting up administrative registers and their operation
  - d. improve the dataflow, particularly the use of administrative data sources for agriculture statistical purposes;
  - e. make the data validation processes more automatic;
  - f. Compile, standardise and disseminate quality reports for users.
28. MARD is going to establish administrative registers and improve the quality of administrative data such as
  - a. Administrative farm register (covering commercial farms)
  - b. LPIS and IACS
  - c. Individual register of animals and the animal holding register
  - d. Vineyard register
  - e. Olive trees register
  - f. Data base on clients (farmers) receiving subsidies
  - g. Land cadastre
  - h. FADN
29. The PC is going to be carried out in 2020 and AC in 2022. INSTAT has prepared draft questions to be included in the PC with the aim of updating the list of agricultural households as a frame for the upcoming AC.

## ASSESSMENT OF RESULTS

### Part 1: Institutional environment

#### *Principle 2: Mandate for Agriculture Statistics data collection*

1. According to the **Law No. 17/2018 on Official Statistics** (LOS 2018), INSTAT is responsible for production of official Agriculture Statistics in Albania. Another important actor in compiling Agriculture Statistics is the MARD.  
<http://instat.gov.al/media/3972/law-no17-2018-on-official-statistics.pdf>
2. The LOS 2018 as well as the 5-years **National Statistical Programme** (NSP) for 2017-2021 approved by the Parliament are the main legal bases for compilation of Agriculture Statistics in Albania. The LOS 2018 re-formalises the **NSS** and has strengthened the mandate of producers of official statistics in collection of Agriculture Statistics data, including access to administrative data sources. The LOS 2018 also strengthens the professional independence and financial conditions of INSTAT.
3. INSTAT plays a **coordinating role** in the NSS. In order to ensure the implementation of the ESCoP, the current LOS gives a stronger mandate to monitoring the implementation of the 5-year NSP and gives recommendations to other producers of official statistics. The current LOS emphasises the importance of the quality of statistical data in line with the ESCoP and national user needs.
4. Up to 2012, the **responsibility for Agriculture Statistics** in Albania was a shared division of labour between INSTAT and the MARD. The MARD carried out several agricultural surveys annually (Annual Agriculture Survey [ASS] in December, and in June a survey on areas sown and a survey on production in greenhouses), while INSTAT was responsible for the implementation of the AC and the EAA as well as the National Accounts for agriculture.
5. **In 2013, INSTAT became responsible for Agriculture Statistics as a whole** (regulated by a decree). In 2012, INSTAT carried out the **AC 2012** and in 2013 the first sample survey, the **AAS**, was implemented. As the data of AC 2012 and AAS 2013 data differed considerably from the estimates of MARD, the survey results were not considered reliable (neither the AC 2012 nor the AAS 2013 data). As a consequence of the above-mentioned facts, AAS was neither carried out in 2014 nor in 2015. Additionally, the results of the AC 2012 and AAS 2013 were not published following the surveys. Finally, the AC 2012 data were published in 2017 after a calibration of data.
6. **In 2016** (regulated by a new decree), the MARD **received back some responsibilities in respect to Agriculture Statistics**, including the budget for the implementation of surveys. Since 2016, the MARD has been carrying out the training of enumerators and controllers and is in charge of data collection and data entry of the AAS. INSTAT's responsibility is the implementation of the AAS methodology, sample selection, training of the MARD central staff, data processing, and data dissemination.
7. **In 2016** (under the new decree), a **Memorandum of Understanding** (MoU) was signed between the MARD and INSTAT. The MoU has defined the obligations and deadlines for

both of the institutions in respect to the AAS as well as in respect to the provision of the MARD expert estimates (named administrative data) related to crop and livestock statistics.

8. Implementation of **Agriculture Statistics is discussed by expert groups** which are mostly not formalised and documented. In the case of crop statistics and livestock statistics, formal working groups exist with delegated members from INSTAT and other relevant institutions (MARD, Agricultural University, etc.). In addition, INSTAT is member of different technical groups of other institutions (MARD's working group on farm register, working group on reference prices of agricultural products, etc.).
9. **MoUs are also signed between INSTAT and Agricultural and Rural Development Agency (ARDA) and Agricultural University of Tirana.** Both of the MoUs enabled the strengthening of collaboration between providers and producers of official statistics with the aim to improve the quality of administrative data, timelines, and quality of statistics.
10. **The MARD in collaboration with the Agricultural University of Tirana** are the main institutions in charge of evaluating and modelling of agriculture policy in Albania. As such, the MARD and the University is a very important user of the data and can provide very valuable feedback on the data quality to INSTAT.
11. **The ARDA** will play a key role in providing administrative data to INSTAT, as their responsibility is to deal with subsidies of farmers. The close collaboration between the ARDA and INSTAT will contribute to the establishment of different registers and other basic data sources as well as to the future efficient use of administrative data for statistical purposes.
12. The LOS 2018 in Albania is an adequate **legal basis for the use of administrative data for statistical purposes.** It clearly defines obligations of data users and data providers, including the rights of INSTAT. INSTAT has the mandate to evaluate the adequacy of the contents and structure of the established register and databases for statistical needs. INSTAT has to be involved already in the preparatory phase, the administrative data have to be provided to INSTAT free of charge including also the metadata.
13. **The respondents are obliged** (by the LOS) **to provide data free of charge for statistical purposes.** Data and information shall be provided to INSTAT in the requested form, within the timeframe set forth. The rights and obligations of respondents as well as the confidentiality of respondents' data are presented by the LOS 2018. The respondents must be informed about the data, information to be provided to INSTAT by the NSP and its Annex 1. Since the LOS 2018 was established, INSTAT has not implemented any sanction to respondents who refused giving information. The aim of this policy approach was to strengthen the collaboration between statisticians and respondents as well as to strengthen the confidence in between.
14. **Statistical press releases** of INSTAT are prepared by Statistical Production directories in collaboration with the directory of publications. Statistical releases are disseminated in a professional manner and free of any political or other institutional body approval. The timing of statistical releases is free of any political or other institutional body influence, respecting the legal frame of the LOS 2018.

15. The **Director General of INSTAT has the sole responsibility in choosing statistical methods, standards and procedures.** The statistical methods, standards and procedures of the statistical production are defined in the NSP 2017-2021 and approved by the Albanian Parliament. In addition, the LOS 2018 stipulates the approval by the Parliament of the annual plan for the implementation of the NSP. Pursuant to paragraph 4 of Article 9 of this law, the draft-annual plan of statistics shall be approved by INSTAT, after having been presented and having obtained the opinion of the Statistical Council. The professional independence is guaranteed by law (Article 4, Letter (a), Article 16, paragraph 1, Article 25, paragraph 6). There is no evidence of interference from line ministries, government or any other external body.

<http://instat.gov.al/media/3972/law-no17-2018-on-official-statistics.pdf>

[http://instat.gov.al/media/3705/psz-2017-2021\\_english.pdf](http://instat.gov.al/media/3705/psz-2017-2021_english.pdf)

### *Principle 3: Adequacy of resources*

16. **INSTAT is organised in directories**, all directories are obliged to report to the Director General. The Agriculture Statistics is in the responsibility of the agriculture and environment directory which is supported by staff from several other directories, such as the directory of data collection, the regional offices (for monitoring fieldwork), , the IT directory (for the household list and databases, methodology for sampling design and weighting procedures, software development), the directory of publications, etc. Agriculture statistics in INSTAT is managed by three units: **crop statistics** including forestry, **livestock statistics** including fishery and environment statistics and **EAA** including the agriculture prices and environmental accounts.
17. Each of the units within the agriculture and environment directory has three employees. Including the head of the Agriculture Statistics directory, there are ten persons in total, out of which eight are directly involved in Agriculture Statistics. In the regional offices, there are twelve persons supporting Agriculture Statistics. Three IT staff members work for Agriculture Statistics but not full working time (shared with other directories).
18. Reviewers found that the staff responsible for the production of **Agriculture Statistics showed a high level of competence and enthusiasm; however, they seem to be overburdened.** In the last years the staff had to deal with the development and management of new surveys, management of regular surveys, agriculture census calibration and publication amongst others. Currently, the staff deals with the revision of time series as well as with testing of future surveys and analysing administrative data sources in the light of its use in Agriculture Statistics. The planning of the next AC has also started.
19. The reviewers found that **INSTAT management is aware of the lack of resources for implementing the full system** of EU Agriculture Statistics surveys. It is strongly recommended to take steps to improve the human resources situation in line with the statistical needs. The lack of staff in the IT directory is particularly critical.

20. **The total annual budget** (including administrative expenses) for the Agriculture Statistics is approximately 20.000.000 ALL (approximately 170.000 EUR). The development was in recent years supported by EU financed projects and donors (IPA MB, IPA national, Swiss cooperation).

***Principle 4: Statistical quality***

21. The **LOS 2018 stipulates the fundamental quality requirements** on national official statistical data including Agriculture Statistics in line with the ESCoP quality principles.

22. In April 2017, INSTAT conducted the first **user satisfaction survey**. The main objectives were:

- a. to measure the user satisfaction with statistical products and services;
- b. to ascertain the current user practice;
- c. to use the findings to identify improvement opportunities;
- d. to design the process and instruments that can be defined at least annually.

The result of the user satisfaction survey provided useful information for further developments in order to meet the user's needs. Currently, only 4.4% of the users are interested in Agriculture Statistics data. The media does not deal with agricultural data regularly. The most active group of users is the group of researchers and teachers of Universities.

23. In order to **measure the quality of Agriculture Statistics data**, the AC 2012 and AAS 2013 data were analysed (the statistical survey data differed from the MARD estimates). Quality controls were implemented regularly on the AC 2012 after calibration of the AC data and the AC results were published in 2017.

24. Based on the previous experiences, a **quality control system including a systematic validation was developed on Agriculture Statistics data** on the following levels:

- a. quality control within questionnaires;
- b. between questionnaires and administrative data sources;
- c. quality control of data at Agriculture Sector level;
- d. quality control between micro (survey) and macro (EAA and National Accounts for Agriculture) data.

However, there is a need for further improvement in data validation and editing procedures. This includes better cooperation between the agriculture and environment statistics directory, the IT directory and the statistical methodology unit as well as better documentation of the process. Data entry application has to be amended by some key validation rules. Filled in questionnaires have to be available in INSTAT during data validation and editing; currently, the questionnaires remain at regional offices of the MARD.

### *Principle 5: Statistical confidentiality*

25. The **general obligation of statistical confidentiality** is included in the LOS 2018. INSTAT must preserve the anonymity of the collected data and must not disseminate the initial statistical data.
26. **INSTAT guarantees the protection of information containing confidential data.** All employees of INSTAT who have access to the data they process during the exercise of their functions shall be obligated to maintain the confidentiality of their functions as well as to maintain the confidentiality and trustworthiness even after their release from duty.
27. Statistical data can only be published if it contains data from **at least three data providers** and the observed phenomenon does not exceed 85 % for one of the data providers.
28. **All individual data** collected from the statistical units for the official statistics production **shall be used solely for statistical purposes.** These data shall be published only when grouped together and shall not be used for taking any administrative decision, including decisions relating to fiscal control or legal investigations.
29. **Access to confidential data shall be limited to persons** who during the performance of their duties contribute to the production and dissemination of official statistics.
30. The **right of access to confidential data for scientific research projects** may be granted by INSTAT Director General for a limited period, ensuring that the data concerned do not allow direct identification. The recipient must sign a contract with INSTAT.
31. In case statistical data is provided to users, data protection rules are strictly adhered to.
32. INSTAT and statistical agencies **shall take all the necessary technical, organisational and security measures** for the protection of confidential data from any illegal entrance, discovery or use.
33. All INSTAT staff, including the interviewers, have to sign a confidentiality statement in respect to data confidentiality. Before dissemination, the tables to be published, undergo data disclosure control using T-argus software. The users can use individual data in a designated room of INSTAT where data protection rules are strictly adhered to.

### *Principle 6: Impartiality and Objectivity*

34. INSTAT **statisticians' responsibility** is to select appropriate data sources for collecting information for each statistical activity, as stipulated by the LOS 2018, Article 30, Paragraph 2. The selection procedures are defined in the NSP 2017 – 2021 approved by Albanian Parliament. The administrative sources are used when they specify the condition that they can be used for statistical purposes.
35. In the phase of compilation of statistical products, the staff check carefully for accuracy in order to **release publications free of errors of any kind.** However, there is a clear

understanding that when errors are detected after dissemination of results, they are to be promptly corrected and the users are informed about the origin of the error and the correction made.

36. The **error treatment policy** has been drafted and published on INSTAT's website. It defines detailed procedures explaining systematically how to deal with errors in published statistical data. In the phase of elaboration of results, the staff checks carefully for accuracy in order to release publications free of errors of any kind.
37. **Guidelines on notification on errors** have also been defined in the dissemination policy and guidelines. [http://www.instat.gov.al/media/2939/the\\_errors\\_treatment\\_policy.pdf](http://www.instat.gov.al/media/2939/the_errors_treatment_policy.pdf)
38. **INSTAT has established the Statistical Revision Policy (SRP)** that defines how to inform users about major revisions or changes in methodology. Revisions and changes on methodology and figures are done continuously in addition to different data sources available. The information about revisions is announced on the website as well as in each publication. [http://www.instat.gov.al/media/2940/revision\\_policy\\_2016.pdf](http://www.instat.gov.al/media/2940/revision_policy_2016.pdf)
39. **Major revisions are announced in advance** in accordance with the guidelines for announcements of revisions that have been defined and published in the dissemination policy and guidelines (only in Albanian).  
[http://www.instat.gov.al/media/2827/politika\\_e\\_ndryshimeve\\_t\\_metodologjis\\_.pdf](http://www.instat.gov.al/media/2827/politika_e_ndryshimeve_t_metodologjis_.pdf)

## **Part 2: Statistical processes**

### ***Principle 7: Sound methodology***

#### **Main features of Agriculture Statistical System (ASS)**

40. **INSTAT has made some progress in the development of Agricultural Statistics.** Developments were supported by EUROSTAT through IPA MB projects and IPA national projects. INSTAT staff has a high familiarity with EU concepts and guidelines and improved knowledge of statistical methodology and best practices.
41. In recent years, INSTAT has gradually implemented several surveys **harmonised with EU and other international standards**. In the surveys, EU regulations and handbooks are respected. In some cases, the survey data are published with several years of delay because they are not consistent with the data based on expert estimates of MARD. The data are subject of debate between MARD and INSTAT. The newly introduced data must be analysed in detail before publications; covering comparisons of the data with different available statistical and administrative data sources.
42. **In 2012, INSTAT carried out the Agriculture Census (AC)**, the methodology, concepts and definitions of the AC are harmonised with the EU requirements. Some characteristics – that concern on not significant products and services in Albania (such as organic farming data, storage of manure, tillage, indicators on irrigation) – were not observed. All key



variables were observed (such as farm location, crop areas, livestock number, agricultural labour input) and the definitions respected. The frame for the AC 2012 was obtained by Population Census 2011 where questions related to agriculture activity of households were included. Due to the discovered under-coverage of the AC 2012, data were calibrated in the framework of IPA 2013 national project and published in October 2017. The AC 2012 currently is the **only structural survey** implemented and published. Data from the AC 2012 are going to be sent to EUROSTAT - in EUROFARM format - in 2019. In parallel, SO coefficients will be calculated and delivered to EUROSTAT as well which will enable the calculation of typology and economic size of units/farms. The implementation of the AC 2012 was supported by IPA 2007 national project as well as the AC 2012 data calibration was supported by IPA 2013 national project and IPA 2014 MB project. The work on EUROFARM database and SO calculation is supported by EUROSTAT through IPA 2015 MB project. The **AAS** includes most of the characteristics of the EU FSS; however, data were neither published nor tabulated in the way to present the structure of farms. Tabulation is currently oriented only in national aggregates related to production, balance sheets, expenditures and labour input.

43. As for **animal production statistics**, several monthly surveys are implemented such as slaughtering of cattle, sheep, goat and pigs in slaughterhouses, slaughtering of poultry in slaughterhouses, milk collection and processing as well as egg production. In addition, an annual survey on milk processing is carried out.

Currently, only annual data on milk collection and milk processing are disseminated (for the years 2015-2017). All surveys were prepared with the support of IPA MB experts and are fully harmonised with EU requirements. The data were not published yet nationally, but they are delivered to Eurostat. It is planned to start to publish them in 2019. In 2019, these data will be also be complemented with the data on slaughtering outside slaughterhouses (on the farms) and with the production of milk which is not collected by dairies as well as by production of eggs on farms (beside the covered production of eggs in big establishments).

44. Annually in December, the **AAS** sample survey is carried out and covers **land use, crop production, livestock number and animal production, supply balance sheets, agriculture labour input and expenditure in agriculture production**.

Before the AC 2012, the MARD was in charge of implementation of the AAS. At that time, the sample was based on area frame. In 2013 – after the AC 2012 – INSTAT became the responsible institution for complete agriculture statistics including implementation of the AAS. In 2013, the AAS was carried out by INSTAT using the AC 2012 list of the farms as a sampling frame. In 2014 and 2015, the AAS was not carried out. In 2016 – based on a Decree – the MARD became responsible for the data collection and data entry of the AAS, while INSTAT is responsible for methodology, data processing and data dissemination. Since 2016, the AAS is carried out in cooperation with the MARD, where responsibilities are shared in between, documented as listed above. The sample includes about 10,000 farms (out of around 300,000 farms on INSTAT's list).

Data from the AAS 2016 and AAS 2017 were analysed. They are consistent within each other and mostly also with the AC 2012. Considering the discovered under-coverage of the AC 2012, the AAS data are calibrated using the 2016 calibration survey data. The method of calibration is improved in comparison to the method of calibration of the AC 2012. However, some of the data from the AC 2012 and the AAS do not correspond to the official

data that are based on expert estimates and administrative data sources of the MARD. Due to discrepancies between official data and AAS data, the results were not published yet. Data from AAS surveys are planned to be published in 2019 for the years 2016 onwards. Concepts and definitions correspond to the EU standards.

45. Concerning **price statistics**: a monthly survey on output prices is carried out and output price indices are published annually at national level (2015-2017). The survey is harmonised with EU standards.
46. **Prices on inputs** are collected by quarterly survey (INPUT1 and INPUT2). The data on majority of inputs (INPUT1) have been collected since 2015, while data on prices of machinery (INPUT2) have been collected since 2018. In addition, data on **prices of breeding animals** have been collected as well as data on land prices and rents have been gathered. INSTAT plans to start publishing the data after 2020, with base year 2020.
47. The Economic Accounts on Agriculture and Environment Unit compiles the EAA for internal use. The EAA calculations and results are prepared for the National Accounts Directory in order to compile the National Accounts for Agriculture. Based on the EAA data compiled, yearly and quarterly National Accounts as well as regional accounts are calculated by the related department. The calculation of regional accounts for Agriculture is based on a bottom-up approach. The strength of the work is the good statistical knowledge on the EAA and National Accounts methodology. Currently, the weakness is the availability and good quality of data to be used for compilation of accounts for agriculture. For the compilation of AC, AAS and other regular statistical data are used, that are supplemented by administrative data sources and estimates of the MARD. The quality of EAA and National Accounts data for agriculture are evaluated regularly by an expert team consisting of statisticians and experts of the MARD. Due to the above-mentioned facts, the EAA data are not published yet. The EAA data will be published for the years 2016 and onwards.
48. **Agriculture labour input** is calculated based on the AC 2012 and AAS data in line with the EU standards.
49. The recently introduced surveys still need to be supplemented with some quality measures like **revision of time series** (crop statistics) and **estimation of missing elements**, such as slaughtering outside slaughterhouses, egg production outside big egg production enterprises, and milk production and utilisation on farms. An orchard survey, vineyard survey, early estimates on crop production will be subject of further developments.
50. All preconditions for introducing **FADN** data are established; however, MARD have not compiled FADN so far. An expert group (representing INSTAT and the MARD) is working on the development of FADN as well as on the division of labour between the institutes. Most probably, the compilation of the FADN will be the responsibility of the MARD in close cooperation with statisticians.
51. According to the plans of INSTAT, the year 2019 will be key year in the paradigm shift of Agriculture Statistics, as INSTAT is **moving from the expert estimate-based system to survey based Agriculture Statistics**. Data from AAS from 2016 onwards will be published

for crop areas and production and for livestock number and production. For these years, also data on slaughtering in slaughterhouses, data on milk collection and processing and data on egg production will be published based on surveys carried out by INSTAT. In the case of crop statistics, also data (for the years 2013 – 2015) will be revised and published together with the AAS data.

52. Currently, INSTAT is working on a recalculation of crop statistics (production area, production and yield) for the years 2013-2017. The livestock data time series will be replaced with the data from AAS for the years from 2016 onwards, while data for 2013 and 2014 will not be recalculated. **All data are planned to be published at the same time as the recalculated time series foreseen to be published.** As for crop statistics, only data which differ considerably will be revised. The estimates for 2013-2015 will be estimated using a back-casting method. Work is ongoing, expert support is provided to INSTAT within IPA 2015 MB.

53. The **PC** is planned to be conducted in 2020 and the **AC** in 2022. INSTAT has prepared draft questions to be included in the PC questionnaire with the aim to update the list frame for the upcoming **AC**.

54. For all agricultural surveys, **summary methodological documents** are prepared and made publicly available in respective statistical activity publications on INSTAT's website:

<http://www.instat.gov.al/en/themes/agriculture-and-fishery/agriculture/#tab4>

<http://www.instat.gov.al/en/themes/agriculture-and-fishery/livestock/#tab4>

<http://www.instat.gov.al/en/themes/prices/index-of-producer-prices-for-agricultural-products/#tab4>

<http://www.instat.gov.al/en/themes/censuses/agriculture-census/#tab4>

55. **Summary methodological documents are reviewed and updated periodically.** A policy related to treatment of methodological changes is made publicly available on INSTAT's website in Albanian language. INSTAT uses GSBPM v.5 for documenting statistical products.

[http://www.instat.gov.al/media/2827/politika\\_e\\_ndryshimeve\\_t\\_metodologjis\\_.pdf](http://www.instat.gov.al/media/2827/politika_e_ndryshimeve_t_metodologjis_.pdf)

*(Albanian version)*

## **Human resources and vocational training**

56. By the LOS 2018, INSTAT's employees, specialists and heads shall enjoy the **status of a civil servant, while to other employees the provisions of the Labour Code apply.** The recruitment of INSTAT staff is performed in compliance with the rules set forth under Law No. 152/2013 "On Civil Servant", as amended. The criteria, professional skills as well as tests for selecting successful candidates for the vacant positions are conducted in cooperation with INSTAT. After the recruitment process, INSTAT staff is trained by ASPA for general administrative rules.

57. The **human resources policy** is in its early stage as the human resources (HR) unit is recently created. The vocational training procedure is one of its responsibilities. Even though INSTAT's staff is supported by ASPA and other European and international organisations (SIDA; IPA MB), ASPA organises general trainings in a regular way based on rules and procedures of civil servants in Albania.
58. A **training strategy** is approved recently. A **Statistical Training Centre** was created at INSTAT premises for organising vocational training for INSTAT staff, other statistical agencies and other institutions such as users and producers. A training strategy and a training plan are in place.
59. In the new organisational structure of INSTAT, a **HR unit was established**, dedicated to vocational training. The HR unit – in close collaboration with other directories – is preparing the annual plan for the implementation of a training strategy. The draft annual plan is under approval and will be published soon.
60. At the end of the year, INSTAT's staff participated in a **performance evaluation** on employee's personal needs INSTAT documents the list of participants in the European Statistical Training Programme (ESTP), SIDA, International Monetary Fund (IMF) trainings, seminars, workshops and long-term trainer-ships, reports and other related information. The performance evaluation took into consideration the trainings undergone by the staff as well their further personal needs for vocational trainings.
61. The staff is encouraged to participate in ESTP trainings and long-term trainings, workshops, conferences as well as similar activities supported by donors and projects regarding Agriculture Statistics.

### **Collaboration with the academic world**

62. A specific strategic objective on collaboration with the academic world is specified in the Development Strategy of INSTAT 2018-2020. According to this objective, INSTAT will ***“strengthen cooperation with the academic world for the development of new statistical methods, products and services”***. This objective aims at strengthening and intensifying the cooperation with the academic world in the field of Agriculture Statistics in order to improve the statistical system, scientific research and increase professional statistical capacities. Strengthening cooperation with universities aims at improving the agriculture statistical system in Albania through the involvement of the academic world in developing new methodologies, transmitting knowledge on statistics, and enriching the content of study programmes with concepts and analysis of drafting, implementation and monitoring of the NSS in Albania.

63. In addition, **INSTAT has signed a MoU with the Agriculture University of Tirana** which will enhance the collaboration with the academic world, students and the scientific community. INSTAT is going to organise seminars with the academic staff of the Agricultural University of Tirana in different fields of agriculture. The above-mentioned seminars/meetings are created once a need for improving the methodology and definition of Agriculture Statistics arises.  
<http://instat.gov.al/en/about-us/development-strategy-of-instat/>

### ***Principle 8: Appropriate Statistical Procedures***

64. The transition of the statistical system from an expert estimate-based system to the statistical surveys-based system requires a new approach with new competences. It also demands proper testing of the new procedures before being introduced in the regular production of Agriculture Statistics. Since 2013, INSTAT has gradually developed and tested new procedures. The biggest challenge was the AAS, the most extensive survey within Agriculture Statistics.

### **Survey frames**

65. Different frames are needed to be able to implement all surveys. The most demanding one is the **frame needed for the AAS and the future June survey as well as the AC**.
66. The frame for the AAS was obtained in the AC 2012. The frame for the AC 2012 was based on the PC 2011 filter questions on agriculture activity of households. The Post Enumeration Survey (PES) as well as calibration survey from 2016 show a certain under-coverage of the frame. The calibration method was developed to adjust the AAS data for under-coverage. Each year before the AAS, the frame is updated with the data of the previous AAS and with the list of farms obtained from the MARD. The list is supposed to be the list of new farms; however, it is the list of farms which were registered by the Tax Authority in the course of the previous year. Since the list is lacking any unique identifiers, the matching is difficult and generates duplicates in the frame. The majority of them are identified during data collection, since the majority of the farms in the MARD list are big and therefore included in the take-all strata of the sample. An analysis of recent AAS data shows that the frame does not only have under-coverage but also significant over-coverage and misclassifications. This causes additional costs and outliers have to be treated carefully before data extrapolation.
67. The administrative data of MARD (see Executive summary, point 28) are not yet used for updating.
68. The list of slaughterhouses, dairies and big egg producers is obtained from the **National Food Authority** being part of MARD. Also, the **list of markets** where the output prices are observed is obtained by the same source.
69. Due to a lack of updating the sources, the list of farms suffers from over-coverage, under-coverage and misclassifications. There is a need for general updating via the AC; however, much attention will be needed for the listing of agricultural holdings before the AC.

## Data collection and data entry

70. All Agriculture Statistics data in Albania are collected by the paper-and-pencil interviewing (**PAPI**) method.
71. In the case of monthly and **quarterly surveys, the network** of 15 enumerators in regional offices of INSTAT is used. In each month, for 15 days the enumerators work for livestock related surveys (survey on slaughtering in slaughterhouses, survey on milk collection and processing, survey on production of eggs) and other 15 days for surveys related to prices (agriculture output prices and agricultural input prices). The enumerators are trained by INSTAT's central staff and monitored by regional staff. The contracts of enumerators are not fixed in order to be able to exchange them easily in case of bad performance. The questionnaires are collected by INSTAT's data collection directory.  
**Data entry** is done by data entry staff of INSTAT. One person is dedicated to monthly and quarterly agricultural surveys. The computer aided telephone interviewing (CATI) method was tested in the agricultural output prices survey but results were not promising. The computer aided personal interviewing (CAPI) method is planned to be introduced in the future in order to improve timelines. In monthly surveys related to animal production statistics, INSTAT has foreseen to start also with web data collection.
72. **In the case of the AAS survey, data collection and data entry are organised by the MARD.** Regional staff of the MARD acts as supervisors and are trained by INSTAT. The controllers and enumerators are hired by the MARD and trained by supervisors. Data entry application is prepared by INSTAT which also provides training on data entry.
73. **Data entry is done by regional staff of the MARD.** INSTAT obtains the raw data base. The share of responsibility as well as the use of the PAPI method cause several problems that affect the quality of the data, in particular the timelines. INSTAT is in favour of having the responsibility of the whole process and in replacing PAPI with CAPI.
74. **In June 2018, INSTAT tested the CAPI method.** The pilot June survey (data on area sown and forecast of production of cereals and some early crops) was implemented using tablets and Census and Survey Processing System (CSPRO) as the software for data entry. The results are promising.

## Sampling and extrapolation

75. In the current system, **only one sample is prepared: the sample for the AAS.** In its preparation, all precision requirements related to crops and livestock are considered. The sample size is about 10,000 farms. It is a one stage random sample.
76. **The Methodology Unit of the IT Directory is in charge of extrapolation.** In the past years, INSTAT was supported in preparation of the samples and in extrapolation by IPA MB projects. The methodology unit reached a high level of autonomy; however, some additional support might still be needed.

## Data sources for Agriculture Statistics

77. The majority of Agriculture Statistics data (crop and livestock statistics) is based on expert estimates of the MARD being prepared on the basis of MARD regional staff knowledge of local conditions, their notes as well as on the basis of available administrative sources. INSTAT considers the experts estimates as administrative data. The exceptions are the following:

- a. In 2017, the structural data on agriculture in Albania were published. The data source was the AC 2012 data, calibrated on the basis of the calibration survey carried out in 2016. Concepts and definitions were harmonised with the EU standards;
- b. Agricultural **price indices** are published on the basis of a survey where EU concepts and definitions are respected;
- c. **Data on annual production and utilisation of milk in dairies** are based on a survey where EU concepts and definitions are respected.
- d. Monthly data on **cow's milk collected and products obtained** as well as on **slaughtering in slaughterhouses** are based on surveys that apply EU concepts and definitions. Data are sent to Eurostat, but not disseminated nationally.

78. From 2019 onwards, the data sources will be the following:

- a. **Crop areas and production:** AAS (from 2016 onwards) as well as estimates on the basis of the AAS and trends from expert estimates for the years 2013-2015;
- b. **Livestock number and production:** AAS and monthly surveys on slaughtering in slaughterhouses and survey on egg production (from 2016 onwards);
- c. **Slaughtering in slaughterhouses:** monthly surveys on slaughtering in slaughterhouses (from 2014 onwards);
- d. **Milk collection and milk processing:** monthly and annual survey on milk collection and processing (from 2014 onwards);
- e. **Agricultural output price indices:** survey on agricultural output prices (from 2015 onwards);
- f. **Agricultural input price indices:** survey on agricultural input prices (from 2020 onwards);
- g. **Agriculture labour input statistics:** AC 2012, AAS (2016 onwards);
- h. **EAA and agricultural output for National Accounts:** AAS, monthly surveys, administrative data and expert estimates (from 2016 onwards);
- i. **Quarterly National Accounts estimates for agriculture:** monthly surveys, administrative data and expert estimates (from 2014 onwards).

## Dealing with non-response

79. INSTAT has no problem with the non-response rate in the case of monthly surveys.
80. In the case of the AAS, the non-response rate is moderate and is considered in the estimates by adjusted weights. Questionnaires include modalities on the type of non-response. In the total non-response, there is a significant number of units which are out of scope due to over-coverage in the frame. The total number of units which does not submit the data is high (20%). There is a need to get more information on non-respondents in order to correct the adjustments of the weights. There are two methods which can improve the situation:
- Introduction of question to be answered by the enumerator. In case of refusal and in the case of absent respondent, the enumerator expresses his/her opinion on existence of agriculture activity;
  - Analysis of the response status for the farms which are the same in the two samples can also help to clarify some cases.

## Data validation and editing

81. The AAS data are subject to **validation** at four levels such as: within questionnaires, across questionnaires and/or administrative data sources, at sector level, and at macro level (at EAA and National Accounts level).  
In the case of the AAS data, the methods used for imputation are:
- Mean method;
  - Nearest neighbour;
  - Imputation of live and carcass weight from the slaughterhouses regarding the slaughtering outside of slaughterhouses (in farms).
82. In the case of AAS data, **editing and imputation** take long time and cause additional problem with timeliness. Given the current practice, skills of the staff need to be improved and more automatic procedures need to be implemented. Additionally, the process needs to be better documented.
83. For the compilation of the **agriculture price index**, the following **imputation methods** are used according the Handbook for EU Agriculture Price Statistics:
- Repetition of the last recorded price. In the case of a high rate of inflation, it may be appropriate to adjust the last recorded price;
  - Repetition of the last recorded price by applying the normal seasonal pattern to it;
  - Imputation of price changes on the basis of prices recorded on other markets for the same product.
84. The above-mentioned **metadata information** is available for the users on the webpage under the methodological notes chapter.



## Use of administrative data

85. In Agriculture Statistics, INSTAT uses **admin data just at aggregate level** for quality controls, for the validations of aggregates. As it was mentioned above, currently the existing administrative data suffer from different kind of deficiencies; over-coverage, or under-coverage. The lack of unique identifier of agriculture units do not allow database data to be linked.
86. The individual register of animals and the animal holding register (livestock administrative data) were established and are operated by Veterinary authority (under MARD), it includes all kind of animals covering bees too. INSTAT tried to match the admin data with the statistical data (AC2012) but just 30% of the agriculture units could be identified. The administrative data on livestock suffer from many deficiencies, has significant over-coverage in terms of number of animals. The analysis of INSTAT found a significant number of animals with a very unlikely age of animals in the individual register of animals. In many cases, farmers register the birth of animals but do not register the slaughtering or losses of animals. INSTAT recommended to continue the analysis of administrative livestock data and its use at least for updating of the farm list (frame for AAS) as well as suggest improvements of legislation, if necessary.
87. **Vineyard and olive trees registers** are compiled by the MARD and the registration of farmers is running. INSTAT did not analyse the two registers in details yet, neither the structure nor the coverage of them. While the vineyard area and olive trees plantations have grown over the recent years in Albania, the new vineyard and olive trees farms were not added to the AC list of farms and are not part of the sampling frame used for agricultural surveys. Considering the fact that the vineyard register is foreseen as the main source of information for the forthcoming vineyard survey and its data needs to be matched with the core FSS data, the register's quality has to be analysed in detail (variables, definitions, and identifiers). Also, the coverage of the register has to be improved.
88. The MARD is also working on the **Integrated Agriculture Control System (IACS)** and **Land Parcel Identification System (LPIS)**. Both of the administrative registers are under development of the system (model), the registration is not ongoing yet. Considering the fact that the IACS together with LPIS are the most important data sources for Agriculture Statistics in most of the EU countries, it is strongly recommended to involve INSTAT in the preparatory work. This might be a way to have sufficient alignment of concepts, definitions and identifiers for its efficient use for statistical purposes in the future.
89. Currently, MARD has no up-to-date Farm register, just a list of commercial farms.
90. The MARD is working on the establishment of a new administrative **farm register**. The MARD plans to carry out **registration of all farms** in Albania applying a door-to-door approach. INSTAT supports the MARD in the design and compilation of questionnaires and the development of the methodology. The data on the farms applying for subsidies will be updated regularly, while the method of updating the data of other farms still needs to be discussed. The estimated number of units - which will be regularly updated - is about 50,000 out of 350,000 (MARD estimate on the number of farms, regardless of size threshold).

91. INSTAT uses several **software for data processing**: for data entry applications, the CSPRO is used. For data editing, the most used software are SPSS and Excel. SAS is used for sample selection, extrapolation and calibration measures. In the case of dissemination, PC Axis is used. Data disclosure control is managed by T-argus.

***Principle 9: Non-excessive burden on respondents***

92. The consultation with the governmental institutions, line ministries and other internal users are in place when drafting the multi-annual statistical programme as well as for other statistical processes. All Agriculture Statistics results are transmitted regularly to the line ministries and other governmental institutions.

93. While there are good examples on how INSTAT has acted to manage the response burden on its respondents (such as the AAS in the past years for measuring the reporting burden of enumerators), INSTAT still has to fully embrace response management by routinely measuring and reporting on the burden its surveys place on respondents.

94. According to the **operational plan** for the year 2018, all statistical surveys – including the agriculture surveys – are carried out by INSTAT **including questions for measuring the duration of the interview. All agriculture survey supplementary information is gathered in order to evaluate the reporting burden** (start and end time of interview).

95. In the operational plan of INSTAT, the **objectives of the strategy 2018-2030** are presented, namely also reducing the response burden. The operational plan includes **action plans** for the use of data collection instruments, for development of information systems and web services in order to reduce the response burden.

96. The action plans include the deadlines and the steps to be followed for their accomplishment. More information is available on: <http://instat.gov.al/media/3986/development-strategy-of-instat-2017-2030.pdf>

97. **Sample coordination** is not applied in agriculture surveys but the overlapping between the surveys is evaluated and managed.

98. INSTAT **uses administrative sources according to the Official Statistical Programme 2017-2021** as part of the statistical production. In addition, the administrative data sources are used to check and impute data for non-response items regarding the agricultural surveys and for checking the quality of data collected through agricultural surveys where it is possible.

99. Regarding the new agricultural surveys, INSTAT studies the availability of related administrative records in order to reduce the response burden.

100. There is no available guidance on measurement of quality of administrative data sources yet.

### ***Principle 10: Cost Effectiveness***

101. Regarding **financial resources**, INSTAT's Agriculture Statistical activities are covered mainly by the state budget and donors. A specific law on state budget management charges all public institutions to establish specific units and instruments in order to ensure the implementation of the budget according to this legal frame.
102. Within INSTAT, the **Group of Strategy Management** operates the main task to plan, monitor and evaluate the implementation of institutions' resources in order to achieve strategic goals, as well as to evaluate and manage possible risks.
103. Regarding human resources, the **Unit of human resources and unit of financial resources** are responsible within the directory of finance and supporting services. Its task is to execute the management of resources under the LOS and the law on civil servants.
104. With the entering into force of the LOS 2018, having the status of the independent institution, INSTAT is mandated to manage its human resources itself, respecting the disposals of the law on civil servants regarding recruitment procedures and administration.
105. In addition, within INSTAT's organisational structure operates the **internal audit unit**. The task of this unit is to monitor the proper management and implementation of procedures respecting the Albanian legal frame with regard to this aspect.
106. Regarding the external mechanism, in the frame of institutional monitoring, **Agriculture Statistics have been monitored by Adapted Global Assessments and Light Peer Reviews**.
107. Respondents of all agricultural surveys are provided with all **necessary documents** which **are regularly updated and reviewed**. All the surveys are controlled periodically in the field. The controls consist in monitoring how the data collection is done, monitoring the presence of enumerators in the survey unit, etc.
108. For all surveys there are **organised trainings for interviewers and other supporting staff**. The training sessions cover all components of the survey: questionnaire, field work, data transmission, orientation in the field, duties and responsibilities, etc. The **interviewer's manual** is one of the tools provided to each interviewer.
109. The **non-response cases are treated** through imputation or re-weighting processes according to the survey methodology.
110. In INSTAT, there are also **separate units responsible for the methodology, data entry, and data coding**. These units collaborate closely with each other because survey activities are interlinked.
111. All these measures have improved efficiency of data collection of Agriculture Statistics. With view to the future, it is predicted to introduce the CAPI methods for some of the agricultural surveys conducted by INSTAT.

112. **Procedures and tools exist** within the NSI to promote automatic techniques for data capture, data coding and validation (scanning system, CAPI, web forms, data entry applications).
113. INSTAT is developing an **integrated IT system** which will accommodate in a centralised and secure way the processes for automatic techniques for data capture, data coding and validation. The work is on-going and will be a continuous process.
114. Agriculture Statistics do not use administrative data to replace survey data where administrative data are provided only on macro level.
115. In the development strategy of INSTAT for 2017-2030 the objective is well specified; in the case of procedures and policies of INSTAT they have to use all available automatic and digital techniques.

### **Part 3: Statistical outputs**

116. INSTAT shows big interest and motivation in improvements and alignments of Agriculture Statistics in order to fulfil the international standards as well as to fulfil the national and international user needs. Much work has been done in that respect in the past years, while its results (outputs) will only become evident to the users in the next years when all of the survey data will be disseminated.

#### ***Principle 11: Relevance***

117. The statistical outputs of Agriculture Statistics are relevant for a variety of users at national and international levels. Two of the key users were met during the meeting, a **Professor from the University of Tirana and the Deputy Minister of Agriculture** who represented the users. The key users expressed their interest in Agriculture Statistics data (highlighting the importance of foreign trade statistics, labour market statistics, industry statistics, use of micro data, etc.) emphasising also their interest in harmonisation and improvements of Agriculture Statistics. On the other hand, the interest of the media is very poor. There is no journalist or newspaper in Albania which would deal with Agriculture Statistics regularly.
118. INSTAT makes the publication calendar available for users on the website which covers statistical outputs produced by INSTAT and other producers annually. The publication and dissemination unit up-dates and monitors the execution of publishing deadlines according to the procedures for producing and updating the calendar of publications and press releases, as defined in the dissemination policy and guideline. The annual publication calendar is published at the end of the year, for the year ahead. Divergences are published in advance with the new release date, as per European standards, defined in the dissemination policy and guidelines, official statistical programme and in the annual report of INSTAT.  
<http://www.instat.gov.al/en/publications/calendar/>

119. The entire available agriculture indicators are accessible online via INSTAT's database.

<http://databaza.instat.gov.al/pxweb/sq/DST/?rxid=cf724d8f-bb31-4450-ba6d-2db93e276923>

***Principle 12: Accuracy and reliability***

120. The official data on the areas of crops and livestock number are in some items considered not in line with EU requirement and do not represent the real situation. INSTAT is aware of the situation and works hard in order to improve the situation. Since 2019, the majority of the data from new harmonised surveys will be published including the partly revised time series.

121. The AC 2012 data originally suffered from **under-coverage** and were calibrated in the frame of IPA 2013 National Projects. The **calibration method** applied was not completely adequate; hence, also the published results suffer from some deficiencies. However, all of the analysis, including analysis implemented by the University of Tirana, show that the AC 2012 data are closer to the reality than the expert estimates made by the MARD (named administrative data) for the majority of variables.

122. **Data from the AAS 2016 and 2017 are considered to provide more reliable data in comparison to the AC 2012**, primarily due to the improved calibration method (improved with support of IPA 2015 MB). Calibration is needed to compensate for under-coverage of the sampling frame and the cut-off technique used in sampling. The AC is planned for 2022 with one of the key objectives being to enhance the frame population for agriculture surveys.

123. The **coefficients of variation** are calculated for the key variables only for the AAS, for the only sample survey. The coefficients of variations (CVs) in the AAS are for most of the key variables between 1 to 5%. Exceptions are the vineyard and orchard area as well as the area of potatoes and number of breeding goats where the CVs are higher.

124. **All Agriculture Statistics data sources** collected by INSTAT **are validated by the relevant statistical production team** who checks the data's plausible values and whether they are consistent with other available data. Where it is applicable, tests or post enumeration checks are carried out. The above-mentioned activities are introduced in the technical and quality documentation of each particular statistical activity. After the AC, a post-enumeration survey and a study on a few municipalities were carried out, given that an exhaustive calibration survey was implemented in 2016."

125. Agriculture Statistics **specialists systematically assess and validate the intermediate results** by checking for internal and external consistency comparison by using various data sources. The comparison with the existing information is conducted as such:
- a. Intermediate results are checked for internal consistency control (comparing the data with the results of the previous period of time);
  - b. Comparison with historical results (time series) from the same survey;
  - c. Comparison with other data sources within INSTAT;
  - d. Comparison with other administrative sources.

Despite the validations carried out, the data validation and editing process is still weak and needs further improvements. This includes improved methods of identification and treatment of erroneous data and outliers, including post-stratification.

126. **Measurement errors are not measured yet.** Agriculture Statistics staff compares the data of different sources. An assessment of the measurement errors – caused by the interviewers – is done during the controls as part of the field work (combined with the related report for all the annual and quarterly surveys). In order to reduce the measurement error due to the questionnaire, Agriculture Statistics staff is going to unify the same questions for different questionnaires. The related staff and the formulated procedures for the data checks contribute to the reduction of the measurement error (steps on data collection and processing). For the moment, INSTAT tends to identify the sources of these errors as a first step and reflects on how to measure them in the future. There is no chapter in the methodological note for the measurement errors at the moment. Based on the recommendation of the **Institutional Peer Review 2018**, INSTAT should compile all the necessary documents for the measurement of errors.
127. Agriculture Statistics staff carries out **a pilot survey for each new survey and considers the results of the pilot within the final version for the questionnaire.**
128. **There is no assessment of the under-estimation and over-estimation bias of the main indicators caused by to non-response.** In the weighting procedure, INSTAT adjusts for the non-response in the annual agriculture survey. A stratification of the survey is taken into consideration.
129. **Processing errors** are not measured yet.
130. **The imputation rate is not measured in the surveys;** however, for all surveys the raw and final data base exists and provide a possibility to measure it.
131. All of the **revisions are analysed** by the subject matter staff and are reflected in the next surveys.

132. Agriculture Statistics staff **compiles quality reports** for some Agriculture Statistics activities, but the reports are not available for users yet. The draft quality reports prepared are:
- a. Annual crop statistics;
  - b. Milk statistics;
  - c. Meat statistics.

***Principle 13: Timeliness and punctuality***

133. INSTAT publishes and releases the **publication calendar**. All estimates for Agriculture Statistics are published in accordance with the calendar.
134. **Guidelines for release dates and changes have been defined and published in the dissemination policy and guidelines**. When the dissemination schedule has changed, a note indicates and explains the reasons of the change or delay.
135. INSTAT has no problem with **timeliness in the case of monthly surveys** for which the data are already published (agricultural output prices index).
136. Currently, the MARD's estimates are carried out twice per years (in April and October). INSTAT considers the timeliness as well as the quality of early estimates (used in quarterly estimates of agricultural output) satisfactory. The AAS data – the most important new survey – are considered as reliable as before; however, they are available late and only once a year for internal use. The early estimates are available unless INSTAT introduces another sample survey or expert estimate in springtime.
137. There is no problem with **timeliness of the data related to crop areas and production** as well as on livestock number and production, since data currently published as official data is based on expert estimates of the MARD.
138. From 2019 on, INSTAT will disseminate the data of monthly animal production surveys (such as slaughtering in slaughterhouses, milk collection and processing, egg production by big producers) as well as the data of the AAS survey (crop areas and production, livestock number and production, etc.). In parallel, **the revised time series will be published, while the publishing of expert estimates of the MARD will be terminated**. Timeliness of monthly surveys are expected to be improved, while timeliness of AAS data is not satisfactory. There are three main reasons for this: difficulties of coordination with the MARD related to data collection and data entry; use of the PAPI method (data collection separated from data entry); and lack of skills in automatic data editing procedures.
139. For all surveys (monthly surveys and the AAS), the **test of the CAPI method is recommended** as well as the introduction of the system at the earliest phase. **The shared responsibility for the AAS** (between INSTAT and the MARD) is **recommended** to be reconsidered. The idea behind the shared responsibility was to employ the field staff and use their experiences which could contribute to provide better quality of the data.

**Principle 14: Coherence and comparability**

140. INSTAT has rather short time series related to Agriculture Statistics yet, the oldest date back to 1998. The major revision, planned for 2019, most likely will cause a break in certain time series. In crop statistics, the revision of time series is in progress and will concern the period from 2013 onwards. In case of livestock and EAA data, the time series will be established from 2016 onwards. In the case of the EAA data before 2016, no revision of the data is foreseen.
141. The time series available currently are the following:
- a. Agriculture output price statistics 2015-2017  
<http://databaza.instat.gov.al/pxweb/en/DST/?rxid=9c484ec4-7e14-4ba0-97db-ac368aa06a5c>;
  - b. Annual crop statistics 1998-2017  
[http://databaza.instat.gov.al/pxweb/sq/DST/START\\_BU/](http://databaza.instat.gov.al/pxweb/sq/DST/START_BU/);
  - c. Number of farms with livestock by prefectures 2001-2011;
  - d. Number of livestock by prefectures and type 2001-2017;
  - e. Livestock production by prefectures 2004-2017;
  - f. Livestock structure 2012-2017;
  - g. Yield of livestock production 2017;
  - h. Milk quantity collected 2014-2017;
  - i. Dairy products 2014-2017.  
<http://databaza.instat.gov.al/pxweb/en/DST/?rxid=dbfdc184-3318-4791-a0e3-6fc55b10d1f2>
142. INSTAT managed to harmonise the majority of their surveys with the EU standards, **the concepts and definitions of the surveys are in line with the EU ones.**
143. In the case of **crop and livestock statistics, the consistency** between survey data (AAS) and administrative data sources (estimates of the MARD) is not sufficient. The MARD estimates are higher – up to 30% in many cases.
144. As the **National Accounts calculations for agriculture** are based on INSTAT's survey data, the quality and compatibility of data are better and more satisfactory.
145. The AC data 2012 deviate considerably from expert estimates of the MARD and moderately from the AAS. The main reason for differences among AC and AAS are partly different definitions (main and production area in case of arable crops), different reference time (in case of livestock number) and different calibration procedures.
146. There are still missing parts of the system: early estimates for the orchard and vineyard surveys and calculated Gross indigenous production (GIP). Agricultural input



prices and price indices as well as EAA are still not fully harmonised. The FADN is not introduced yet.

***Principle 15: Accessibility and clarity***

147. **All agricultural indicators compiled by INSTAT are available in the form of press releases, statistical publications, statistical yearbooks, etc., on INSTAT's website.** The publications are bilingual, Albanian and English. All of the publications are supplemented by explanatory notes (metadata) about the methodology applied. The new website of INSTAT was established in October 2017, it follows the structure of fields of statistics. For each field of statistics (including Agriculture Statistics), the data are presented in excel files and PDF publications. In order to facilitate the users' and researchers' work, a **statistical indicator glossary** was issued.
148. INSTAT issues **statistical data in form of hard copies**, the **list of publications is free of charge for users**. The list of publications is supplemented by the list of main users who receive the main publications regularly.
149. On the current website of INSTAT, the **database on PC-AXIS** is available by fields of statistics. The structure of the database makes the use of statistical data as easy as possible. Over and above the metadata of the database, the database provides a special IT tool to process as well as to play with the statistical data.
150. The dynamic INSTAT's website established in 2017 **was developed in line with the users' advices** (based on consultations with users) applying classical and very modern dissemination technology. The data navigation, response time, transparency and availability of data were improved. Users can access all of the data that are available on the website of INSTAT and download the **data free of charge**. A monitoring tool, like *Google Analytic* is in place to introduce a clear idea about users, technology used (which web browser, smart phones, etc.). INSTAT will develop access to statistical data for disabled users in the future.
151. All variables of the AAS, dairies, monthly survey in slaughterhouses (draft) and annual crop statistics (draft) are presented and archived in the METAPLUS system. <http://www.instat.gov.al/en/documentation/structural-metadata/>
152. The dataflow for registered users and researchers (on request) **operates via email** at [info@instat.gov.al](mailto:info@instat.gov.al) as well. The producing unit prepares the material following the LOS, Article 17, dissemination. They disseminate the information with the approval of the Director General.
153. INSTAT compiles and publishes two types of metadata, such as **structural metadata** and **referential metadata**. The **structural metadata** are managed through the METAPLUS system (it documents final data of each statistical activity including the classifications used). The **referential metadata** are managed through another system that presents metadata for each statistical activity based on European standard, SIMS version2). The documentation and archiving of structural metadata for each statistical and

administrative product is done through the METAPLUS system. Metadata and other information about the source of final data are stored on a dedicated server and its frequency corresponds to the frequency of data production. For agriculture data, the METAPLUS system has been used for and published the milk statistics so far. For other surveys and administrative data, the work is in progress.

<http://www.instat.gov.al/en/documentation/structural-metadata/register/?regId=18>

The **referential metadata system** (ESMS/ESQRS) for agricultural data is going to be established and published in 2019 for the following products:

- a. Agriculture Statistics;
- b. Output index prices.

154. All of the publications on Agriculture Statistics are supplemented by explanatory notes about the methodology applied. In the case of agricultural surveys, summary methodological documents are compiled and made available for users on INSTAT's website.

<http://www.instat.gov.al/en/themes/agriculture-and-fishery/agriculture/#tab4>;

<http://www.instat.gov.al/en/themes/agriculture-and-fishery/livestock/#tab4>;

<http://www.instat.gov.al/en/themes/prices/index-of-producer-prices-for-agricultural-products/#tab4>;

<http://www.instat.gov.al/en/themes/censuses/agriculture-census/#tab4>.

155. Summary **methodological documents are reviewed and updated periodically.**

156. In accordance with the quality criteria for European Statistics, user-oriented quality reports are defined according to the European Statistical System (ESS) standard, ESMS v.2 and are available for users.

<http://www.instat.gov.al/en/documentation/quality-in-statistics/quality-reports/>

User oriented quality reports are published on INSTAT's website including statistical results, according to ESS standards, ESMS v.2 and guidelines for quality reporting.

Agriculture Statistics quality reports are not published for the users. Three quality reports in ESQRS format) have been sent to EUROSTAT for validation.

From 2019 on, INSTAT will publish the following ESMS reports:

- a. Output price indices;
- b. Annual survey dairies;
- c. Agriculture and livestock statistics.

157. In case of **users' requests on classification, methodologies**, etc., the related directories offer materials needed and is ready to help by phone and by email replies. The contact email for users is: [info@instat.gov.al](mailto:info@instat.gov.al).

158. Information related to national Agriculture Statistics is available on INSTAT's website via: <http://instat.gov.al/al/temat/bujq%C3%ABsia-dhe-peshkimi/>.

159. The **share of products disseminated** on all agricultural activities is about 30%. The reason of the low share of disseminated products are the following:
- a. The time series (2013-2017) of the **AAS** are under revision;
  - b. **The monthly survey in hatcheries for eggs production** is not assessed and validated yet;
  - c. The calculation of **price indices** for Input1 and Input2 are in place but not compiled yet.

## RECOMMENDATIONS

### *Principle 2: Mandate for data collection*

1. It is recommended to strengthen the mandate of INSTAT on Agriculture Statistics.
2. In order to improve quality, in particular timeliness of the AAS data, the **MoU signed between INSTAT and the MARD** needs to be reviewed. It is recommended to organise data collection and data entry directly by INSTAT.
3. It is recommended to establish and operate the **FADN**. The division of the tasks in respect to methodology and implementation needs to be discussed and agreed among MARD, INSTAT, and researches. In principle, the MARD needs to play a leading role in developing the FADN.

### *Principle 3: Adequacy of resources*

4. **The human resources for Agriculture Statistics** need to be more in line with the new developments and requirements that INSTAT is facing with respect to subject matter requirements and information technology (IT technology).
5. INSTAT has to analyse the current situation comparing the needs and available human sources.

### *Principle 4: Statistical quality*

6. **Crop statistics** data time series (at least for the years 2013-2017) need to be finalised and assessed based on supply balance sheets and/or EAA data, and/or with related data from input-output tables. The published data need to be accompanied with a description of the method of recalculations (metadata).

### *Principle 7: Sound methodology*

7. It is recommended to improve the quality of the statistical Farm register in close cooperation with the MARD.
8. It is recommended to introduce **early estimates on crop areas and production** by the implementation of the June survey (already piloted in 2018 using tablets for data collection).
9. INSTAT has to carefully follow the progress in preparation of the **vineyard register** and assess the possibility of its use for a future vineyard survey (in the EU foreseen in 2026). Special attention has to be paid to the matching method, since data are required to deliver to the EUROFARM database together with the core FSS data.

10. **Survey frames** have to regularly update by using available statistical and administrative data sources. In order to reach sufficient alignment of concepts and definitions and sufficient matching possibilities close cooperation must be established with holders of data sources. More efficient use of administrative data is required in updating of the survey frames and beyond (use in data validation and data editing, replacement of data collection from respondents).
11. It is recommended to improve the dataflow, with special respect to the use of administrative data sources for statistical purposes.
12. The **whole set of EAA indicators** has to be compiled and published for external users in line with the EAA regulation and Handbook for the reference years of 2016-2017. In order to complete the whole system of the EAA the data sources for the **first and second EAA estimates** of Production Account need to be compiled, updated and disseminated.
13. The **PC** in 2020 is recommended to be used for updating the frame for the AC (2022).

***Principle 8: Appropriate statistical procedures***

14. The possibility of introducing innovative **electronic data collection methods** to be assessed and tested.
15. It is recommended to make the validation process more automatic.
16. The **skills of the staff** in techniques of data validation and editing need to be enhanced in order to optimise data processing and improve the quality of data, in particular in terms of timeliness. In order to achieve the objectives, trainings have to be carried out for the staff by involving the ARDA and MARD.
17. For all surveys (monthly surveys, ASS), the test of the CAPI method is recommended as well as the introduction of the system at the earliest stage.
18. It is recommended to compile and publish standardised quality reports regularly.
19. It is recommended to improve the documentations of processes running in INSTAT.

***Principle 14: Coherence and comparability***

20. As the AC is foreseen for 2022, it is recommended to carefully assess the possibility to implement an **orchard survey** (by EU regulation planned for the year 2023) as a joint survey with the AC.
21. Data **on animal production** have to be supplemented by the AAS data on slaughtering outside slaughterhouses and eggs and milk production and utilisation on farm. Also, the GIP needs to be calculated. Finally, time series on meat production, milk production and processing and eggs production has to be prepared and disseminated in parallel with the data on number of livestock from the AAS surveys (starting from the period of 2016-2017).

***Principle 15: Accessibility and clarity***

22. **Annual output price indices** have to be published in line with the EU dissemination policy basis.
23. The discussion on how to improve the **use of Agriculture Statistics** and how to enhance the statistical culture and knowledge has to continue in general.

**Acknowledgment**

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