

**ASSESSMENT OF THE PREPARATION OF THE 2011
CENSUS OF THE REPUBLIC OF MONTENEGRO**

**Report to the Steering Committee of the First
Mission**

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*Jean-Michel Durr
Roberto Bianchini
Experts*

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I. Introduction and background

1. Montenegro plans to have a population census in April 2011, at the same time as most of the other countries in the Western Balkans. In order to ensure transparency and strengthen the trust in the census results Montenegrin authorities requested a peer assessment of the population census.
2. The European Commission already supports Montenegro with technical assistance for the population census and has agreed to organise the peer assessment of the 2011 Montenegro census.
3. The main objective of the peer assessment of the population census in Montenegro is to assess whether the census is conducted in line with the international recommendations published by UNECE/Eurostat and as adopted by the Conference of European Statisticians as Principles and Recommendations for the 2010 Census of Populating and Housing.
4. As mentioned in the terms of reference, the assessment is carried out by one senior census expert, Mr. Jean-Michel Durr. For this first mission, Mr. Durr was assisted by Mr. Roberto Bianchini. Additional experts may be added to the team if necessary. The assessment team will conduct 3-5 visits (of 2-3 days each). The assessment team will conduct on-site assessment before, during and after the census. The assessment team shall review the main aspects of the census operation in Montenegro and based on their findings the census team will make an overall assessment of the census.
5. In preamble to this first mission of the assessment team, a kick-off meeting was organized to present the objectives of the peer assessment and the team to the officials and the media of Montenegro.

II. Executive Summary

6. The mission could conduct the assessment with the very cooperative participation of Monstat. In particular, Ms. Snezana Remiković, Head of the Demography Department in charge of the preparation of the census provided all the information requested by the experts.
7. It should be noted that the assessment is mainly based on the information reported by Monstat during these meetings. As a consequence, the comments and recommendations presented below are based on the understanding of the experts, and may not reflect the real situation.
8. The preparation of the 2011 population and housing census of Montenegro is underway and Monstat should conduct successfully the first census of the country since its independence. The census is prepared following the international recommendations and in particular the CES Recommendations.
9. The mission identified the following elements of success:

- a. The country is not very large in terms of land area and population size. There are no remote areas difficult to reach. Therefore, the operation is more manageable;
 - b. The government of Montenegro considers the operation as vital for the country. A large consultation was conducted among the various political and ethnic groups of the country and their suggestions taken into account. The census law was adopted by the parliament without strong opposition. A large consensus around the census should take place;
 - c. As a former regional statistical office, Monstat has a strong experience in data collection and field work. In particular, Monstat has a long tradition of collaboration with the municipalities for the census;
 - d. The staff involved in the preparation of the census is very motivated and dedicated;
 - e. Monstat has just carried out the agriculture census. Despite the negative effect on the resources allocated to the preparation of the population census, it gives to Monstat a valuable experience in the design of a full scale operation;
 - f. Monstat receives strong support from the EU. In particular, Monstat benefits from technical assistance of highly experienced experts.
10. Nevertheless, the mission considers that there are some elements of risks that may jeopardize the operation:
- a. Monstat has not a strong experience in the design of a population and housing census;
 - b. The preparation of the census is not entrusted to a dedicated team in a context of lack of human resources. There is no full time census manager and the organization is built on working groups with no formal assignment;
 - c. There is a lack of planning and project management, especially in the absence of permanent team in charge of the census;
 - d. The delegation of responsibility to the municipalities to conduct the field work, if a usual practice in the region, may represent a risk for the independence of the data collection;
 - e. The training of the enumerators is not conducted by staff from Monstat but by municipal instructors, who will receive only a three-day training. They may not master enough the concepts and organisation of the census, and/or have sufficient skills to be able to conduct an efficient training.
 - f. No strategy has been elaborated yet for the communication to the public and the media. Communication is indispensable to ensure a large participation of the public and dispel any concern about confidentiality;
 - g. Monstat has not yet prepared a dissemination and analysis programme. This may hamper the prompt dissemination of the census results.

11. Therefore, Monstat should address as soon as possible the most problematic issues to ensure a successful achievement of the census. The mission made recommendations in that regard. In particular, the mission strongly recommends that Monstat:

- a. Appoints as soon as possible a full-time manager for the preparation of the census;
- b. Formalizes the terms of reference of each Working Group and designates a leader;
- c. Updates and develops the census timetable and organizes regular reporting to the Census Bureau;
- d. Analyses the relations with the municipalities and identifies any risk of interference in the data collected, especially in municipalities where specific ethnic groups are represented;
- e. Lists as soon as possible all procurement needs and start evaluate the time needed for drafting the specifications and completing the process;
- f. Develops a plan for census logistics, with a detailed timetable of activities and responsibilities;
- g. Starts as soon as possible the planning of the communication campaign;
- h. Takes the ownership of the GIS application developed in collaboration with the Real Estate Administration and establishes a formal agreement with the mapping agency;
- i. Considers the possibility that the state instructor conduct the training of the enumerators, alone or with the municipal instructor;
- j. Develops a strict protocol for the supervision and monitoring of enumeration;
- k. Seeks assistance from experts in Post Enumeration Surveys to design a PES suitable to meet the objectives of coverage and content error estimation;
- l. Develops a process to control the quality of the data capture;
- m. Improves the security of the databases and develops a plan for archiving the census data as well as other statistical sources;
- n. Develops a plan for dissemination and analysis of the census results and seeks collaboration in this domain with national and international institutions.

12. Finally, it is recommended that for following missions, the assessment team could meet with stakeholders, for example representatives from ethnical minorities, NGO's, municipality commission, to obtain a complete picture of the situation by the end of the assessment.

III. Assessment of the preparation of the census

13. In order to assess the preparation of the census, the mission decided to follow the different steps for the preparation and implementation of a population and housing census. A list of activities was built from the United Nations Principles and Recommendations for Population and Housing Censuses, as well as from the experience of the experts.

14. The list of activities is organized as following: (a) preparatory work; (b) mapping; (c) enumeration; (d) data processing; (e) dissemination; (f) evaluation; and (g) analysis.

15. For every item, a description of the situation for the Montenegro census is presented, then comments and recommendations from the assessment mission.

16. The assessment was conducting during two days meeting with Ms. Snezana Remikovic. Other colleagues from Monstat participated to the discussion on some points.

17. This assessment is mainly based on the information reported by Monstat during these meetings, and on some direct observations of the mission, for example of the data capture application. As a consequence, the comments and recommendations presented below are based on the understanding of the experts, and may not reflect the real situation.

PREPARATORY WORK

Legal basis for the census

18. The census law was prepared by Monstat, with assistance from EU and national experts. The project was presented to the ministries involved, such as Ministry of Justice or Defence, and national councils. The objective was to draft a consensual text that could obtain a large agreement.

19. The law was discussed at the Parliament and adopted on July 9. One political party appealed for constitutionality about the question on ethnicity, but Monstat expects that the request will be rejected by the Constitutional Court.

20. By law, Monstat is responsible for the organization of the census. No other structure, such as National Census Commission was established for the census. The results will be published by Monstat, but not in the official gazette. The results of the census will be used to determine the number of seats each municipality has in parliament as well as the number of members of municipal parliaments. According to Monstat, there is no direct implication of the population size to fund apportioning.

Comments

21. The law would have benefited from more legal expertise in its preparation. For example, no explicit reference is made to the statistical law of Montenegro. The responsibilities of the different bodies are not clearly defined and sometimes mixed with the tasks. For example, the responsibility of Monstat in the control of the enumeration census should be explicitly stated. The composition of the municipal commissions is not defined. The census is implicitly defined by the article 1 of the law as the covering only the enumeration phase, which is not appropriate and could put out of the operation the stages of processing and dissemination.

22. More problematic, the obligation made to the population to respond to the census is not explicitly defined, only by the amount of fines in case of refusal. In addition, there is no provision to allow non-response for the questions on ethnicity, religion and disabilities. Monstat considers that for these questions, a non-response will be considered as a valid answer, which has no legal basis. There might be a risk of pressure on the population in municipalities with high proportion of specific ethnic groups, even more because the municipality is in charge of the enumeration.

Recommendations

23. Monstat should follow-up the appeal against constitutionality. For the next census, a thorough review of the law should be undertaken by legal experts to avoid any risk of dispute. In particular, the link with the Statistical Law should be mentioned in the census law. The obligation made to the population to respond to the census should be explicitly stated, and the exceptions made clear. An article of the law should be devoted to each body involved in the census, defining its composition, responsibilities, and tasks.

Budget and cost control

24. The budget elaborated by Monstat received agreement of every ministry, including Ministry of Finance. The census budget will be included in the budget of Monstat next year. Monstat will then delegate the funds to the municipal commissions. For this year, Monstat has not received the corresponding budget and some activities will have to be moved to next year. If it is the case, it should affect only the additional allowance received by some staff to compensate their additional work on the census preparation.

25. There is no separate budget control by Monstat, but through the system of the Public Treasury. Monstat has to report on the spending of the budget every year. Regular reports are made to the "Census bureau", that is to say the top management of Monstat.

Comments

26. The Montenegro census budget is in line with other European countries. The cost per capita is around 5 €, for a European median cost of 4.5 €. Regarding the small size of the country and the fixed costs of a census, this is comparable. The cost breakdown by main activities shows that mapping represents 3% of the budget (compared to 2.9% in Europe), printing 1.8% (3.6% in Europe), publicity campaign 3% (3.5% in Europe), field work 52% (37.5% in Europe), data processing 6.8% (13.4% in Europe), Post Enumeration Survey 1.6% (1.2% in Europe) and dissemination 1.8% (5.5% in Europe). Field work and training represent 72% of the budget, which is quite high, even if the cost of premises rental is included. On the other hand, the budget allowed to the publicity campaign is not very high and dissemination may be underestimated.

Recommendations

27. Many operations are linked to the budget. Monstat will have to transfer funds to the municipal commissions, firstly as an advance, and then the remaining funds. Monstat should make sure that the administrative staff is sufficient to carry out these tasks.

28. As the census enumeration will take place in April, many expenses will be made at the beginning of the year. There is a risk that the funds will not be available immediately in January,

beginning of the budget year. Monstat should contact the Ministry of Finance and the Treasury Administration to ensure a prompt transfer of funds at the beginning of 2011.

Census calendar

29. International recommendations consider as an indispensable element in the planning of a census a calendar or timetable indicating the sequence and estimated duration of each of the component operations of the census.

30. A timetable was prepared by Monstat in December 2009, including only the main deadlines, and not revised since then. There is a willing to finalize the timetable, but there is still discussion to agree on some detailed activity deadline.

Comments

31. At the early stages of census planning, a provisional calendar of selected key dates should be prepared as an overall framework for the census. The calendar should be revised and made more detailed as planning proceeds, with the aim of establishing final dates as soon as practicable.

32. There is a lack of planning, especially in the context of no permanent team in charge of the census. There is no real project management, with regular monitoring and reporting to the Census Bureau. This could jeopardize the preparation and implementation of the census. The situation seems under control for the moment but the coming months Monstat could be overwhelmed by the number of tasks and deadlines to achieve.

Recommendations

33. It is urgent to update and develop the census timetable. There is no need to develop a fully detailed timetable, but at least to focus on the main activities and tasks, identify interrelations and determine deadlines. An expert could help in this domain.

34. Monstat should develop a light monitoring, based on regular reports from the working groups and staff involved. We recommend regular "Flash reports", reporting every fortnight on the achievements of the past period and the achievements expected for the next one, the difficulties encountered and the decisions needed to be taken by the top management or other working groups. This would help to anticipate problems and provide solutions.

35. Monstat should devote a staff to work part time on the collection of these reports and the update of the timetable.

36. In addition, the Census Bureau should meet regularly to monitor the preparation of the census. Regular reports should be systematically reviewed during these meetings and a concise but precise report disseminated to the census team. This would tighten the management of the operation and give more responsibility to every staff.

Management structure / Administrative organization

37. There is no full time team devoted to the census. Every staff involved in the census, including Ms. Snezana Remikovic, the head of the Demography Department in charge of the census, have other regular assignments. The "Census Bureau" is the top management structure, and is composed of the Director, the two assistant directors and the Head of the Demography

Department. Most of the preparation is done by working groups constituted on an ad-hoc basis and report to the Census Bureau.

38. The agriculture census has frozen for at least two months the preparation of the population and housing census. On one hand, many materials or procedures developed for it will be used for the population census. On the other hand, there is a risk that the agricultural census becomes the only reference for the population and housing census, while the two operations are quite different.

39. Monstat is responsible for the organization and control of the census. For the enumeration, Monstat will appoint among its staff 60 state instructors responsible for training municipal instructors and control the field work.

40. 105 Municipal commissions will be created in the 21 municipalities of Montenegro to organize the field work, select and train field staff. Each commission will comprise at least five members among them two from the municipal opposition. The head of each commission is the mayor, and local representative of institutions may be part of the commission. The article 11 of the law describes the task of the municipal commission. The composition of each municipal commission will be formally approved by the Director of Monstat.

41. Each municipal commission will appoint municipal instructors to be in charge of the enumeration of a part of the territory of the municipality. Around 450 municipal instructors will be recruited, each of them having the responsibility of selecting, training and supervising 7 enumerators on average. In rural areas, the ratio enumerators/municipal instructor is around 5 and in urban areas it can reach 10.

42. 3300 enumerators will be recruited to conduct the enumeration each of them being assigned to one Enumeration Area (EA). In case an EA is too big, it can be split and given to more than one enumerator.

43. Provision was made in the budget for a 10% reserve for each category of field staff.

Comments

44. The absence of full-time census team for the preparation of the operation in Monstat is highly worrying. It is very difficult to prepare such a big operation being involved in other activities. In addition, there is a need for strong leadership. The mission understood that Monstat is under the pressure of many requests, especially in the perspective of the integration in Europe, to develop a full array of statistics. This explains the decision to conduct the agriculture census one year before the population and housing census.

45. The supervision ratios of eight municipal instructors for one state instructor, and seven enumerators for one municipal instructor, are in accordance with the international practices.

46. The delegation of responsibility to the municipalities to conduct the field work is a usual practice in the region since decades. The knowledge of their territory and population as well as their equipment represent a strong advantage for the census field work. Nevertheless, there is a risk that municipal commission influence the data collection. Therefore Monstat is responsible for the control of the enumeration. Monstat considers that this organization is not problematic and ensures that the state instructor will be present in the municipality from the training phase to the end of enumeration to control the course of the operations.

Recommendations

47. At least one or two managers should be completely assigned to the census preparation, eight months before the enumeration. Priorities have to be decided regarding the importance of the population and housing census. Monstat, as a young NSO, is playing its credibility and cannot fail the census.

48. In addition, it is recommended to formalize the terms of reference of each working group, designate a leader, set deadlines and establish regular reporting to the Census Bureau.

49. Monstat should analyse if the new situation from the independence of Montenegro has modified the relations with the municipalities and identify any risk of interference in the data collected. For example, a review of the legal consequences of the census population on the municipalities should be carried out to determine the existence of thresholds of population for budget purpose or representativeness at the parliament. This would help Monstat to perform additional controls in municipalities close to a threshold. This doesn't mean any suspicion but just a normal and fair control.

50. In addition, special attention should be paid to municipalities where specific ethnic groups are represented. The plurality of the municipal commission should be checked by Monstat and field work closely monitored.

51. The number of state instructors per municipal instructor should be adapted to specific situations.

52. It is recommended that the assessment team visit one or two municipal commissions before and during the enumeration.

Contracting out

53. Monstat will put out printing and delivering, communication, office material to tender. Computers, servers and printers were already bought for the agricultural census. Each tender offer is planned to last 5 months in the timetable, when usually 3 months are sufficient. A resource person is in charge of procurement in Monstat.

Comments

54. Five months seem a bit short for procurement process, but may be sufficient in the case of a small country. However, enough time should be given to drafting the specifications.

Recommendations

55. It is recommended that Monstat list as soon as possible all procurement needs and start evaluate the time needed for drafting the specifications and completing the process.

56. The specifications should make provision for additional orders in case of accident with a special time clause. For example, if a batch of questionnaires is accidentally destroyed because of flooding, Monstat should have the possibility to order a reprint and get the delivery within a few days.

Quality assurance programme

57. Monstat recognizes a lack of knowledge in the domain of Quality Assurance concepts and expresses a need in that area. There is a plan of activity this year to develop a QA framework

for the office. Several levels of controls are planned, but there is no complete document. There is also no risk management plan.

Comments

58. This situation is normal considering the youth of Monstat as independent Office of Statistics.

Recommendations

59. Whereas it seems difficult for Monstat to develop a complete QA programme less than one year before the census, a strong Quality Control programme should be at least developed, gathering and putting into coherence the controls performed at various stages of the census. In the future, Monstat could benefit from assistance of advanced countries in Quality Assurance as well as from the guidelines of Eurostat in this domain.

Administrative report

60. It is recommended that a country prepare and, if possible, publish an administrative report providing detailed information on the manner in which the census was planned, organized and conducted, and other problems encountered at the various stages of the operation, as well as points to be considered in future censuses. This report would both assist the users of the census results in appraising and interpreting the data and facilitate the proper planning of future censuses.

61. Monstat intends to prepare a report after each stage of the census. For example, all the versions of the law were kept and a report on the way the law was prepared and voted will be drafted.

Comments

62. Monstat should be praised for considering preparing an administrative report after each stage of the operation. However, the lack of resources may prevent from achieving this goal.

Recommendations

63. It is highly recommended to seek feedback from the field staff. Therefore, to collect useful information from such a large group, it is suggested to elaborate a questionnaire combining marks and comments on the different items (for example, clarity of the enumerator manual, length of the training...). Such a survey has also a useful communication impact, showing to the field staff that their opinion is valued by Monstat.

Census communication activities: user consultations, census publicity and promotion of census products

64. Monstat developed a large consultation of the relevant authorities and social groups of the country. Ministries, national councils representing the various ethnic and national groups, were presented the census project and given a possibility to comment either on the content of the questionnaire or on the organization of the operation. Few comments were received from users, and most of the propositions made were taken into consideration.

65. Regarding the communication campaign, no plan has been yet developed. A consultant will provide assistance in August. The consultant will see whether there is a need for additional

expertise. The tender process will start in September. 100,000 € are allocated to the communication and publicity campaign, that represent 3% of the total cost of the census. The idea of developing a specific communication action targeting school pupils has been proposed.

66. In terms of media campaign, two press conferences are planned, before and after the enumeration. This was the same for the agriculture census.

67. A census website will be developed as part of the Monstat website. In addition, a special telephone number will be available to get information and report non-enumeration.

68. No specific crisis communication plan is envisaged. Monstat considers that the large consultations with political and national councils will ensure that the enumeration will go smoothly.

Comments

69. Consultation with users and representatives of social groups is an indispensable step in the preparations for the census that should be taken early. Such consultations can also serve to foster a wider and more informed understanding of and support for census plans and activities. In that regard, the consultation process conducted by Monstat is satisfactory. The fact that few comments were received should encourage Monstat to consider this process as part of an educational process to involve users in statistical activities.

70. Arranging the publicity for the census is one of the important tasks in the census operation. This entails an educational campaign to enlist the interest of the general public and its cooperation. The aims are not only to dissipate any anxiety regarding the purposes of the census but also to explain the reasons for the various questions in the questionnaire and to offer some guidance as to the manner in which these questions should be answered. The publicity campaign may also be an important tool for increasing the completeness of census coverage, particularly among hard-to-enumerate groups. It is desirable that planning for the general publicity campaign should start as soon as the census is authorized and be developed as an integral part of census planning.

71. Therefore, the absence of communication plan nine months before the census enumeration is worrying, as it takes time to develop a communication strategy and design publicity materials.

Recommendations

72. Monstat should start as soon as possible the planning of the communication campaign. The next mission of the consultant in August should help to jump-start the plan. The elaboration of a communication strategy is complex and requires specific skills. Even if the political and social context of Montenegro is not unfavourable, the census is the first one since the independence and it is crucial that all social and ethnic groups participate in the operation and accept the results. Therefore, it is recommended that Monstat consider outsourcing the elaboration of the strategy and not only the design of the publicity materials.

73. Monstat intends to use TV commercials as part of the publicity campaign. In addition, or as a substitute if the cost is too high, Monstat could consider the use of radio commercials. The cost is usually much more affordable, and this media is well suited to the messages of a census campaign. Materials can be translated in various languages and given to specific radio stations.

74. Other government bodies or public service may have recent experience in communication, and Monstat should seek advices from them. For example, it was mentioned the successful campaign of the Real Estate Service for marking out properties.

Questionnaire design

Topics

75. The questionnaires were finalised in April. Recommendations from experts as well as lessons learnt from the pilot census were taken into account. The questionnaires cover all the core topics of the CES Recommendations for the 2010 Round of Population and Housing Censuses. In addition, the following non-core topics are included in the questionnaires: de facto marital status, number of live-born children, school attendance, literacy and computer literacy, ethnicity, mother tongue, religion, disability, type of sewage, air conditioning, electricity, main type of energy used for heating and internet connection.

76. The classification used for the type of ownership: private, other (state and local administration institution), is not in compliance with the recommended one in the CES Recommendations: owner-occupied dwellings, in co-operative ownership, rented dwellings, in private ownership, owned by the local or central government and/or by non-profit organisations, mixed ownership, other types of ownership. In particular, this question will not allow to know the number of owner-occupied dwellings and rented dwellings.

Sensitive questions

77. Ethnicity, religion and disability are considered as sensitive, and the response to these questions is not obligatory (see Census Law above). These questions are considered indispensable by the authorities. There is a law for national minorities in the country. Every minority representing more than 1% of the population can create their own national council. Religion and mother tongue are linked to ethnicity. Montenegro has a National Strategy on Disability, and the data on disability were requested in support to this strategy.

Design

78. The questionnaires will be printed in Montenegrin language only but facsimiles of questionnaires will be available in other languages, such as Albanian.

Comments

79. The questionnaires are in compliance with the CES Recommendations, except for the question on type of ownership.

Recommendations

80. Monstat should consider the possibility to expand the classification used for the question on type of ownership in accordance with the CES Recommendations.

Printing

Maps

81. Census maps will be printed at Monstat premises in Podgorica, as done for the agriculture census. If EA and supervisory maps used for the agriculture census will not be

modified for the population and housing census, Monstat has planned to consider using the maps already printed for the agriculture census. An A0 format colour printer and an A3 format colour printer is available at the Institute. Map layouts are stored as pdf files and they can be easily reprinted if needed.

Questionnaires

82. The printing of the census questionnaires will be contracted out, following the procedures followed for the agriculture census. It is planned to print about 300,000 forms in A3 format (household and housing unit questionnaires), 800,000 forms in A4 format (individual questionnaires), and about 20,000 additional forms in A4 format, which will be adapted for the population and housing census from the ones used for the agriculture census.

Manuals

83. The printing of manuals is also expected to be outsourced as for the census questionnaires. The manual of instructions for enumerators will be printed in 4,000 copies (about 40 pages), the manual for the organizational of census operations for municipal instructors in 1,000 copies (about 20 pages), and the methodological manual in 1,000 copies (about 70 pages). The latter is intended to be distributed to each census municipal commission and includes both, the manual of instructions for enumerators and the manual for the organization of census operations. A manual for the data entry operations will be also printed for data entry operators.

Other documents (inc. publicity)

84. There are no plans to print other census documents, except the materials related to the communication campaign. Based also on the experience of the pilot census and on the agriculture census, Monstat has not decided yet which printed materials such as posters or brochures will be used as communication materials during the pre-enumeration phase. As mentioned above, the decision will be taken when a communication strategy will be in place.

Comments

85. According to the international best practices, the printing of census maps at the NSO is in principle a good choice, if map layouts have been already prepared and organised in a way that they are easily retrieved by EA codes. This solution is a more cost effective solution and allows the NSO to print additional copies of maps if needed during the data collection operations. However, the availability of only one large A0 format printer and one A3 format printer at Monstat, may cause problems during the general enumeration if additional copies are needed and the available printers at Monstat are not functioning, because of hardware maintenance problems or consumables shortage.

86. Map layouts prepared for the agricultural census are not suitable for the population and housing census. Indeed, the codes reported on the maps differ from the ID codes used by the population census questionnaires, and their presence on the maps are expected to create confusions to the enumerators of the population and housing census.

Recommendations

87. Monstat should make a pre-agreement with a map print provider in order to be ready to outsource the printing of maps, if necessary during the enumeration phase. The same agreement should be formally established with the service contracted for the printing of census forms, in

case additional census materials (questionnaires, manuals, additional forms) will be needed during fieldwork activities.

88. Monstat should prepare and print new map layouts with the ID codes used for the population and housing census. Target technical assistance may be needed at Monstat for the preparation of map templates on map layouts.

Training preparation

Mode of training

89. Monstat has planned to organize three levels of training, following a cascade training approach: i) state instructors are selected and trained by the census bureau at Monstat; ii) instructors in the municipalities are selected by the municipal census commissions and are trained by the state instructors; iii) enumerators are recruited by the municipal census commissions and are trained by the instructors in the municipalities. According to the timetable prepared in December 2009, the selection of state instructors is planned in November 2010, while the recruitment of the municipal instructors and enumerators in February 2010. Three days of training is planned for municipal instructors and three days for the training of enumerators.

Documents

90. The preparation of the training materials is expected to be completed in January 2011, but no specific plans have been reported on the materials which will be used for the different levels of the training (e.g. instruction kits, presentations, videos, etc.)

Recommendations

91. Training programmes are a crucial element for the organization of census operations and for the quality of census results. The accurate preparation of training materials is particularly important in order to keep uniformity and completeness for the all levels of training activities. The risk is that Monstat will lose the control on the training for enumerators. Monstat should consider to revise the cascade approach, taking into consideration that the country is small in comparison with countries where the cascade approach is rather an unavoidable solution. It is suggested to investigate possibilities where state instructors can provide training directly to enumerators together with municipal instructors. Monstat should also increase the number of the planned days devoted to training activities, and select the state instructors in order to involve them as soon as possible in the census process.

Census tests

92. A pilot census was conducted in June 2009. All the phases of the census were tested, including the data capture and storage in a database. This operation is considered by Monstat as very fruitful and providing valuable lessons to improve the preparation of the census as well as a training on all the steps.

93. The main lessons drawn from the pilot census concerned the questionnaires and the field work manuals. Some questions were rephrased for better understanding and other added, for example about activity. The order of the questions in the questionnaire was also modified.

Comments

94. The pilot census was well prepared, organized and conducted. The main lessons and technical recommendations drawn by Monstat and the experts have been taken into consideration. Nevertheless, the recommendation made on the administrative structure "*A Census management structure within Monstat should be officially appointed with strictly assigned tasks, responsibilities and authorization, so that the activities can go smoothly and on time.*" is still pending and reasserted in the present assessment.

MAPPING

Methodology

95. The Republic of Montenegro is administratively divided into 21 Municipalities. The Municipalities are divided into 1,256 Settlements, 1,216 classified as rural and 40 as urban settlements. From a geographic point of view, the country is also divided into Local Units which in some cases do not nest completely into the administrative hierarchy of the country.

96. The territorial organization of Montenegro for statistical purposes is composed of 1,602 Statistical Areas and Enumeration Areas (EAs). At the current stage of the preparatory activities for the 2011 population and housing census, the entire territory of the country is divided into 3,285 EAs, 1,803 classified as rural and 1,482 as urban.

97. In some cases, one Settlement can coincide with one Statistical Area and even with only one EA. The criteria followed by MONSTAT is that one Statistical Area can contain one or more EAs (and one EA can be only in one Statistical Area) and one Settlement can contain one or more Statistical Areas (and one Statistical Area can be only in one Settlement). The boundaries of Statistical Areas and EAs are consistent with the boundaries of the administrative units.

98. The geographic framework of the 2011 population and housing census in Montenegro is based on a spatial digital data infrastructure (SDI) considering only administrative and statistical units. The spatial units considered on the census questionnaires are Municipalities and EAs. EAs have been coded from 001 to 999 in each Municipality. In each EA, housing units have been coded from 001 to 999. A linkage between EAs, Statistical Areas and Settlements is established through linking tables. The smallest statistical territorial unit is the EA, containing ideally about 100 households in the areas classified as urban and approximately 60 households in the areas classified as rural.

99. The digital SDI for the population and housing census is organized in a Geographic Information System (GIS) composed of i) a base map layer of orthophotos derived from large scale aerial photographs taken between 2006 and 2009; ii) a polygon layer representing Municipalities; iii) a polygon layer representing Settlements; iv) a polygon layer representing Statistical Areas; a polygon layer representing EAs; v) a line layer with street names. Buildings boundaries and addresses are not represented.

100. The SDI was developed by the Real Estate Administration, a public mapping service under the Ministry of Finance of the Republic of Montenegro. MONSTAT, also under the Ministry of Finance, has established a fruitful non-formal institutional cooperation with that office. A web-based GIS application was developed by the Real Estate Administration for the

preparation of the 2010 agriculture census with the methodological support from the Statistical Office.

101. The application is managed by the mapping service. MONSTAT can access via web the GIS system, only with limited basic capabilities such as pan/zoom, distance calculation, printing. No editing, layout design or data analysis functions are allowed. Map features can be retrieved searching by addresses, Statistical Areas and EAs.

102. EA maps for the Agriculture Census were prepared by MONSTAT from the web-GIS application, saved as pdf files and printed mostly as A4 or A3 formats. A map was prepared and printed for each EA. For urban areas, EA maps were printed at large scales, while for rural areas, smaller scales were used.

103. The size of EAs was defined on the basis of the results of fieldwork operations prior to the Agriculture Census. The aim of the fieldwork exercise was to estimate the number of households by area in order to draw EA boundaries. The EA boundaries were drawn following as much as possible physical features, such as roads or streets, rivers, etc.

104. MONSTAT has planned to use the same application also for the 2011 population and housing census. The Institute has planned to revise the size of the EAs (and the corresponding boundaries) only in the cases where the results of the agricultural census (where all households were interviewed) will point out that the EA contains a substantial larger or smaller number of households than previously estimated. In such a case, EAs will be resized.

105. No map updating operations have been planned by MONSTAT in order to update the orthophoto base maps (new buildings, modified constructions, buildings not existing anymore), and no definite plan for the preparation of EA maps with a new map layout and new EA boundaries is in place.

Small-area identification

106. According to international recommendations and EU regulations, the availability of small-area data from census operations has to be limited by disclosure and confidentiality issues. In Montenegro, the optimal statistical reporting units of small-area data seems to be Settlements. However, the fact that one Settlement could be composed only by one EA may cause confidentiality issues, especially if the Settlement is inhabited by specific population groups. In any case, the smallest spatial unit for which census data could be available is the EA.

Living quarters and household listing

107. Monstat developed a list of households through the agriculture census. This list is useful not only for the delineation of EA boundaries, but also for planning the census logistics for the population and housing census (estimation the amount of census materials needed, transportation of census materials, etc.) Indeed, Monstat has planned to use this list to resize the large and small EAs and to improve the field organization of operations.

108. A list of living quarters was not implemented during the agriculture census and no plan has been made by Monstat to this regard. Indeed, the location of buildings, the number of floors and the estimated number of housing units within each building have been considered by Monstat only for estimating the number of households in each area. No ID codes have been assigned to buildings and no building boundaries have been reported on the maps.

Comments

109. The geographic framework of the 2011 population and housing census in Montenegro has been developed following the minimum requirements envisaged by international recommendations and standards. EAs cover the entire territory of Montenegro, their boundaries are consistent with the statistical territorial and administrative division, the spatial units considered (Municipalities and EAs) have a unique code in the country.

110. However, the census geography was developed for the agriculture census and it needs to be adapted to the organization of the population and housing census. Monstat has already planned a revision of EAs boundaries on the basis of the results of the agriculture census, while a map updating exercise has not been planned even though substantial changes in selected areas of the country (large urban areas and the coastal areas) are expected to have occurred during the last months.

111. The non consideration of buildings as spatial units on the maps and in the geographic coding scheme is in principle in line with the international recommendations for census taking, but at the same time is i) a limit for the census coverage (households are not spatially linked to physical units, and the coverage by building cannot be monitored), and ii) a constraint for the further development of the established digital SDI: the proposed new law on “Territorial organisation of Montenegro” (which will probably not be adopted before the general enumeration), will require most likely changes also on the statistical territorial units in order to keep consistency with the new administrative division. If statistical data are linked to buildings, data could be easily re-aggregated according to the new division, which is not the case if the smallest spatial unit considered is the EA.

112. The institutional cooperation between Monstat and the Real Estate Administration is in line with similar successful experiences in other countries, where different government agencies and departments contribute to the development of a National Spatial Data Infrastructure. The practice is also envisaged by the EU INSPIRE directive, entered into force in 2007. However, Monstat seems not to have any ownership on a system developed for statistical purposes. The Institute does not have a copy of the developed GIS application from the Real Estate Administration, even though there are at Monstat basic capabilities to manage it, equipment and software (a licensed copy of ESRI ARcGIS 9.0 is available at the institute). No formal agreements exist between the mapping agency and Monstat.

Recommendations

113. Monstat should update the size (and boundaries) of EAs by October 2010, for the purposes of the population and housing census. Even if it would be useful to consider a map updating activity at least in selected urban areas, it is not recommended to plan this activity in a period too close to the general enumeration. It would put additional burden to the small team composing the census office.

114. Monstat should prepare new layouts of EA maps with the codes used for the population and housing census, and not using maps prepared for the agriculture census.

115. Monstat should take the ownership of the GIS application developed in collaboration with the Real Estate Administration. The system should be installed at Monstat, using the already available GIS licensed software, and a specific training should be organised for at least

two Monstat staff on basic editing capabilities and on map layout (1 week training). The establishment of a formal agreement with the mapping agency is also recommended.

ENUMERATION

Method of enumeration

Use of sampling in the enumeration

116. There is no Long Form used for a sample of the population, but a unique set of questionnaire for the whole population.

Units of enumeration:

i. Person

117. According to the census law, the census shall cover citizens of Montenegro, citizens of Montenegro having another citizenship, foreign citizens, and stateless persons, having a residence (permanent or temporary) in Montenegro regardless of their stay in Montenegro or abroad at the time of the Census, regardless possessing personal identification documents, and regardless they live in dwelling, other premises or in public areas. The Census shall not cover diplomatic personnel of foreign diplomatic and consular representative offices and their family members. Only the persons with usual place of residence in Montenegro will be considered in the Population of Montenegro.

ii. Household

118. A household is a family or other community of persons living together and spending their income for primary living needs (housing, food, etc.) regardless of presence of its members in place where the household lives or some of them live for a longer period in another place, i.e. abroad for the purposes of work, education or other. A household can also be a person living alone in the place of enumeration (one-person household) without any household in another place or abroad.

iii. Institutional population

119. The population in institution will be enumerated as a so-called collective household, i.e. household consisted of persons living in the institutions for permanent care of children and adults, hospitals for incurable patients, monasteries and other religious institutions.

120. Prisoners will be recorded only at the place of their household. There are two prisons in Montenegro. Staff from Monstat will visit the prisons five days before to interview directly the inmates. The prison staff will only assist in bringing the persons for the interview. Then the questionnaires will be sent to the municipality of residence to be inserted in the household list. In case the household had already reported the person in prison, the Municipal Instructor will cancel the questionnaire. The cancelled questionnaire will remain with the documents collected.

121. Soldiers: there is only a professional army, and soldiers don't live in barracks but in their own private dwellings. Therefore, they will be enumerated as the civil population. For soldiers outside, a questionnaire will be sent, but is not yet finalized. Anyway, only 30 persons are concerned.

122. Hospitals, old persons in nursing home for people house, religious institutions...are enumerated as collective dwellings and the population living there for more than one year is enumerated in the institution.

iv. Building

123. Buildings are not counted in the census, only some of their characteristics will be reported in the dwelling form as relative to the dwelling.

a. Place of enumeration – definition of place of residence

124. The usual place of residence is the place where a person usually resides regardless of temporary absence for the purposes of recreation, holiday, visits to friends or relatives, business, medical treatment or religious pilgrimage; as well as place where a person resides continuously, at least from 1 April 2010, or he/she has arrived in that place later but with intention of stay there at least for one year.

125. As mentioned above, the population outside Montenegro will be reported in the household, but in a special category and will not be counted in the Montenegro population. The government wanted to estimate the number of Montenegrins living abroad.

126. Students will be counted in the household of their family except if they have their own family. If they live in a dwelling, this dwelling will be enumerated as vacant.

Timing and length of the enumeration period

127. The enumeration will take place by law from 1st to 15 April. There is no possibility to extend this period.

Time reference period for data

128. The reference date for the enumeration is the 31 March at midnight

Comments

129. The definitions of the units to enumerate and place of usual residence are in accordance with the CES Recommendations. Nevertheless, the treatment of persons in prison may not respect the definition of place of usual residence for person imprisoned for more than one year. It is also unclear whether a person in a hospital since more than one year or an old person living in a nursing home will not be reported by their family and then counted twice.

130. The case of students and commuting workers may pose a problem. If they live during the week at their place of work or study, and come back home during the week end, the instructions are to enumerate them with their family and consider their week dwelling as vacant.

This will undercount the occupied dwellings which may have consequences on the housing policy.

Recommendations

131. It is recommended to create a category of "occasional dwelling" for the dwellings occupied during the week by workers or students. This will allow measuring more accurately the occupancy and vacancy rate of housing units.

132. Mobile population and homeless should be enumerated during the first day of the enumeration to avoid counting them several times if they change place during the two weeks of the enumeration.

133. Monstat should envisage the possibility to legally extend the enumeration period in case of natural disaster (floods...).

Logistics

a. Distribution and return of questionnaires and materials

134. The packing and distribution of the census materials to municipalities is planned to be assigned to the contracted company for the printing of the materials. Maps are expected to be distributed by Monstat. The return of the materials to Monstat has been planned at the end of April 2010. The census office at Monstat is aware of the importance of the census logistics component, but no specific staff have been appointed for this activity. Monstat stressed that this is not a concern for the Institute, having a long experience on data collection procedures since decades.

b. Security and confidentiality

135. Statistical confidentiality and protection of the collected data are mentioned in the census law (articles 18 and 20, respectively). Monstat has discussed these aspects internally and will discuss the issues with the municipal commissions. Nevertheless, no specific plans have been developed so far to ensure security and confidentiality of the documents during transportation.

Recommendations

136. Monstat should develop soon a plan on census logistics, with a detailed timetable of activities and responsibilities. Most probably some parts of census logistics will be reflected on the census manuals, but it should be rather considered as a separate task, for which at least two Monstat staff should work full time from now until the return of the materials to Monstat after the data collection operations. The risk is, as already mentioned in this report, that Monstat will lose the control of fieldwork operations at municipal level.

Staff selection and training

137. Municipal instructors and enumerators are selected and appointed by the census municipal commission. The State instructor can advise on the selection and usually the municipal commission takes this advice into consideration.

138. Enumerators will receive 0.8 € for each individual questionnaire and 1.2 € for each dwelling questionnaire, plus 15 € per day during the training. Municipal instructors will receive

0.14 € for each individual questionnaire filled in his area and 0.23 € for each dwelling questionnaire, plus 30 € to cover travel expense. These amounts are gross and social contribution and taxes represent around 30%.

139. Following requests made by national councils, it has been accepted that enumerators should be from the most represented national group enumerated. According to the census 2003, Montenegrins represent 43% of the population, Serbs 32%, Bosniacs 8%, Albanians 5%, Moslems 4% and Croats 1%. Other groups weight less than 1% of the population. For the Roma population, 2600 persons in 2003, Monstat anticipates difficulties to find enumerators due to the level of education. Therefore, Monstat made contact with NGOs involved in projects related to education in order to train some people to be enumerator before the official training. Except the Roma that have their own settlements, other minorities are more spread over the country, especially in urban areas.

140. Training will be organized in a three-tier system. At the first level, state instructors will receive a complete three-days training in February 2011. Then, each of them will train the municipal instructors and the members of the municipal commission of his area during three days around March 20.

141. Then enumerators will be trained during three days by the municipal instructor, using the materials prepared by Monstat. State instructors shall control the training operations and assist if necessary. The training of the enumerators will be conducted a few days before the beginning of the enumeration, on 27-29 March.

Comments

142. The selection process is delegated to the municipal commission, under the control of the state instructor. This is in line with the organization of data collection, but there is a risk of bias in the selection of the enumerators.

143. An enumerator can expect to be paid around between 200 € gross in rural areas to 400 € gross in urban areas for a bit more than two weeks. This is to compare with the average salary of 727 € gross in May 2010 (Source Monstat). The payment given to the enumerators seems to be attractive, which is a factor of quality of the enumeration.

144. The organization and conduct of training courses should be entrusted to those having the necessary qualifications to carry out this task successfully, taking into account not only their professional abilities but also their ability in teaching. In that regard, the training of the enumerators is not conducted by staff from Monstat but by municipal instructors, who received only a two-day training. They may not master enough the concepts and organisation of the census, and/or have sufficient skills to be able to conduct an efficient training.

Recommendations

145. The state instructors should control the selection process and make sure that the enumerators have the skills required.

146. Monstat should consider the possibility that the state instructor conduct the training of the enumerators, alone or with the municipal instructor. It is very likely that the municipal instructor will not have enough knowledge of the operation to train successfully the enumerators, and this will weaken his authority on the enumerators. On the contrary, a team of trainers

composed of the state instructor and the municipal instructor will have more impact on the enumerators and provide a better quality training.

147. The instructors selected should themselves undergo training in how to organize and conduct training courses. This is particularly needed for the group of state instructors in charge of developing the training courses.

Supervision

148. The instructions for supervision are provided in the manuals. Two days before the enumeration, the municipal instructor will visit the EA with the enumerator to recognize the EA borders and find out the exact number of buildings and the approximate number of housing units to be enumerated.

149. The first day of the enumeration, the enumerator will have to interview only a few households and then show the questionnaires to the municipal instructor and the state instructor. This review enables to identify misunderstandings from both enumerator and municipal instructor and provide complement of training if needed.

150. During the enumeration period, the state instructor will control regularly a sample of questionnaires. The municipal instructor has to control every questionnaire of each enumerator.

151. Respondent and enumerators are requested to sign the questionnaire. In case of refusal to respond, the municipal instructor will contact the household, and then the state instructor if necessary. It may happen that a dwelling is considered as empty whereas it is a refusal. The enumerator has to go three times, and can ask to the neighbours if the dwelling is occupied.

152. Enumerators shall finish the data collection by 10 April, with a possibility to extend only to April 15.

153. At the end of the enumeration, municipal instructors and municipal commissions receive the questionnaires and other forms from the enumerators. The municipal instructor controls every questionnaire and calculations, and signs the documents he has controlled. Then the municipal commission organizes a meeting with the state instructor to control the materials. The state instructor controls the questionnaire and the calculations on a sample basis.

Comments

154. The instructions for supervision were not examined in detail, as the various manuals are not yet translated in English. The instructions for the state instructor are not yet written. The general principle is satisfactory, especially the early control of the enumerator's work, in order to correct errors before the real beginning of the enumeration.

Recommendations

155. Monstat should develop a strict protocol for the supervision, with a set of indicators to be filled by the municipal instructor and the state instructor.

Monitoring field operations

156. The monitoring system is still under discussion, and will benefit from the experience of the agriculture census. The principle is to give to the municipal instructor a list that records enumerators' deadline, and some kind of logical control to be carried out by the state instructor. A transmission system using text messages is envisaged, but no plan has been developed.

157. The control of coverage by comparison with the data collected during the previous census will be possible only where the EA were not modified. This is mostly the case in rural areas, despite the absence of address system that hampers matching.

Comments

158. The key to successful monitoring of field operations is an efficient and relevant management information system. Recording key information, such as the receipt of questionnaires, the recruitment of enumerators, the number of questionnaires collected daily, or unexpected events, helps to identify problems, provides useful benchmark with other municipalities and makes easier the administrative reporting. It saves also the census top management from the "tunnel effect", caused by the absence of information from the field during the enumeration period. It also puts a beneficial pressure on the field workers.

159. However, collecting management information for this activity is difficult because of the large numbers of field staff involved and the fact that these staff are widely geographically dispersed. Therefore, it is important to ensure that the information collected is needed and will be used constructively in the management of the operation. A key point is that a small amount of good information will be of more use than a large amount of poor or incomplete information.

Recommendations

160. Monstat should develop a monitoring system based on the comments above. A working group can be set up to determine the right amount of information to collect and the technology to use. If a text message application is decided, enough time should be allocated for the preparation of the specifications and the procurement process.

DATA PROCESSING

161. After the end of the enumeration, questionnaires are sent to Monstat by the municipalities for data processing.

Data capture

162. When received in Monstat, questionnaire will be captured in an electronic format. The methodology adopted is manual key entry. The data entry application was prepared for the pilot census in Visual Basic and the entered data stored in SQL server. This application will be adapted for the census. In particular, one of the lessons learnt from the pilot census was that the built-in online controls and skips based on checks on data consistency and internal record consistency did not allow entering wrong answers, even when recorded in the questionnaires. This implied that the data entry operator had to find the "right" answer, with a high risk of bias. Following the recommendations of the experts, decision was made to program only field value controls and inconsistency warnings, and ask the operators to enter data as in the questionnaire. The editing phase will later control and impute inconsistent data.

163. Data entry will be organized by municipality and EA, all the questionnaires from a municipality being captured together. Firstly, data from the control list will be entered, and then the questionnaires. The names of individuals were captured for the pilot census, but the decision to record names for the census is not yet taken.

164. The data capture process will be undertaken by thirty operators during less than three months.

165. In terms of security, regular backups of the server are carried out, and a system of versioning enables to restore previous versions.

Comments

166. The choice of manual key entry is perfectly relevant in the case of Montenegro. The number of questionnaires, less than 900,000 as well as the lack of resources would make the choice of another technology, such as optical data capture, risky and not profitable.

167. The application performs well and is well documented. A similar application was developed for the agriculture census for much more questions. This experience is highly valuable for the population and housing census.

168. Monstat has a limited space capacity in its building. The premises planned for census data entry are in the basement, at present being occupied by the operators of data capture for the agriculture census.

Recommendations

169. The modification of the application should be carefully conducted, under a strict time frame, and a series of tests (functional, users) carried out.

170. Security of the data may be improved by regular backups in another site to avoid any loss of data in case of accident in the premises.

171. The capture of the names, if the decision is taken, poses a problem of confidentiality and should be carefully considered.

Coding

172. Coding, that is to say the process to assign classification codes to responses on the census form, takes place after the data capture phase, when all questionnaires will have been entered. The questions on education, occupation and industry will be coded using a computer assisted application.

173. The coding process is carried out municipality by municipality. Response wordings are sorted by frequency and treated together. The coding operator chooses in the list of classification items the one which corresponds the best to the response, and then all similar responses are coded with the same item. If the operator cannot find a correct item, the response is considered as missing. For responses occurring only once in the municipality, the operator opens an "individual coding" window, to visualize the complete individual form and choose a classification item using responses to other questions, such as schooling, occupation and industry.

174. For industry, the application uses the name of the company to find the official code in the business register if possible.

175. The coding process will be undertaken by ten operators, during less than 2 weeks.

Comments

176. The coding application is basic and works well. No complex algorithms are used, just a choice within a list of classifications items. Regarding the volume to be coded, and the complexity of developing automatic coding algorithms, the choice of Monstat is relevant.

Recommendations

177. Monstat could organize the coding not by municipality but nationally, as the coding phase will not start before the end of data capture. This would bring more efficiency, the same response being coded only once instead of twenty-one. Nevertheless, the gain is to be evaluated in comparison to the cost of programming.

Data editing

178. Editing is the procedure for detecting errors in and between data records, and on adjusting individual items, for example by imputation.

179. The editing phase will be carried out after the coding. Editing imputation rules were partially developed for the pilot census on the basis of the 2003 and have to be specified and programmed for the census 2011.

Comments

180. The editing program, written in Visual Basic, is clear and well documented, but doesn't include errors counts and imputations flags, as recommended internationally (see the *UN Handbook on Population and Housing Census Editing, rev. 1*).

Recommendations

181. The specification of statistical edits and their translation in computer program is a time consuming task that requires to be conducted thoroughly. Therefore, Monstat should start the specifications as soon as possible. Additional expertise may be useful to develop the editing process in a timely manner.

182. The editing process should include an edit trail that shows all data changes and tallies for cases of changes and substituted values. This information will be used to control the edits and provide useful metadata on the number of non-responses and imputations.

183. It is recommended or to use imputation flags to retain information about unedited data, or to archive a copy of the unedited file. This will allow carrying out further demographic or error analysis after the census.

Processing control

184. After completion of data entry for an EA, a report is displayed by the application in order to identify outliers. Some indicators such as the number of households per dwellings, the number of persons per dwelling and so on are computed. This will help to identify data entry errors or field work discrepancies. But no return to the field is planned to control the data.

185. Apart from the report, there is no specific control of the data entry work, such as double entry system. Monstat considers that the small number of operators, around 30, doesn't justify

developing such a control mechanism and relies on the ability of the supervisor to check the work of the operators.

Recommendations

186. A control process, even light, should be considered by Monstat to ensure a good quality of capture and coding. Any misunderstanding of the instructions by an operator may have consequences for the data accuracy. Therefore, we recommend the development of a light system of control. For example, the supervisor could review the data entered in a sample of EA/operator. The sample rate could be high at the beginning to ensure that the instructions are mastered by the operators, and could be lowered after a few days. For the coding process, the supervisor could control a sample of coded responses, based on the frequency.

Staff selection and training

187. Thirty operators will be recruited for data entry, mostly from the staff currently in charge of entering the data of the agriculture census. The working schedule is not yet decided and the team may work in two shifts (7am-2pm, 2pm-9pm). In addition, one methodologist and one IT person will be assigned to data processing.

188. The coding process will be undertaken by ten operators, chosen among the best from data capture staff. They will receive a special training. The coding phase is expected to last less than 2 weeks.

Comments

189. Monstat will be able to select skilled staff to carry out data entry and coding. The agriculture census gives the opportunity to identify good staff already experienced in data entry of statistical data.

Tabulation

190. It is planned to use Crystal Reports to perform tabulations for publication. In addition, internal users use Access to tabulate the database, and a little SPSS.

Comments

191. Monstat could bring into general use a statistical software, such as SPSS. Therefore, additional training would be required.

Archiving

192. Monstat has no real archiving policy, neither for the census nor for other surveys. Database are kept in the office of IT staff, but there is no formal documentation and archiving. In case of damage caused by fire or flood to the premises, the statistical heritage of Montenegro could be lost.

Recommendations

193. Monstat should start a project to elaborate an archiving plan for the census as well as for all the statistical sources it produces. Additional expertise could be provided in this domain, for example from the International Household Survey Network, who developed a toolkit and a set of recommendations for developing metadata and archiving statistical data.

DISSEMINATION OF THE RESULTS

Tabulation programme

194. No tabulation programme has been developed yet. A consultant will work on it in August 2010. The programme is expected to be similar to the previous census one. The main idea is to develop hypercubes, in order to comply with the request of Eurostat. According to Monstat, there is not a strong demand from national users of census data, and most of the dissemination is required by international organisations. All data are disseminated for free, even when specific tabulation is required.

195. Tables and publications will be posted on the Monstat website, but as static pages. Monstat will not develop interactive online access to the census database.

Recommendations

196. If it is understandable that Monstat didn't developed a tabulation programme yet, it becomes urgent to prepare a set of tables ready to be produced as soon as the results will be available.

197. To accompany the dissemination of the census results, Monstat should develop aggressive marketing actions which aim at identifying users' profile, listening to their needs and developing adequate products.

Provisional census results

198. Provisional population figures will be released within 30 days, based on aggregates of EAs' control lists. Final results may be different but it is not considered as problematic.

Privacy and confidentiality

199. The smallest geographical level for data dissemination is the settlement. Any cell in a table with less than three units will not be displayed.

Recommendations

200. The question of confidentiality should be carefully analysed by Monstat. As mentioned above, the threshold of three units is insufficient to avoid data disclosure. Monstat could certainly take advantage of the numerous studies carried out in Europe under the auspices of Eurostat.

EVALUATION OF THE RESULTS

201. A Post Enumeration Survey (PES) will be conducted immediately after the census enumeration to estimate the coverage of the census and some content errors. Politicians may request that ethnicity is in the PES. Around 50 EAs will be sampled (1.5%), and every household listed with the number of members. In one on ten households, each member will be enumerated and a subset of census questions asked.

202. The methodology is not developed yet, but could be the same as the agriculture census, developed with the help of an expert from ISTAT.

203. It is planned that the PES would be conducted by municipal instructors in other area than the one they were in charge of the census enumeration.

Comments

204. The methodology of the PES is not yet developed but some information given suggest some discrepancies with the PES standard methodology, in particular regarding the necessary independence between the census and the PES. For example, the enumerator would be given a list of households in which interview all members. Each household would be identified from the census list. This would seriously bias the PES. In addition, it seems that no provision is made in the questionnaire to identify movers (out-movers in the procedure A or in-movers in the procedure B). In that case, the PES would be more a kind of control of the enumeration rather than a statistical tool to estimate the coverage of the census.

205. To hire municipal instructors as PES enumerators poses two problems: even if they don't work in their own area, they may work in the same municipality. Will they be enough independent, especially if they are among the regular staff of the municipality?

Recommendations

206. Monstat should seek assistance from experts in Post Enumeration Surveys to design a PES suitable to meet the objectives of coverage and content error estimation.

207. Monstat should try to hire non-municipal staff as PES enumerators. For example, good census enumerators from another municipality, of professional Monstat interviewers, or Monstat staff.

ANALYSIS OF THE RESULTS

208. No programme of analysis was developed yet. Usually, Monstat works with international organizations but few with academic institutions.

Recommendations

209. Monstat could start seeking national and international collaboration to analyse the census results. This is important to extract all the potential value of the census, and provide objective information for evidence-based decision making.