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*Steering Committee of the International Monitoring Operation on the Population and Housing Censuses in Bosnia and Herzegovina*

*Tenth Assessment Report*

*28-31 May 2013*

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## List of acronyms

BiH	Bosnia and Herzegovina
BHAS	Agency for Statistics of Bosnia and Herzegovina
CoM	Council of Ministers of BiH
CMIS	Central Monitoring Information System
CSO	Civil Society Organisation
DB	District Brčko
EA	Enumeration area
FBiH	Federation of Bosnia and Herzegovina
FOS	Federal Office of Statistics (FBiH)
EI	Entity Instructor
EN	Enumerator
EUPHC 2	Technical assistance to Population and Housing Census Phase II
GIS	Geographic Information System
ICEI	Department for International Cooperation and External Information
IMO	International Monitoring Operation
IMO MG	International Monitoring Operation, Management Group
IMO SC	International Monitoring Operation, Steering Committee
IT	Information Technology
LFS	Labour force survey
MCC	Municipal Census Commission
MI	Municipal Instructor
PES	Post Enumeration Survey
Q	Question
RS	Republika Srpska
RSIS	Republic Srpska Institute for Statistics
SA	Statistical Area
SI	State Instructor
TA	Technical Assistance
TAP	Technical Assistance Project
TOR	Terms of Reference



## Introduction and Background

1. A Population and Housing Census shall take place in Bosnia and Herzegovina (BiH) in accordance with the Law on the Census of the Population, Households and Dwellings in Bosnia and Herzegovina in 2013 as adopted by the Parliamentary Assembly of Bosnia and Herzegovina on 3 February 2012. The Council of Ministers of Bosnia and Herzegovina has invited the European Commission to organise the international monitoring of the Census. Therefore, the European Commission, the Council of Europe and the Council of Ministers of Bosnia and Herzegovina signed on 18 April 2012 a Memorandum of Understanding to agree upon the following:

- The general objective of the International Monitoring Operation (IMO) of the Population and Housing Census in Bosnia and Herzegovina is to monitor the compliance of the whole Census exercise, from the preparation to the data dissemination, with:
- International standards on population and housing censuses as defined by UNECE and Eurostat, and as adopted by the Conference of European Statisticians as Recommendations for the 2010 Censuses of Population and Housing;
- Regulation (EC) No 763/2008 on population and housing censuses, and its implementing measures;
- The Fundamental Principles of Official Statistics, adopted by the UN Statistical Commission, as well as the European Statistics Code of Practice, promulgated by the European Commission;
- Standards on data protection and confidentiality, as provided for in the Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data of the Council of Europe, and the relevant European Union regulations in force.

2. The Operation will be carried out by a Committee of International Organisations, the Management Group (IMO MG) assisted by a Senior Census Expert, experts in population censuses, one or more experts in information technology and persons monitoring the census enumeration in the field.

3. The Senior Census Expert, the Census Experts and the IT Experts will assess the compliance of the Census in Bosnia and Herzegovina with the requirements listed in the Memorandum of Understanding, but they will not provide technical assistance.

4. Under the guidance of the Committee and the Senior Census Expert, the Census Experts shall:

- Examine the technical preparation of the Census including the pilot Census and post-enumeration survey, in particular the drafting of questionnaires and manuals;
- Monitor the collection, processing and dissemination of Census data, verifying the accordance with the requirements defined above;
- Control the fair and proper computation at all levels and whether the confidential nature of the individual data is fully guaranteed;
- Investigate any other matter with relevance for the Census.

5. The Management Group has designated Mr. Jean-Michel Durr as Senior Census Expert and Mr. Roberto Bianchini, Mr. Bent Noerby Bonde, Ms. Meryem Demirci, Ms. Kateri-

na Kostadinova-Daskalovska, and Mr. Guido Pieraccini as experts in population censuses. The Senior Census Expert and the Experts in population censuses form the IMO Steering Committee (IMO SC) of international experts.

6. The first mission of the IMO SC was conducted from 23 to 26 April 2012. The objective of this mission was to assess the preparations for the population and housing census in their main components, including the preparation of the pilot census. The report of the SC was sent by the Senior Census Manager on May 12 to the IMO MG.

7. The second mission was conducted from 26 to 29 of June 2012. The objective of this mission was to assess the progress made since the first mission in preparations for the population and housing census, including the preparation of the pilot census.

8. The third mission took place on 17 and 18 of September 2012 and was conducted by two members of the SC, namely, Mr. Jean-Michel Durr and Ms. Katerina Kostadinova-Daskalovska. The objective of the mission was to assess the implementation of recommendations made in previous reports and to assess the preparation of the pilot census, planned for October 15-29.

9. The fourth mission took place between 10 and 29 of October 2012 and was conducted successively by the members of the SC (5 days each, except the senior expert from 10 to 19 of October). The objective of the mission was to observe the conduct of the pilot census in the field. In addition, a team of four observers, composed of Lidija Naumovska, Gabor Rosza, Jean-Paul Sardon and Per Schöning was present during the whole period of the pilot census. Each of them covered several municipalities, in order to observe the pilot census field operations in all the 60 enumeration areas (EAs) sampled in the pilot.

10. The fifth mission took place from 19 to 21 of November 2012 (3 days) and was conducted by one member of the SC, Ms. Katerina Kostadinova-Daskalovska. The objective of the mission was to observe the conduct of the Post enumeration survey (PES) of the Pilot census in the field. The expert covered all 6 EAs (in 6 municipalities) sampled in PES sample in order to observe the PES field operations.

11. The sixth mission took place from 10 to 13 of December 2012 and was conducted by four members of the SC: Mr. Roberto Bianchini, Mr. Bent Noerby Bonde, Ms. Katerina Kostadinova-Daskalovska and Mr. Guido Pieraccini. The objective of the mission was to hear from the Statistical Institutions about the lessons learned from the Pilot Census and to assess whether the preparations are on level that could allow conducting a census in April 2013.

12. The seventh mission took place from 12 to 15 February 2013 and was conducted by one member of the SC, Mr. Roberto Bianchini. The objective of the mission was to assess the situation on the progress of preparation and implementation of the IMO recommendations in the new context of the postponement of the census, with a focus on the achievement of the deadlines regarding cartographic preparations. A second objective was to collect information and materials for a more detailed assessment on the progress of census preparatory activities to be made by all members of the SC in March 2013.

13. The eighth mission was conducted by the complete SC from 18 to 22 March 2013. The objective of the mission was to assess in detail progress made in the preparations with regard to the milestones given after the sixth mission in December 2012, when the SC recommended postpone the census to October 2013.



14. The ninth mission was conducted by two members of the SC, Jean-Michel Durr and Katerina Kostadinova-Daskalovska from 22 to 25 April 2013. The objective of the mission was to assess the progress made in the preparations with regard to the milestones given in the sixth mission and updated in previous missions.

15. The tenth and present mission was conducted by the full SC from 28 to 31 May 2013. The objective of the mission was to assess whether the progress made in the preparations was sufficient to consider that the country was ready to conduct a census in October 2013.

16. The present assessment is based on the information reported at three meetings during the mission, and on some direct observations during the mission. As a consequence, the comments and recommendations presented below are based on the understanding of the experts, and may not reflect the real situation. This report was prepared by the members of the Steering Committee and was finalised by the Senior Census Expert.

17. The experts wish to express their gratitude to the directors and staff of the Agency for Statistics of Bosnia and Herzegovina (BHAS), the Statistical Institutes of the Federation of Bosnia and Herzegovina and Republika Srpska for their availability and collaboration, and to the staff of Council of Europe for the perfect organisation of the mission.

## Executive Summary

18. The focus of the mission was to assess the situation on the progress of census preparation and implementation of the IMO recommendations in order to provide to the IMO Management Group with a formal recommendation if the BiH authorities should go ahead with the conduct of the census in October 2013 or to postpone it. Recommendations given in the previous SC reports were a guideline for the discussions, focusing on the problematic areas, and the annex 2 to the last SC report was taken as reference to measure the progress.

19. Important progress has been made in the preparations, and most of the remaining critical issues highlighted in previous reports were solved.

20. On the basis of the discussions held during the mission with the Statistical Institutions, the main findings are:

- a) The budget has been officially adopted and the EU direct grant signed. Decisions were taken and agreed regarding the sharing of expenses and the amount and allocation of funds between the Agency and Entities ;
- b) Coordination and cooperation among the three statistical institutions has considerably improved. A videoconference equipment allows regular meetings of the directors and working groups;
- c) Cartographic preparation is completed and maps under printing;
- d) On the question of the inter-entity boundary line, a working group composed of representatives of both entity geodetic institutions has come up with a delineation operational for the census;
- e) Questionnaires are finalised and being designed for printing. The translation in all languages needed remains to be completed;
- f) Instructions and manuals are finalised and in the step of final proofreading before translation and printing;

- g) Training materials are to be finalised by mid July to integrate last changes in the new form of the questionnaires;
- h) Call for tender for printing and logistics was launched end of April, and opening of bids is planned on 3 June;
- i) Procedures for selection of Municipal Census Commissions and field staff have been finalised and sent to the municipalities. In particular, estimated number of required field census staff according to ethnicity, by municipality were agreed by the 3 statistical institutions and corresponding tables are included in the document "Procedures" sent to the MCC;
- j) The Central Monitoring Information System is under development and should be operational by the end of July. However, it is recommended to carefully test the system and pay special attention to the training;
- k) The daily reporting system, using SMS, is still in the specification phase. It is recommended to consider alternative procedures that use traditional methods of reporting in case the system would not be ready on time;
- l) In the domain of Communication, little has been achieved, apart from the selection of the PR Agency. In spite of external critics and threats of boycott related for example to questions on ethnicity, no formal responses were given to explain the methodology and the international standards the census has to comply with. It is strongly recommended to respond systematically and uniformly to critics, to intensify presence and interaction with media, to set a new positive discourse, to employ a spokesperson with solid experience, and to immediately develop and implement plan for outreach activities towards civil society organisations, mayors, national politicians, and local religious, social and political leaders;
- m) No progress has been made in the preparation of the Post Enumeration Survey and the team needs urgent additional technical assistance;
- n) Preparations of data processing activities are in general progressing well. Decisions have to be taken shortly on the protection of individual data with personal information, and on the location of the servers for the replication of census data.

**21. In conclusion, the SC observed significant improvements in the technical preparations of the census. Most of the critical milestones activities were completed, thanks to improved coordination and cooperation among the statistical institutions. Therefore, the Steering Committee considers that the Census can be reasonably taken in October 2013. Nevertheless, the SC urges the statistical institutions to fulfil all the remaining preparatory work in a timely and efficient manner. Considering the external critics, for example regarding the way ethnicity is recorded, the SC recommends develop strong communication and outreach activities and stresses the importance for the BiH authorities and political forces to create a favourable environment for the Census process.**

## Assessment of the census preparation

### CENSUS BUDGET

Milestone	Date	Done?	Remarks	Nb. of weeks delay
Financial plan adopted (Art. 38 of the Census Law)	End Feb.	Yes	The 3 directors agreed on financial plan, confirmed by CoM. On 29 of May an agreement was reached on the sharing expenses to be supported by regarding the EU direct grant.	9

22. Since last mission, the three directors prepared the application for the EU Grant. The 7.5 Million Euros grant was signed between the EU Delegation and the Agency for Statistics of BiH on May 31, and will cover staff expenditures, such as the payment of enumerators, supervisors, controllers and data processing staff.

23. In addition, the three directors agreed on the way expenditures will be spent. In particular, BHAS will transfer the funds to the Entity Statistical Institutions to pay the staff, and entities will pay directly the related social contributions and taxes not only to the entity staff but also to the data processing staff from the Agency.

24. This point is thus considered as completed.

### CENSUS LAW IMPLEMENTATION

Milestone	Date	Done?	Remarks	Nb. of weeks delay
Roles, duties and responsibilities of the three statistical institutions in the Census.	End Feb.	Yes	Mainly defined by law. It was agreed that State Instructors would be able to go everywhere in the country.	8
Duties and responsibilities of the MCCs harmonized to the State Census Law in RS	End Feb.	Yes	RS amended its Census law accordingly, removing this provision	8
Establishment, maintenance and ownership of “common data base” of Census data;	End Feb.	No	Still in discussion	8

Ethnic composition of the Census Commissions of the units of local self-government.	End Feb.	Yes	Provision regarding ethnic composition was not included in RS Census Law but applies from State Census law, given the hierarchy of legal texts in the country.	10
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25. Since the last mission, only remaining technical issues are the establishment of a common database that will contain all the data from the Census forms (Art. 20 of the State Census Law), and the establishment of a register of spatial units remain. On the latter, both entities geodetic institutions expressed their willingness to cooperate and provide necessary information for the census.

### **Recommendations**

26. It is recommended that the remaining issues of definition, methodology and content of the register of spatial units (see Cartography) as well as the technical solution regarding the implementation of the common database need to be solved as soon as possible by the Directors' in a positive way, taking into consideration the urgency for census taking.

### **MANAGEMENT OF CENSUS PREPARATIONS**

<b>Milestone</b>	<b>Date</b>	<b>Done?</b>	<b>Remarks</b>	<b>Nb. of weeks delay</b>
Internal organisation for communication among BHAS and entity SI agreed	End Jan.	Yes	Coordination and cooperation have considerably improved among the 3 statistical institutions.  The video equipment is now functional and allow regular meetings among the directors and the members of the various working groups. A calendar of meetings was also agreed.	12

27. Coordination and cooperation made visible improvements among the three statistical institutions. Meetings of the three directors are now frequent and have more decisions as outcomes. The videoconference equipment is now functional, allowing the organisation and the conduction of meetings more easily and conveniently.

28. The involvement of Minister Hadzic in the coordination was definitely positive and determinant in fostering cooperation among the three SIs.

29. Once the videoconference system is in place, regular and at least weekly meetings of the three directors shall be organised, with a pre-defined agenda, including systematic review

of the timetable. Minutes of the meetings need to be prepared and shared with the census staff and directors.

## CENSUS ORGANISATION

Milestone	Date	Done?	Remarks	Nb. of weeks delay
Selection of the census field staff in accordance with article 26, point 4 and 5 (that will ensure the ethnic structure from 1991 and where is not possible at least 50 %);	End Feb.	Yes	Estimated numbers of required field census staff according to ethnicity, by municipality are prepared and agreed by the 3 statistical institutions. Tables with these data are part of the document "Procedures" prepared for the MCC.	12
How to conduct the enumeration in the areas of the boundary line	End Feb.	Yes	A working group composed of representatives of both entities geodetic institutions have completed the work and had identified a technical line for delineation operational for the census. Each EA along the line, are assigned to one or the other entity and the enumeration will be responsibility of the entity where EA is assigned.	12
How to conduct the enumeration of the BiH citizens working or residing abroad for more than 12 months in compliance with the Article 40-42 in the BiH Census Law.	End Feb.	Yes	A final version of the questionnaire and Methodology / Instructions are agreed and finalized (mid May).	10

30. BHAS, FOS and RSIS have agreed on the estimation of the number of required field staff and its ethnic composition in accordance with article 26, point 4 and 5 of the Census Law (that should ensure the ethnic structure from 1991 and where is not possible at least 50 %).

31. An unique document "Procedures for selection of census bodies and staff that will be engaged in the Census of population, households and dwellings in Bosnia and Herzegovina, 2013" intended for the municipal authorities was prepared and agreed.

32. BHAS was responsible for the distribution of the Procedures. For that purpose, BHAS prepared printed copies in the 3 languages: Bosnian, Croatian and Serbian and a CD where the Procedures in 3 languages were recorded. A set of the Procedures in 3 languages, one CD

and a cover letter was packed in BHAS and given to a company for delivering (on 30 May). According to the plan and the agreement with the company, the materials are scheduled to be distributed to all 142 municipalities in BiH by 31 May, 2.00 p.m.

33. In the last two months, the directors of FOS and RSIS had opportunities to meet some of the municipality mayors and briefed them about the forthcoming Census.

34. The working group composed of representatives of both entities' geodetic institutions, established for identifying the objects in the entities boundary zone and for delineation of the EAs along the entities boundary line, had completed its work. The outcome is an operational technical line for the delineation of EAs for the census. Each EA along the line is assigned to one or the other entity and the enumeration will be responsibility of the entity where EA is assigned.

35. Since the last SC mission BHAS in cooperation with FOS and RSIS was working on the questionnaire and methodology/instructions for organisation of the enumeration of the BiH citizens working or residing abroad for more than 12 months in compliance with the Article 40-42 in the BiH Census Law. A final version of the questionnaire and Instructions was agreed and finalized mid May.

36. The questionnaire will be available on the BHAS Census Portal in the period of 15-30 September. All BiH citizens working or residing abroad for more than 12 months, who are willing to participate, can download the questionnaire, print it and fill. The filled questionnaires should be sent to BHAS by 15 October. Data collected with this exercise will be processed and stored separately, paying special attention that this group of citizens are not included in the usual resident population.

37. FOS, RSIS and BHAS agreed that BHAS staff appointed as state instructors would be included in the census in the entities with an observation role.

### **Assessment**

38. The issues on estimation of the number of required field staff in accordance with article 26, point 4 and 5 of the Census Law as well as the delineation of the EAs along the entity line are now solved. The agreed solutions together with the send "Procedures for selection of census bodies and staff that will be engaged in the Census of population, households and dwellings in Bosnia and Herzegovina, 2013" provide preconditions for starting activities in the municipalities for organization of Census field work.

39. The issue about the role of the BHAS staff appointed as state instructors in the census in the entities is solved and BHAS, FOS and RS agreed that the state instructors in the entity would have an observation role.

### **Recommendations**

40. It is recommended to perform the planned activities in accordance with the Census timetable and not to omit any deadline of the milestone activities. Any delay or omission in performing some activity can provoke delay in the connected subsequent activity, to put the census field organization at risk and finally to put the census conducting at risk.

## CENSUS QUESTIONNAIRES

Milestone	Date	Done?	Remarks	Nb. of weeks delay
Adopted final Census forms	End Apr.	Yes	Decision taken by the Council of Ministers on 16 April 2013, was confirmed with adoption of the Session minutes of the 25 April 2013. The layout of the Q19 was approved as well.	0
Prepared final Census forms	End May	Yes	Census questionnaires are completely finalized, the remaining work is proofreading and translation (that is currently on going) and technical arrangement - to insert the agreed logo and the changes after the proofreading.  It is expected to finalize the work on time for printing (Forms in Bosnian, Croatian and Serbian are expected in about 10 days).	0

41. After the 2013 April SC mission, FOS and RSIS received from BHAS the census questionnaires as the final ones from the aspect of their content and layout. This version did not include the final logo. The same versions of the questionnaires in Bosnian, Croatian and Serbian language were sent for proofreading.

42. At the same time some technical work for finalisation of layout based on the recommendation of the agency responsible for developing the software for scanning was carried out.

43. After the completion of the proofreading and technical finalisation of the layout, the agreed logo will be inserted in the final layout of the census questionnaires. The SC was informed that questionnaires in Bosnian, Croatian and Serbian would be finalised in about 10 days.

44. The remaining work is translation and proofreading in the other languages spoken in BiH (about 13 languages plus English).

### **Assessment**

45. The Census questionnaires are finalised both in terms of content and layout. The remaining work: proofreading in Bosnian, Croatian and Serbian language; translation and proofreading in the other languages spoken in BiH and in English is expected to be finalised on time for printing.

### **Recommendations**

46. It is recommended to finalized census questionnaires without any delay, i.e. at the beginning of July when printing is scheduled to start.

## MANUALS OF INSTRUCTIONS

Milestone	Date	Done?	Remarks	Nb. of weeks de-lay
Manuals of Instructions revised and adopted	End May	Yes	<p>The Methodology for Census conducting and organization (the framework one for BiH level) is completely finalised and sent to FOS and RSIS as final. The same text was sent for proofreading too.</p> <p>The Manuals are completed as well from content point of view and the remaining work is only technical. The finalisation of all manuals is expected to be completed in the forthcoming 10-15 days.</p>	0

47. The "Methodology for Census conducting and organization" (the framework document) is completed and updated with the latest updates in the questionnaires. The completed version was sent to RSIS and FOS for final comments. Comments received were introduced and the text is sent for proofreading and translation.

48. "Manual for enumerators and municipal instructors" (responsibility of BHAS) was finalized and sent to the entity statistical institutions. RSIS and FOS have given some proposals for amendments in particular to add some more practical examples. BHAS accepted the proposals and have amended the text. The remaining work is to insert the pictures and the examples written in the latest – final version of the census questionnaires and to finalise the proofreading and translation.

49. The "Manual for Organization and conducting of the Census", which is responsibility of RSIS and FOS, should be prepared on the basis of the framework Census methodology and sent to BHAS for approval. RSIS has already prepared this manual and sent to BHAS for approval. BHAS already reviewed it and will formally approve it soon. FOS has not yet sent the final text of the Manual waiting for information from BHAS referring to comments submitted on organisational matters. But since all organisational aspects in the entities were discussed during the preparation of the framework Methodology, the work can be considered as completed from the content aspect. BHAS will send the required information in the following few days, so FOS can finalise and send the Manual for approval (expected to be finalised in the first week of June).

50. Manual on organisation of the enumeration of the BiH citizens residing abroad for more than 12 months in compliance with the Article 40-42 in the BiH Census Law is finalised and accepted by the 3 statistical institutions (*as already mentioned above in the part on Census organisation*).



51. The first draft of the Manual for conducting enumeration of persons in prisons was prepared by the statistical institutions in cooperation with BIH, FBIH and RS Ministry of Justice. Based on this draft, BHAS has finalised the Manual and sent to FOS and RSIS for final revision (after mid May). FOS and RSIS have submitted the Manual for final opinion to entity ministries of justice. As the respective ministries were included in the process of drafting, no substantive comments were received.

52. “Manual for conducting enumerations in diplomatic and consular representative offices of BiH abroad and “Manual for conducting enumeration of the BiH military personal abroad in military missions” are under preparation. The content is almost completed, but still some organisational matters are to be defined with the respective ministries (BiH Ministry of Foreign affairs and BiH Ministry of Defence).

53. As the SC was told, the finalization of all manuals is expected to be completed in the forthcoming 10-15 days.

#### **Assessment**

54. The finalization of the "Census Methodology" and all other manual for conducting the census fieldwork seems to be on track and it can be expected that all documents will be prepared for printing on time.

#### **Recommendations**

55. It is recommended to finalise "Census Methodology" and all other manuals for conducting the census fieldwork without any delay, i.e. at the beginning of July when printing is scheduled to start.

### **PLANS FOR TRAINING AND TRAINING MATERIALS**

<b>Milestone</b>	<b>Date</b>	<b>Done?</b>	<b>Remarks</b>	<b>Nb. of weeks delay</b>
Training material revised and adopted	End May	No	Deadline for finalization in the Agency timetable is Mid July.	0
Training census materials printed and distributed	End Aug.	No		0

56. Since the last SC mission in April, there are no changes in the plans for the training. As well there was no intensive work on preparation of the training materials since the Methodology group was occupied with finalisation of the Methodology and Manuals for census fieldwork.

57. In order to tailor training materials for specific groups of participants, besides the updating and amending of the presentation from the pilot census, 4 additional presentations will be prepared.

58. Methodologists of BHAS have started the preparation of a document that will accompany the PowerPoint presentations. This document intends to provide guidelines for the trainers on how to run the training and to ensure that all trainers are giving the same instructions.

#### **Assessment**

59. The situation is almost the same since the last SC mission in April due to the priority given to the finalisation of the census methodology and manuals.

#### **Recommendations**

60. It is recommended to start with the updating of the training materials as soon as possible in order to finalise the activities in accordance with the Census activity plan.

### **CARTOGRAPHY**

<b>Milestone</b>	<b>Date</b>	<b>Done?</b>	<b>Remarks</b>	<b>Nb. of weeks delay</b>
Finalised cartographic work and final list of EAs by municipality	End Feb.	Yes	Completed in FBiH, RS and District Brcko.	12
Establishment of a single list of census spatial units at state level with their corresponding codes and boundaries. (Art. 20 BiH census law)	Mid-July	No	The methodology to establish the list was recently revised by the Agency and transmitted to Entity Statistical Institutions and Geodetic Administrations. A request with the list of the required data was also prepared by the Agency and transmitted to Entities.	0
The unique ID code of each address or building reported on the maps is included on P2 and P3 forms.	End Feb.	Done	The ID code (three digits) has been included in the revised final version of census forms.	10
Census maps prepared in electronic format	End Mar.	Done	Census maps in electronic format ready in FBiH, RS and District Brcko. In FBiH census maps also printed. In RS the printed maps are expected to be ready by 1 <sup>st</sup> July 2013.	6

How to conduct the enumeration in the areas of the boundary line	End Feb.	Done	An agreement has been reached between Entities and BHAS. A single line between Entities defines areas under responsibilities of RSIS and FOS for the conduction of the enumeration.	10
Establishment of a systematic mechanism to number, manage and monitor the coverage of dwellings inside buildings, relevant for census coverage	End June	No	It was discussed between entities, but no decision was taken by the working group on census methodology.	0
Tender specification or printing and distributing cartography materials adopted	Mid Apr.	Yes	Technical specifications for map printing defined by the Entities and the distribution agreed to be coordinated by BHAS.	0
Cartography documentation for enumeration printed and distributed	Mid-July	No	Printing of census materials completed in FBiH by the outsourced companies. In RS maps are being printed by the Geodetic Institute. In Brcko District maps will be printed by BHAS.	0
Quick field map activity prior to the enumeration: plan for the identification in the field of EA boundaries and buildings/addresses, by the assigned enumerators and supervisors	End Sep.	No	A plan to visit EAs and quickly update maps has been agreed and included in the manuals for enumerators and supervisors.	0

61. Preparations for cartographic work have further progressed since last SC mission and are almost completed for all the territory of BiH. A total of 24,289 EAs have been demarcated: 8,053 in RS, 15,782 in FBiH, 454 in Brcko District, and their corresponding EA maps have been prepared by the Statistical Institutions and Geodetic Administrations.

62. In the FBiH, the outsourced companies jointly with the Geodetic Institution have completed the work. Census maps have been printed in 3 copies in A3 format, and are stored in the FBiH premises. The GIS database used to produce maps was implemented at municipal level. Nowadays, FOS is working to integrate in a single geo-database the GIS databases developed for the 79 municipalities. In addition to EA maps, census maps have been prepared for statistical areas, settlements, municipalities (79) and, cantons (10). The estimated number of households provided by FOS is 865,553.

63. In RS, the Geodetic Institution completed the preparatory cartographic work and the RSIS, jointly with the Geodetic Institution, is finalising the quality control of the census maps produced. In the territory of RS, recent orthophotos were used for about 90% of the territory, while for the remaining 10% were used orthophotos derived from satellite images taken in 2010 and updated in the field. The 10% of the territory covered by satellite images are generally mountainous areas scarcely populated. Map printing has started and is planned to be completed by 1<sup>st</sup> of July. Maps are being printed in A2 format (50%), A3 (40%), and A4

(10%). In addition to EA maps, printed census maps will be prepared for statistical areas, settlements and, municipalities (62). Printing will be performed by the Geodetic Institute using six A0 colour plotters and four A4 laser colour printers. The estimated number of households provided by RSIS is 500,995.

64. In the Brcko District, maps for EAs and statistical areas are being printed by BHAS in A3 format and will be ready by mid-June.

65. Census printed maps will be delivered to the company selected for the printing of census materials (census forms, manuals, etc.). The plan is that a copy of the EA maps will be included in each EA box by the outsourced company under the supervision of staff from the Statistical Institutes.

66. The methodology to establish a single list of census spatial units at state level with their corresponding codes and boundaries was recently revised by the BHAS and transmitted in May for comments to Entity Statistical Institutions and Geodetic Administrations. A letter was also transmitted by the BHAS to the same Institutions on 29 May, summarising the list of data required to establish a register of spatial units for census purposes. The requested list includes digital vector layers of municipalities, settlements, statistical areas, and EAs as polygons with associated names and codes. Buildings and addresses are requested as points with associated their corresponding codes. Streets should be vector lines with associated names and codes.

67. FOS expressed the availability to provide to BHAS such data if RSIS would do the same. RSIS expressed the same availability with the condition that no changes would be made to the spatial units without prior approval from Entities. At the time of the mission, no agreement was reached between Entities and BHAS to establish the single register at BiH level.

68. During the mission, it was assessed that a list of census spatial units with their corresponding codes and boundaries has been successfully implemented using GIS tools in RS, FBiH and District of Brcko, as previously recommended by the SC and in line with international standards. A basic geo-database for census purposes and in general for statistical purposes, was implemented in the Entities and Brcko District containing the following elements:

- Digital orthophotos as reference maps;
- Vector polygons representing municipalities, settlements, statistical areas and EAs with associated their corresponding codes and names;
- Vector points representing buildings or addresses with their corresponding codes (addresses and ID codes);
- Vector lines representing streets with their corresponding codes and names, when available.

69. It was also assessed that the three geo-databases can be combined and integrated in a single geo-database for census purposes, after performing quality checks in terms of topology (removing eventually overlapping areas or lines), and in terms of codes.

### **Assessment**

70. As a result of the general assessment made in RS, FBiH, and for the territory of Brcko District, it was noticed a very substantial progress was made on the cartographic preparatory

activities for the conduction of the census. All three Statistical Institutions and geodetic Institutes showed a strong commitment to conclude the entire census mapping-related activities according to the last deadlines recommended by the SC, and following international standards. It is very realistic that printed census maps for the conduction of the census will be ready for the overall territory of BiH by mid-July 2013.

71. However, the list of census spatial units organised in a single geo-database at BiH level with their corresponding codes and names, was not prepared yet, as prescribed by the article 20 of the BiH census law.

### **Recommendations**

72. The three statistical institutions and Geodetic Administrations are urged to agree on the implementation of a single register of spatial units for census taking. Its implementation is technically feasible by July 2013 combining the three geo-databases and performing the necessary quality checks. The implementation of such single census geo-database will be crucial for the conduction and coverage monitoring of the general enumeration, and for the dissemination of census results.

73. In addition, it is recommended that a systematic mechanism to number, manage and monitor the coverage of dwellings inside buildings should be defined soon and be included in the manuals for enumerators and supervisors. In this respect, training materials and training programmes should be accurately prepared in order to ensure the coverage of each dwelling inside buildings, and to ensure that enumerators will report with precision addresses and building codes on the census forms P2 and P3.

## **LOGISTICS**

<b>Milestones</b>	<b>Date</b>	<b>Done?</b>	<b>Comments</b>	<b>Nb. of week de-lays</b>
Detailed Logistic Plan	End April	Yes	Completed with a month delay with no serious implication	4
Tender specification for printing and distributing census materials adopted	End Feb.	Yes	Call for tender published on April 24	5
Completion of bidding procedures	End June	No	Most likely to be completed on time	

74. The detail logistic plan describing the deadlines for workflow of census materials was completed. The SC received the updated plan during the mission. The plan includes eight steps of logistic procedures, timetables for all activities regarding printing, distribution and receiving the census materials and the logistics forms.

75. The tenders that were submitted by the companies will be opened on the 3<sup>rd</sup> of June. The final decision for selecting the company will be given by the end of June. According to the logistic plan, census materials will be printed in the period 3 July-16 August and will be distributed to the municipalities by 18 September.

76. The procedures starting from packing the census materials in the printing house up to the final step of receiving the census forms from scanning room and storing in the central place are also described in the logistic document with 8 steps that were explained in the eighth mission report.

### **Assessment**

77. Detailed procedures for logistic activities are finalised. The bidding procedures are progressing and expected to be completed by the end of July.

### **Recommendations**

78. Any delay in completing the tender procedures and census materials can jeopardize the conduct of the Census in October. Therefore, it is recommended to strictly follow deadlines for all remaining activities.

## **COMMUNICATION AND OUTREACH CAMPAIGN**

<b>Milestone</b>	<b>Date</b>	<b>Done?</b>	<b>Remarks</b>	<b>Nb. of weeks delay</b>
Census Communication and Outreach Strategy agreed	End January	No	Final strategy will be updated with the implementing company but strategy seemingly comes in too late to have positive impact	16
Internal organisation on communication agreed	End January	Yes	Video-conferences have been used for inter-agency meetings. The Agency will take the lead but including entities in all phases. No formal procedures yet.	16
Management and communication staff trained	End January	Next week	Training will take place first week of June.	16
Contract for Communication Campaign awarded	End March	Yes	Company selected, contract signed. Action plan on final campaign and 4 local training briefings of journalists/editors. No outreach and no media relation function installed.	7
Census information campaign carried out	20 Sept	No	Contract has been signed with external company	0

79. Since the last mission, A Public Relation company has been selected to carry out the final communication campaign for the census, estimated to start beginning of September. The company will also conduct a media training of the directors and deputy directors of the statistical institutes immediately after this mission. In addition, the company will be tasked with briefings of journalists and editors. The task manager of the company seems skilled to deal also with strategic communication in the current context but this is not part of the agreed services.

80. The communication strategy has not yet been approved, but is expected to be finalised soon by a consultant contracted through the external PR company.

81. The public discourse in BiH has raised a number of critical questions on the preparation and implementation of the census, in particular regarding the questions on entity citizenship and ethnicity. The statistical institutes have not firmly reacted to these criticisms, in spite of the risk that the census be jeopardized. The persons responsible for communication in each of the institutes do not communicate externally to the public. The Agency only responds to incorrect information published in the media through the website and press releases. However, Agency press releases are generally not reported by the media.

82. A PR person has been employed by the Agency but without specific background to deal with communication in a politicised context. Outreach activities have not started in any of the statistical institutes. The communication and outreach strategy is expected to be finalised only in the coming weeks, which is very late to be fully efficient.

83. The RSIS is carrying out a certain media monitoring, and so is doing the director of the FOS. However, media monitoring is not systematic, not common for the three statistical institutes and is not used for active media relations. A common media monitoring systems with reports every morning is much needed. So are strong, active and personalised daily relations with the media.

84. No outreach activities targeting civil society organisations, mayors, local religious, social and political leaders have been carried out, and there is some sense of fatigue from the statistical institutes. No plan for outreach activities has been developed. This is nevertheless part of the process of creating a supportive environment for the census.

### **Recommendations**

85. It is recommended to:

- Respond systematically to critics and uniformly follow the same lines of messages when communicating to the public from the three institutes (see below);
- Immediately intensify presence and interaction with media to set a new positive discourse that underlines the importance of a census for the social and economic development in BiH;
- Immediately establish a common daily media monitoring providing a basis for interaction with the media;
- Immediately employ a spokesperson with journalistic background and solid experience from political and crisis communication as well as advisory functions to

senior management. The spokesperson must have authority to speak on behalf of the statistical institutes and be based in the Agency;

- Immediately develop and implement plan for outreach activities towards civil society organisations, mayors, national politicians, and local religious, social and political leaders;
- Let the SC follow the communication component closely.

86. In addition, it is essential for a successful census that the BiH authorities continue their support and help create a favourable environment for the Census process based on European and International standards.

87. The following answers can be given in response to the most important critics:

#### **Questions on ethnicity, aggregation of some responses**

88. According to International Recommendations, ethnicity is considered as a sensitive topic in census taking and should be asked as a non-compulsory question and based on free declaration. Dissemination of the results shall be comprehensive and reflect all possible answers. Should a country decide to include a question on ethnicity, it is expected to follow these international recommendations.

89. The international Conference of European Statisticians (CES) recommendations 2010 available on the UNECE website<sup>1</sup> states on page 95 on that matter:

- *"425. Ethnicity has necessarily a subjective dimension and some ethnic groups are very small. Information on ethnicity should therefore always be based on the free self-declaration of a person, questionnaires should include an open question and interviewers should refrain from suggesting answers to the respondents."*
- *"429. Classifications of ethnic groups should be comprehensive and include at the finest level, ethnic groups, self-perceived groups, regional and local groups as well as groups that are usually not considered to be ethnic groups (for example religious groups, groups based on nationality in the sense of citizenship etc.). Classifications at the highest level depend on national conditions and concepts and no internationally comparable classification is recommended."*

90. It must be communicated clearly that there is no obligation to answer the sensitive questions on ethnicity and religion, and that all answers given to these questions will be noted down by the enumerator. If a respondent to the question on ethnicity answers Bosniak, Serb or Croat the enumerator can for practical reasons tick one of the boxes below the open line. The same is the case for the questions on religion and language.

91. It must also be communicated clearly that after the census all answers to these three questions will be listed with the number of respondents for each listed answer. This list will be published on the website of the statistical institutes and anybody will be able to add as many figures from different categories as he or she wishes.

#### **Entity citizenship**

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[http://www.unece.org/fileadmin/DAM/stats/publications/CES\\_2010\\_Census\\_Recommendations\\_English.pdf](http://www.unece.org/fileadmin/DAM/stats/publications/CES_2010_Census_Recommendations_English.pdf)



92. International recommendations provide the inclusion of a certain number of core topics that present a common interest and allow international comparisons. Citizenship of a country is one of the core topics. Countries are of course free to include topics of national interest if they consider it as relevant to their national situation.

93. The question on entity citizenship falls into this category and is acceptable in the BiH context provided that it does not compromise the quality of the answers provided in the core topic of country citizenship. In the questionnaire as it is designed, the entity citizenship question is asked after the citizenship and should not affect its quality.

### **International Monitoring Operation**

94. The census in BiH is conducted under the observation of an International Monitoring Operation, which is a common practice and has been requested by the BiH Government. For example, censuses in Kosovo, Macedonia, Moldova, etc. have been internationally monitored. The aim of such an exercise is to ensure the fair, transparent and professional conduct of the census according to international and European standards. This is described in a Memorandum of Understanding between the BiH Government and the IMO.

95. The IMO is monitoring several steps of the census operation:

1. preparations, methodology and material;
2. data collection, i.e. the enumeration in the field;
3. data processing and the assurance of anonymity of all responses;
4. data dissemination.

### **Enumeration of the Diaspora**

96. Some voices have demanded that BiH citizens living abroad should be counted as residents in BiH. It is important firstly to remind that the census aims at measuring the resident population (including foreigners residing in the country) and not the citizens of a country. According to International recommendations<sup>2</sup>, only those persons a) who have lived in their place of usual residence for a continuous period of at least twelve months before Census Day; or b) who have arrived in their place of usual residence during the twelve months before Census Day with the intention of staying there for at least one year should be considered as usual residents.

97. However, the BiH Census Law provide a specific operation to count BiH citizens residing abroad for more than 12 months. A separate individual form will be used, and an ad-hoc procedure will be used to count those citizens, in accordance with the article 40 of the BiH census law. Persons filling out this form will not be counted as part of the resident population.

## **CENTRAL MONITORING INFORMATION SYSTEM (CMIS)**

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<sup>2</sup> CES Recommendations, parag. 158-159, page 35

Milestone	Date	Done?	Remarks	Nb. of weeks delay
Central Monitoring Information System (CMIS) developed	End July	Partially	Draft version agreed by the three institutions. Will be developed by 10th of June. By the end of July the system should be operational.	12

98. The Central Monitoring Information System (CMIS) will allow store and manage the information related to the EAs, to the staff assigned to them and their contracts, the labeling of the questionnaires and boxes with a unique barcode, the tracking of the materials to/from the fields and other logistic information that are crucial for the management of the fieldwork. The CMIS application will consist in a web-application connected to a central database. The system is currently being developed with the support of the EUPHC TA Project.

99. The system will be composed by three main parts:

- *human resources management*: will permit to manage all the staff involved in the field operation, like EN, MI, SI, MCC, including their contracts. At the moment, the system requirements for this part are not yet specified;
- *logistic monitoring module*: will permit to track the status of the material from box assembly to the processing of them. At the moment, the system requirements for this part are drafted;
- *preliminary results entry*: will permit to enter the preliminary results as soon as the fieldwork operations will end. More exactly, the P3 summary data (first page) will be entered in the municipalities by the MCC while the remaining P3 data (other pages) will be entered once arrived in the processing centre. This part of the application was completely developed and tested during the pilot census.

100. Technical requirement defined, especially for the new part concerning the selection and management of the fieldwork staff. The system will be developed by the 10th of June and then will start the application test. By the end of July the system should be operational.

### **Assessment**

101. The System allows managing the different logistics phases and will improve the management of the Census. However, no comprehensive document describes all the features of the System as well as the duties and responsibilities of the different actors involved. Indeed procedures, resources and responsibilities are not completely defined, especially for what concern the selection and management of the fieldwork staff.

102. The System will be used by many actors with heterogeneous computer literacy. It is therefore critical to ensure proper training on the use of the application.

### **Recommendations**

103. It is recommended to:

- a. Finalize and carefully test the System;

- b. Define a training plan for the users and produce manuals and training materials for the different actors involved in the process;
- c. Define alternative procedures to transfer the information for the management of the fieldwork staff in case it will not be possible to use the system in the field.

## DAILY PROGRESS REPORT SYSTEM

Milestone	Date	Done?	Remarks	Nb. of weeks delay
Daily progress report System developed	Mid Sept.	Partially	Draft version agreed by the three institutions developed by beginning of May.	12

104. The traditional method of monitoring the fieldwork coverage implies that the enumerators report daily information about number of dwellings and number of persons interviewed to the Municipality Instructors, the Municipality Instructors aggregate these data at their own level and transmit them to their Supervisor. Finally, the Supervisors aggregate the data and transfer them to the referent Statistical Institution. Given the huge number of persons involved in the fieldwork operations, it is often difficult to have accurate daily information about the coverage, and thus to react adequately and timely.

105. An innovative approach agreed by the three statistical institutions for monitoring the fieldwork coverage is the use of SMS messages. In this approach each enumerator is instructed to daily transmit via SMS basic information regarding the progress of their enumeration to a central database. The information which can be sent by SMS includes the number of dwellings, number of households, and number of persons. No information on the refusals will be collected via SMS.

106. The system is still in a conceptual stage, even if the technical specifications are drafted and agreed by the three Institutes.

### **Recommendations**

107. A basic system should be developed as soon as possible and its effectiveness carefully tested.

108. A session on the use of the system should be added to the training for the enumerators. Short instructions for the enumerators should be produced.

109. An alternative procedure using the traditional method of monitoring the fieldwork coverage - giving responsibility to Municipality Instructors and Supervisors - should also be in place. References to this alternative procedure of checking the coverage should be added to the training materials of the different actors involved.

## DATA CAPTURE (E-FLOW PLATFORM)

Milestone	Date	Done?	Remarks	Nb. of weeks delay
e-flow platform developed with the final questionnaires	End May	Yes	The part in which more progress happened. It is on track.	0
e-flow platform tested with real questionnaires	End June			
e-flow platform operational	Mid Sept.			

110. The e-flow platform works in the following way:

- Once the questionnaires are scanned, the images are first organized in *collection* (a set of 15 forms with the same alphabet) and passed to an IMR/ICR engine that attempts to recognize the contents of the answers;
- Next step is the *tile* phase in which the images of all interpreted digits of the collection are presented to an operator according to their current value. If a value appears in the wrong group, operators can easily mark it for corrections. *Fuzzy match* is then used to attribute a specific confidence value to the interpretation of each character. Depending on the confidence of the recognition process (tile and fuzzy match) the engine it either accepts the inferred result or rejects it;
- Next phase is the *completion* in which the field containing values selected in tile phase or having a low fuzzy match index are manually verified by images. In this phase also field that doesn't respect the validation rules are verified by images;
- Last step in the e-flow platform is the *supervision* phase in which a specialized operator, following some pre-determined rules will try to solve some of the logical inconsistency that are in the questionnaire. Finally the data are *exported* in an SQL Server database.

111. In addition to the above phases, a parallel process is in place for quality assurance. During this process, a selected group of operators will re-process a fixed percentage of the questionnaires already processed. Indicators about the differences between the exported and the re-process data will be used to evaluate the quality of the single users as well as the quality of the whole capturing phase.

112. The development of the e-flow platform was completely outsourced and developed on the base of the pilot census questionnaires. A set of trainings on how to develop such platform started in April and now the Agency IT staff is much more involved in the developing process. The company will anyway provide assistance on the platform for a year after the census will take place.

113. An alternative data entry system was developed with the support of the TA Project to process those questionnaires that are damaged or not properly recognized by the Data Cap-

ture System. This manual entry system was actually used to enter the questionnaires of the pilot census.

### **Recommendations**

114. One of the objectives of the IMO SC is to ensure the data processing of the census data is carried out in conformity with international standards. In this view the following recommendations are strongly supported:

- a) Concerning the value set (list of valid text values) of the open questions:
  - Municipality, Settlement and Country variables will be processed using value set only to validate the data coming from IMR/ICR. No list and no auto-completion should be available to the operators in the completion phase;
  - Ethnicity, Religion and Mother Tongue should have no value set defined and the operator will correct only the characters unrecognized by the IMR/ICR engine.
- b) The supervisor phase should be limited to:
  - id codes inconsistencies;
  - field out of range;
  - multiple checks when only one is needed;
  - Municipalities, Settlement and Country not in the value set;
  - For Municipalities, Settlement and Country the supervisor should be able to check the answers within the list defined in the value set.
- c) Exporting the data after optical recognition, after completion and after supervision.

115. The success of the Data Capture process depends to a large extent on the training of the staff involved in the capturing operations. Specific manuals and training sessions should be organized for the different actors involved in the data capture phase: Scanner operators, Completion operators and Supervisor operators.

## **CENSUS DATABASE AND PROTECTION OF PERSONAL INFORMATION**

<b>Milestones</b>	<b>Date</b>	<b>Done?</b>	<b>Remarks</b>	<b>Nb. of weeks delay</b>
Establishment, sharing and maintenance of the common database of Census data during the data processing	End July		Still under discussion.	
Ensure that there is no risk of disclosure or misuse of Personal names and potentially sensitive information	End Aug.		The protection of the personal information should happen as soon as the data are captured in digital form.	

116. The BiH census law states that a single census database of collected data should be established and that the three statistical institutions would have access to the data (art. 22). Statistical institutions already agreed on this principle, but are still discussing if database replication should be made in the servers assigned to each statistical institution. The open issue is who will have access to the database and how to deal with the protection of personal information.

117. Protection of personal information is a central issue. Violation of this principle may lead to the identification of individuals. Names should be processed according to strict rules of individual data protection and used only for the essential statistical purposes planned within the census data processing. During the processing of census data, names are needed for two main aims: identify duplicate records and perform the record linkage of the census individual data with the PES records.

118. It should be noted that personal names are not the only potentially sensitive variables collected in the census. The combination of the variables on ethnic affiliation, religion and mother tongue should also be considered as being sensitive.

### **Recommendations**

119. The SC recommends to define a detailed strategy for the establishment, sharing and maintenance of the common database of Census data during the data processing. The SC has already recommended as a preferable option, the replication of the census database in the servers of the institutions, located in Istočno Sarajevo. This would facilitate the procedures for database management and for data replication.

120. It is also recommended to define a detailed strategy to ensure that there is no risk of disclosure or misuse of personal names and potentially sensitive information, both during the data processing and when the cleaned data will be available. The measures to ensure that there is no risk of disclosure or misuse of personal names should include the encryption of the data as soon as the data are captured in digital form. In addition, the encrypted data should be kept in separate tables of the Census database and the encryption keys in separate safes. The personal names should also not be included in any dataset that will be used for the production of the Census results.

121. Also the scanned images of the questionnaires are a possible mean of disclosure or misuse of personal information and potentially sensitive information. For that reason they should be kept secured in the data processing server, not copied or transferred to any external supports and destroyed at the end of the data processing phase.

122. If no decisions will be taken soon concerning these issues the SC see as unique solution to **strongly recommend not acquiring any personal information** (Name, Surname, Father Name, Address, Personal identification number) during the scanning phase.

## **CODING**

Milestone	Date	Done?	Remarks	Nb. of weeks delay
g-Code application and Logical check application are operational	Mid Sept.			

123. The Occupation classification adopted in the census is the international classification of occupations ISCO. The Industry classification adopted in the census is the General Industrial Classification of Economic Activities NACE. The industry in which a person is engaged is determined by the main economic activity carried out in the local unit. The Education classification adopted in the census is International Standard Classification of Education ISCED. The ISCED classification has been designed as an instrument suitable for assembling, compiling and presenting educational statistics both within countries and internationally.

124. A global strategy was developed on how to perform the coding of the three main international classifications adopted for the census (ISCO, NACE and ISCED) and an ad-hoc application called g-Code is under developing to approach this issue.

125. The codification of Municipality, Settlement, Country, Citizenship, Ethnicity, Religion and Mother tongue will be also performed with the g-code application.

### **Recommendations**

126. Estimation of the timing and of the resources needed for coding should be produced and reflected in the budget.

127. Concerning the codification of Municipality, Settlement, Country, Citizenship, Ethnicity, Religion and Mother tongue it is to be underlined that by e-flow platform only the textual values will be acquired. The codification of those variables will happen at this stage.

128. The validity between Municipality and Settlement should be checked at this stage.

## **DATA EDITING AND DATA CORRECTION**

Milestone	Date	Done?	Remarks	Nb. of weeks delay
Logical check application is operational	Mid Sept.			

129. When the operation of coding is concluded the editing and correction of the data should start. The procedure foreseen by the three Statistical Institutions for the whole data-cleaning phase is to use an ad-hoc application called Logical check that is currently developed and under test. This application will permit to define and apply deterministic corrections

on a temporary copy of the census data. The idea here is to pre-define on the base of the pilot census a set of deterministic corrections that will be applied to the final set of data, eventually integrated with new deterministic corrections derived analyzing the complete set of census data.

130. Other kind of editing activities are related to the relationships pertaining to the family nucleus inside the households, or to the individuals inside a nucleus. These relationships can be very complex, and the resolution of inconsistencies at this level can be very difficult. These kinds of problems cannot be solved neither with basic imputation techniques, nor with simplistic deterministic programs: it is in general necessary to apply a set of rules that take in account the number of family nucleus inside a household and several characteristics of the individuals inside each family nucleus. Such operation requires the use of special purpose system or to develop ad-hoc complex applications.

### **Assessment**

131. The procedure foreseen by the three Statistical Institutions for the data cleaning seems to leave much discretion to the human intervention of the specialized staff that will test and define the deterministic corrections. Indeed, deterministic correction is rarely feasible for censuses, essentially because of the high risk to introduce bias in the data.

132. The conditions for detecting and correcting the inconsistencies are usually specified in specialized applications that perform automatic error localization and correction based on imputation from a set of donors.

### **Recommendations**

133. A discussion should be initiated on the opportunity to use unbiased and more sophisticated statistical methods for data correction. The SC is proposing here the Fellegi-Holt approach and the related imputation methods, considering also the fact that the three Institutions are not new on that approach. Indeed, it was recently used in the household budget survey where - with the help of technical assistance support - the three Institutions defined the rules for the localization of the errors and adopted the Fellegi-Holt approach both to correct inconsistencies and missing data.

134. It is recommended to define a proper strategy to approach the correction of the relationships pertaining to the family nucleus inside the households, or to the individuals inside a nucleus.

## **POST ENUMERATION SURVEY (PES)**

<b>Milestones</b>	<b>Date</b>	<b>Done?</b>	<b>Comments</b>	<b>Nb. of weeks de-lays</b>
PES questionnaire, manuals and organisation approved	End June	No	No deadlines for final methodology, PES questionnaires and manual	



PES questionnaires and manuals printed and distributed	End October	No	Any delay in final questionnaire and manual will jeopardize the process of printing and distribution of PES materials	
Selection of EAs	Mid October	No		

135. The PES team completed matching operations of the pilot PES with the pilot census only for individuals and households. Dwellings were not matched because of the nonexistence of dwellings numbers.

136. The PES questionnaires have been revised for adaption to the changes in the census questionnaires and sent to the entities for comments during the mission. No work has been done to update PES manual and training materials.

137. No progress has been made to finalize the methodology of conducting PES based on the methodology of the census. There are no decisions on whether include population living in collective dwellings in the PES or not. Also, matching procedures are still under discussion. In particular, analysis of the status of persons enumerated in the household (identifying if enumerated person is a member of household, temporary absent or temporary present) for the matched persons is not done and there is no plan to do this work before finalizing the PES questionnaires and other materials.

138. Based on the number of total EAs, the PES sample size has increased to 240 EAs for application of 1% sample of PES. It is expected that the PES sample will be selected from around 120 municipalities. The budget for the fieldwork is estimated at 217 000 KM.

139. The PES team decided to use manual data capture system and automatic matching operation for matching individuals and households from the PES and census database. However methodology for data processing procedures has not been prepared yet.

140. Regarding the organization of the PES, MCCs will provide support to the PES team only for logistic issues and assist the team for difficulties to find addresses in the field. There will be 43 State Instructors and 16 instructors from the entities. The enumerators of PES will be selected from the best enumerators and municipality instructors who work for the real census. During census enumeration, entity instructors will provide information about the municipal instructors and enumerators who are proposed for the PES fieldwork. Then the PES working group will select the enumerators for the PES from the recommended list and assign them to the EAs.

141. The PES working group is planning to have publicity campaign to inform the public about the PES as part of the census campaign. However, there is no discussion until now neither about the kind of information nor about the tools that can be used for this purpose. No communication strategy has been developed for PES.

142. The tender for printing and distribution of census materials also covers PES materials. According to the logistic plan, the PES materials will be distributed on 28-30 October and will be collected on 14-18 November.

143. PES questionnaire and manual will be finalized based upon approval of Central Census Commission. There is no deadline for approval of PES materials.

### **Assessment**

144. The analysis of the pilot PES has not been completed for all procedures of PES operation in particular methodology for dealing with non-matched status of people enumerated in the household. Also it was decided to not conduct reconciliation visit to check unresolved cases in the field.

145. The PES team is waiting for the support of the census methodology group for definition of population and how to derive usual residents from the census questionnaire. In addition, there is no collaboration with the group on Communication Strategy to prepare publicity campaign for PES operation.

146. The PES activity plan has not been updated for completion the methodology, questionnaires, manuals and training materials.

### **Recommendations**

147. All recommendations in regard to preparation of the PES Census Methodology and Publicity campaign given in the eighth assessment report of the SC should be taken into account in the process of further PES preparation.

148. Updated work plan for the remaining PES activities should be prepared and deadline for approval of the PES questionnaires, field organization and manual from the CCC should be decided as quickly as possible.

149. The PES team needs better technical support to finalize the methodology, questionnaires and instructions. In addition, there is a need for technical assistance on matching procedures, on how to deal with unresolved cases, and on estimation of coverage and content errors.

150. The PES team should have better communication and collaboration with the team of Publicity Campaign and methodology group of the census to ensure appropriate messages are given to the public and the PES methodology is adopted according to the changes in the census methodology.

## **DATA DISSEMINATION**

Milestones	Date	Done?	Comments	Nb. of weeks delays
Dissemination strategies	End June	No		
Dissemination plan for preliminary results adopted	End July	No		

151. The dissemination strategies prepared by the EUPHC TA has been revised with the assistance of a new expert. In the revised strategy, five sets of reports –one for preliminary and the other for final results of the census– covering various publications are planned, as follows;

- a. Volume 0: Preliminary results;
- b. Volume 1: i) Population by age and sex, ii) Marital status by age and sex, iii) Migration, iv) Number of households by household size, and v) Families and their main characteristics;
- c. Volume 2: i) Population by level of education, literacy, computer literacy, and sex, ii) Population by economic activities, employment status, and means of living, iii) Employed people by occupation, industry, place of work, iv) Disability, and v) Agriculture;
- d. Volume 3: i) Information on housing units, and ii) Information on buildings
- e. Volume 4: i) Population by ethnic/national affiliation, ii) Population by religious affiliation, iii) Population by mother tongue.

152. The dissemination group is working on output tables for each publication. The Agency will be responsible for disseminating the outputs on the level of municipality and the entities will be responsible for producing the outputs on the level of settlement.

153. In addition, it is planned to produce census atlas and brochures. All publications will be available on CDs. Regarding online dissemination, there is a plan to create dissemination databases using PC-Axis tool.

### **Assessment**

154. For the time being, the dissemination group is working on updating the statistical reports for releasing the preliminary and final results. The group has not updated the work plan covering all components of dissemination strategies that were explained in the eighth assessment report of the SC.

155. The dissemination group is not planning to conduct researches for collecting information about users' reaction on the planned dissemination products and tools. Also, there is no activity in the current work plan for identification of users of census data, which is very important to reach the target group for conducting researches on users' reaction.

### **Recommendations**

156. All recommendations regarding dissemination strategies with all components given in the eighth assessment report of the SC should be taken into account in the process of further activities on dissemination.

157. The technical assistance should cover all components of dissemination strategies to apply current innovations in dissemination of census results and produce more user-friendly publications.

158. Regarding the budget for dissemination activities, it should cover the expenditures for organisation of the conferences (national and regional as well) to present the census results with the purpose of informing main users about the findings of the census. This will also help

to improve the knowledge of the users about census information and dissemination products and tools.

# ANNEXES

## ANNEX 1. AGENDA

### Tenth mission of the International Monitoring Operation Steering Committee

Date: 28 - 31 May 2013

<b>Tuesday, May 28, 2013, Republika Srpska Institute for Statistics (RSIS), Banja Luka</b>		
<b>09:00 – 9:30</b>	<b>Meeting with the Vice-President of the Government of Republika Srpska</b> Jean-Michel Durr (SC) Susana Martins, Marius Andersen (Eurostat) Federica Domanin (DG Enlargement)	Office of the Vice-President of the Government of Republika Srpska, Banja Luka
<b>09:30 – 10:30</b>	<b>Meeting with the Director and top management of RSIS</b> Radmila Čičković, director Radosav Savanović, deputy director Bogdana Radić, assistant director, sector for statistics of population, education, social statistics and justice	RSIS, Banja Luka
<b>09:00 – 13:00</b>	<b>Technical assessment of the GIS database and analysis of the census maps prepared (direct access to the GIS database jointly with staff from RSIS and Geodetic Administration)</b> SC: Roberto Bianchini Macanović Dragan, assistant director, Geodetic Administration Vitor Velibor, head of IT department Đokanović Miladin, advisor, Geodetic Administration Radoslav Latinčić, assistant director, ICT and Publishing sector Nataša Dragić, senior officer for register of spatial units and GIS	RS Geodetic Administration, Banja Luka
<b>10:30 – 13:00</b>	<b>Meeting of the IMO SC with working group members</b> Bogdana Radić, assistant director, sector for statistics of population, education, social statistics and justice Milka Miholjčić, head of population statistics department Vladan Sibinović, head of publication databases and statistical publications Mladen Marić, head of department for data entry, application development and databases administration Rajko Vranješ, senior officer for population censuses and projections Dara Petković, senior officer for national population change statistics Darko Marinković, senior officer for statistical sample and analysis Dean Arežina, senior officer for population censuses and projections Dragana Mandić, senior officer for migration statistics Vanja Vilipić, senior officer for social protection, health and gender Gordana Grbić, head accountant for financial affairs Vanja Đuran, officer for planning and realization of statistical activities	RSIS, Banja Luka
<b>13:00 – 14:00</b>	<b>Lunch break</b>	

14:00 – 16:00	Continuation of the meeting with census working groups members	RSIS, Banja Luka
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<b>Wednesday, May 29, 2013, Institute for Statistics of FBiH (FIS), Sarajevo</b>		
9:00 – 10:30	<b>Meeting with the Director, Deputy Director, Census coordinator and Head for Statistics of Statistics Service in Tuzla Canton of the Institute for Statistics of FBiH</b> Hidajeta Bajramović, director Galiba Karačić, secretary of FIS Hidajeta Čolović, assistant director Mehmed Krajinović, head for statistics of Statistics Service in Tuzla Canton	FIS, Sarajevo
9:00 – 13:00	<b>Technical assessment of the GIS database and analysis of the census maps prepared (direct access to the GIS database jointly with staff from FOS and Geodetic Administration)</b> <b>Roberto Bianchini</b> Relevant staff for Census cartography Munira Zahiragić, assistant director Belmira Hadžiabdić, head of GIS and Spatial Unit Register department Suada Lokvančić, special advisor, Spatial Unit Register Valentino Vlašić (FGO) Ivan Medić (FGO) Nedžad Pašalić (FGO)	FIS, Sarajevo
10:30 – 13:00	<b>Meeting with all relevant staff for the Census preparation in FIS (methodology, logistics, data processing, dissemination, communication etc.)</b> Jasmina Velić, head of the of Population Statistics and Population Register Department Nusreta Imamović-Kaljanac, head of Industry, Construction and Energy Statistics Department, Sanela Čengić, head of Financial Affairs Department Zehra Kaba, head of Publishing Department Nermina Ibrišević, head of National Accounts Statistics Department Nermina Sarajkić, head of Developing of Applications for Data Entry Department Šemso Šurković, head of Information Systems and Technical Support Department Muamera Idrizović, adviser for demographic analysis and projections Arijana Muhić, head of statistical methods and coordination department	FIS, Sarajevo
13:00 – 14:00	<b>Lunch break</b>	
14:00 – 15:00	<b>Continuation of the meeting with FIS working groups members</b>	FIS, Sarajevo

<b>Thursday, May 30, 2013, Agency for Statistics of BiH, Sarajevo</b>
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9:00 – 12:00	<b>Meeting with the Director, Deputy Director and Census coordinator of the Agency for Statistics of BiH</b> Zdenko Milinović, director Slavka Popović, deputy director Fadil Fatić, deputy director Admir Kulić, coordinator	BHAS, Sarajevo
9:00 – 12:00	<b>Technical assessment of the GIS database and analysis of the census maps prepared (direct access to the GIS database jointly with staff from BHAS)</b>  Roberto Bianchini Bakir Sujoldzic, Cartography	BHAS, Sarajevo
12:00 – 13:00	<b>Meeting with the relevant staff for the Census preparation in the Agency</b> Admir Kulić, Census coordinator - Census organisation Nora Selimović – Census forms and manuals; training materials Dajana Mitrović – logistics Ivona Bulić – communication and outreach strategy Sulejman Hasanović – data processing Edin Šabanović – PES	BHAS, Sarajevo
13:00 – 14:00	<b>Lunch break</b>	
14:30 – 16:00	<b>Meeting of IMO SC with Pieter Everaers</b>	EUD, Sarajevo
16:00 - 17:30	<b>Meeting of the IMO Management Group (teleconference)</b> Pieter Everaers, SC: Jean-Michel Durr, Roberto Bianchini	
16:00 – 17:30	<b>Continuation of the meeting with all relevant staff of the Agency for the Census preparation</b> SC members except JM Durr and Roberto Bianchini	BHAS, Sarajevo
17.30 – 18.00	<b>Meeting with Team leader of EUPHC Phase 2, BiH Census</b> Ede JOHN Pieter Everaers SC members	BHAS, Sarajevo

<b>Friday, May 31, 2013, Agency for Statistics of BiH, Sarajevo</b>		
9:00 – 13:00	<b>Continuation of the meeting with all relevant staff of the Agency for the Census preparation</b> SC members, except Jean Michel Durr	BHAS, Sarajevo
10:00 – 11:00	<b>Meeting with Minister Hadzic and/or Bevanda</b> Pieter Everaers, SC: Jean-Michel Durr	Govt building
11:00 – 12:00	<b>Press Conference</b> Pieter Everaers, SC: Jean-Michel Durr	Govt building
12:00 – 14:00	<b>Lunch break</b>	
14:00 -16:00	<b>Meeting with 3 directors – complete SC and Pieter Everaers</b>	EUD Sarajevo

## ANNEX 2. CENSUS PREPARATION MILESTONES

Milestones	Date	Done ?	Remarks	Nb. of weeks delay
Census Communication and Outreach Strategy agreed	End January	No	Final strategy will be updated with the implementing company but strategy seemingly comes in too late to have positive impact	16
Management and communication staff trained	End January	Next week	Training will take place first week of June.	16
Internal organisation for communication among BHAS and entity SI agreed	End Jan.	Yes	Coordination and cooperation have considerably improved among the 3 statistical institutions.  The video equipment is now functional and allows regular meetings among the directors and the members of the various working groups.	12
Financial plan adopted (Art. 38 of the Census Law)	End Feb.	Yes	The 3 directors agreed on financial plan, confirmed by CoM. On 29 of May an agreement was reached on the sharing expenses to be supported by regarding the EU direct grant.	9
Roles, duties and responsibilities of the three statistical institutions in the Census.	End Feb.	Yes	Mainly defined by law. It was agreed that State Instructors would be able to go everywhere in the country.	8
Duties and responsibilities of the MCCs harmonized to the State Census Law in RS	End Feb.	Yes	RS amended its Census law accordingly, removing this provision	8
Establishment, maintenance and ownership of "common data base" of Census data;	End Feb.	No	Still in discussion	8
Ethnic composition of the Census Commissions of the units of local self-government.	End Feb.	Yes	Provision regarding ethnic composition was not included in RS Census Law but applies from State Census law, given the hierarchy of legal texts in the country.	0
Selection of the census field staff in accordance with article 26, point 4 and 5 (that will ensure the ethnic structure from 1991 and where is not possible at least 50 %);	End Feb.	Yes	Estimated numbers of required field census staff according to ethnicity, by municipality are prepared and agreed by the 3 statistical institutions. Tables with these data are part of the document "Procedures" prepared for the MCC.	12



How to conduct the enumeration in the areas of the boundary line	End Feb.	Yes	A working group composed of representatives of both entities geodetic institutions have completed the work and had identified a technical line for delineation operational for the census. Each EA along the line, are assigned to one or the other entity and the enumeration will be responsibility of the entity where EA is assigned.	12
How to conduct the enumeration of the BiH citizens working or residing abroad for more than 12 months in compliance with the Article 40-42 in the BiH Census Law.	End Feb.	Yes	A final version of the questionnaire and Methodology / Instructions are agreed and finalized (mid May).	10
How to conduct the enumeration in the areas of the boundary line	End Feb.	Done	An agreement has been reached between Entities and BHAS. A single line between Entities defines areas under responsibilities of RSIS and FOS for the conduction of the enumeration.	10
The unique ID code of each address or building reported on the maps is included on P2 and P3 forms.	End Feb.	Done	The ID code (three digits) has been included in the revised final version of census forms.	10
Finalised cartographic work and final list of EAs by municipality	End Feb.	Yes	Completed in FBiH, RS and District Brcko.	12
Tender specification for printing and distributing census materials adopted	End Feb.	Yes	Call for tender published on April 24	5
Census maps prepared in electronic format	End Mar.	Done	Census maps in electronic format ready in FBiH, RS and District Brcko. In FBiH census maps also printed. In RS the printed maps are expected to be ready by 1st July 2013.	6
Contract for Communication Campaign awarded	End March	Yes	Company selected, contract signed. Action plan on final campaign and 4 local training briefings of journalists/editors. No outreach and no media relation function installed.	7
Tender specification or printing and distributing cartography materials adopted	Mid Apr.	Yes	Technical specifications for map printing defined by the Entities and the distribution agreed to be coordinated by BHAS.	0
Adopted final Census forms	End Apr.	Yes	Decision taken by the Council of Ministers on 16 April 2013, was confirmed with adoption of the Session minutes of the 25 April 2013. The layout of the Q19 was approved as well.	0
Detailed Logistic Plan	End April	Yes	Completed with a month delay with no serious implication	4

Prepared final Census forms	End May	Yes	Census questionnaires are completely finalized, the remaining work is proofreading and translation (that is currently on going) and technical arrangement - to insert the agreed logo and the changes after the proofreading.  It is expected to finalize the work on time for printing (Forms in Bosnian, Croatian and Serbian are expected in about 10 days).	0
Manuals of Instructions revised and adopted	End May	Yes	The Methodology for Census conducting and organization (the framework one for BiH level) is completely finalised and sent to FOS and RSIS as final. The same text was sent for proofreading too.  The Manuals are completed as well from content point of view and the remaining work is only technical. The finalisation of all manuals is expected to be completed in the forthcoming 10-15 days.	0
Training material revised and adopted	End May	No	Deadline for finalization in the Agency timetable is Mid July.	0
e-flow platform developed with the final questionnaires	End May	Yes	The part in which more progress happened. It is on track.	0
e-flow platform tested with real questionnaires	End June			
Establishment of a systematic mechanism to number, manage and monitor the coverage of dwellings inside buildings, relevant for census coverage	End June	No	It was discussed between entities, but no decision was taken by the working group on census methodology.	0
Completion of bidding procedures	End June	No	Most likely to be completed on time	
PES questionnaire, manuals and organisation approved	End June	No	No deadlines for final methodology, PES questionnaires and manual	
Dissemination strategies	End June	No		
Establishment of a single list of census spatial units at state level with their corresponding codes and boundaries. (Art. 20 BiH census law)	Mid-July	No	The methodology to establish the list was recently revised by the Agency and transmitted to Entity Statistical Institutions and Geodetic Administrations. A request with the list of the required data was also prepared by the Agency and transmitted to Entities.	0

Cartography documentation for enumeration printed and distributed	Mid-July	No	Printing of census materials completed in FBiH by the outsourced companies. In RS maps are being printed by the Geodetic Institute. In Brcko District maps will be printed by BHAS.	0
Central Monitoring Information System (CMIS) developed	End July	Partially	Draft version agreed by the three institutions. Will be developed by 10th of June. By the end of July the system should be operational.	12
Establishment, sharing and maintenance of the common database of Census data during the data processing	End July		Still under discussion.	
Dissemination plan for preliminary results adopted	End July	No		
Training census materials printed and distributed	End Aug.	No		0
Ensure that there is no risk of disclosure or misuse of Personal names and potentially sensitive information	End Aug.		The protection of the personal information should happen as soon as the data are captured in digital form.	
Daily progress report System developed	Mid Sept.	Partially	Draft version agreed by the three institutions developed by beginning of May.	12
e-flow platform operational	Mid Sept.			
g-Code application and Logical check application are operational	Mid Sept.			
Logical check application is operational	Mid Sept.			
Census information campaign carried out	20 Sept	No	Contract has been signed with external company	0
Quick field map activity prior to the enumeration: plan for the identification in the field of EA boundaries and buildings/addresses, by the assigned enumerators and supervisors	End Sep.	No	A plan to visit EAs and quickly update maps has been agreed and included in the manuals for enumerators and supervisors.	0
PES questionnaires and manuals printed and distributed	End October	No	Any delay in final questionnaire and manual will jeopardize the process of printing and distribution of PES materials	
Selection of EAs	Mid October	No		