

Economic Commission for Latin America and the Caribbean Subregional Headquarters for the Caribbean

Regional training workshop on the development of REDATAM applications for the dissemination of population and housing census data 29 September – 10 October 2014 St. George's, Grenada

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REPORT OF REGIONAL TRAINING WORKSHOP ON THE DEVELOPMENT OF REDATAM APPLICATIONS FOR THE DISSEMINATION OF POPULATION AND HOUSING CENSUS DATA

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A. INTRODUCTION

- 1. The dissemination of data from censuses and surveys is critical to ensuring the fullest possible use of that data for purposes of decision making and development planning. Consequently, for national statistical offices (NSOs), the timely release of data from national censuses and surveys through paper, electronic and web-based products represents a key milestone in the census/survey process. While thematic maps and analyses, statistical tables, and demographic reports are the more commonly used mediums for data dissemination, NSOs have over the years increasingly used dynamic environments such as web-based platforms/databases that provide easier access to data and allow users to perform their own queries and generate customized tables, graphs and maps.
- 2. Retrieval of data for small areas by microcomputer (REDATAM) is a software programme that has been used by many countries for the quick and effective dissemination of microdata from surveys and censuses through the Internet and CD-ROMS. The software has been used by many Latin American and Caribbean countries for the processing and dissemination of census and survey data and is increasingly being used by NSOs in Africa, Asia and the Pacific. The REDATAM software makes it possible for statistical offices to provide public access, via the Internet, to census data sets in a way which permits wider and more detailed analysis but still protects the confidentiality of individual census records. In addition to census data, REDATAM can also be used to provide online access to data sets such as labour force information and surveys of living conditions. In the long term, improved online access to these data sources will encourage their use in research, development planning and evidence-based policymaking.
- 3. Since REDATAM was first introduced to statistical offices in the Caribbean region in the 1980s, a number of countries have used the software for the storage, processing and dissemination of microdata from key national surveys including labour force surveys, population and housing census and surveys of living conditions. However, owing to large staff turnover and the continued innovations in REDATAM, countries regularly request the conduct of training courses that help build and further strengthen technical capacity in the use of the software. Furthermore, given that most countries in the region have carried out their decennial population and housing censuses in the period 2010-2012 and are currently at the data dissemination phase of the census process, support with the use of the REDATAM software is quite opportune. For that reason, between March and July 2014, ECLAC received requests from the Directors of Statistics of Antigua and Barbuda, Barbados and Grenada for assistance with the provision of technical training in REDATAM and support with the development of applications for the electronic dissemination of data from their national population and housing censuses.
- 4. In response to the technical assistance requests, ECLAC subregional headquarters for the Caribbean convened a Regional training workshop on the development of REDATAM applications for the dissemination of population and housing census data for staff of the three requesting member States. The overall objective was to train statisticians, IT specialists and web developers in the use of the REDATAM software for web dissemination of census and survey data. The workshop was also expected to fulfil the following outcomes:
 - (a) Increased capacity of participants to use REDATAM for the storage, processing, analysis and dissemination of census and survey data;
 - (b) Development of prototype web-applications for dissemination of national census data sets.

Further, following the workshop, it is anticipated that the prototype applications developed in the workshop would be finalized so that all three national census data sets can be disseminated online through REDATAM WebServer applications by the end of the first quarter of 2015.

5. The workshop was facilitated by experienced REDATAM experts from the Latin American and Caribbean Demographic Centre (CELADE) – Population Division of ECLAC and the ECLAC subregional

headquarters for the Caribbean. Funding for the technical assistance mission was provided under the Regular Programme for Technical Cooperation (RPTC).

B. ATTENDANCE

1. Place and date of the workshop

6. The Regional training workshop on the development of REDATAM applications for the dissemination of population and housing census data was held from 29 September to 10 October 2014 in St. George's, Grenada.

2. Participation

7. The workshop primarily targeted census officers, database experts and web developers from the Central Statistical Offices of Antigua and Barbuda, Barbados and Grenada, a few of whom had been trained in REDATAM through either national or regional introductory workshops. The composition of the participants by sex was 8 males (66.67 per cent) and 4 females (33.33 per cent). The list of participants is annexed to this report.

C. SUMMARY OF KEY OUTCOMES OF THE WORKSHOP

1. Opening session

- 8. The opening ceremony of the workshop featured remarks from the Population Affairs Officer of ECLAC subregional headquarters for the Caribbean and the Director of the Central Statistical Office of Grenada.
- 9. In his remarks, the Population Affairs Officer welcomed participants and described briefly the role of ECLAC in providing support and training in the use of the REDATAM software. He emphasized that the main aim of the workshop was to develop prototype applications for the dissemination of national census data and that the intention would be to further develop and finalize these applications over the coming months so that they could be made available to users. He emphasized ECLAC's commitment to provide ongoing advice and support in order to achieve this. It was explained that the three countries participating in this workshop were all at similar stages in their census processes, with final or near final data sets, and therefore it was an opportune time to focus on developing REDATAM applications for dissemination.
- 10. In delivering his opening remarks, the Director of the Central Statistical Office of Grenada, welcomed participants and highlighted the benefits to be derived from the training in REDATAM. He highlighted the challenges of national statistical offices in the region with respect to their small size and limited staff compliments that often challenged their ability to respond, in a timely fashion, to the numerous data requests from their varied users. He noted the value of software such as REDATAM and its dissemination capacity that would enable his office, and by extension other NSOs in the region, to provide users easier access to data and thereby reduce the burden of responding to data requests. He concluded by acknowledging the continued support of ECLAC and CELADE with providing training in the use of REDATAM, noting in particular, the support provided in 2010 with the conduct of a national training workshop for several staff of his office and line ministries. He urged participants to take advantage of the training and wished them a productive workshop.

2. Main achievements

- 11. The regional workshop was expected to facilitate the development of prototype REDATAM applications for the dissemination of data from the recently conducted population and housing censuses. To that end, staff of the three member States received targeted training in three core components of the REDATAM software namely, the Create, Process and WebServer modules. During the workshop, participants gained an appreciation of the full functionality of REDATAM using modules from two versions of the software: REDATAM+SP (or R+SP) and REDATAM7 (or Red7). REDATAM+SP was developed in 2004, while Red7 is the latest version (fifth generation) of the software developed in 2012 and features several improvements and upgrades from the previous generation.
- 12. To achieve its objectives within the timeframe, the workshop was structured so that the content of the first week of the workshop focused on the two core modules of the software, namely, Create and Process. The Create module is used for the creation of hierarchical databases in the proprietary REDATAM format, while the Process module is used to run statistical analyses on REDATAM databases, generate indicators and develop thematic maps. Participants were introduced to Red7 and were provided with opportunities to gain hands-on experience on the various stages of creating REDATAM databases using sample data sets in Statistical Package for Social Scientists (SPSS) and CSPro (Census and Survey Processing System) formats.
- 13. Once the skills for creating REDATAM databases from the sample data sets were mastered, participants then replicated the steps for creating databases using their own national census data. By the end of third day of the workshop, most participants were able to produce fully functional databases in REDATAM format using national data sets. The databases developed in those sessions would subsequently be used during the second week of the workshop. The data sets used by each country were as follows:

TABLE 1
DATA SETS USED BY COUNTRY FOR CREATION OF REDATAM DATABASES

Country	Data set used for developing applications (census/ survey)	Format of national database
Antigua and Barbuda	Population and Housing Census 2011	CSPro Format
Barbados	Population and Housing Census 2010	CSPro format
Grenada	Population and Housing Census 2011	SPSS format

- 14. The final three days of week one were dedicated the use of the Process module. The sessions focussed on the analysis of data and construction of indicators. The sessions enabled the staff to gain more familiarity with the REDATAM environment and how to navigate through the module using REDATAM+SP. Participants learned how to use both the Process module's menus and the REDATAM programming language to produce outputs such as tables, indicators and maps based on census data.
- 15. The second week of the workshop focused on developing web-based applications using the REDATAM WebServer module. During the first half of the week participants were taught how to use the REDATAM WebServer module using an example database. The sessions enabled participants to learn how to add content to the application and provide different types of functionality to users.
- 16. During the second half of the week participants worked with their own national census data sets. By the conclusion of that week, participants were able to develop functional prototype applications. As a concluding activity, the representatives of each member State agreed a list of follow-up tasks that would need to be fulfilled by their respective offices in order to achieve the completion and release of national census databases in the coming months.

D. SUMMARY OF EVALUATION

- 17. This section of the report presents a summary of the comments provided by participants on the final day of the workshop. To elicit participants' feedback on diverse aspects of the workshop, an electronic evaluation questionnaire was administered using the Vovici survey platform. The summary therefore presents an account of all responses received from the participants.
- 18. The questionnaire used for the evaluation comprised both closed-ended and open-ended questions. For the closed-ended questions, each response scale had 5 points that were indicated using verbal labels. While those response categories varied by item, in the statistical analysis high-to-low coding was used, such that a value of 5 corresponded to positive anchors (excellent, very useful) and 1 assigned to a negative anchor (very poor, not useful at all).
- 19. Responses were received from all 12 participants, thus the views expressed below were fully representative of the group. The composition of the respondents of the evaluation by sex and organizational type was as follows:

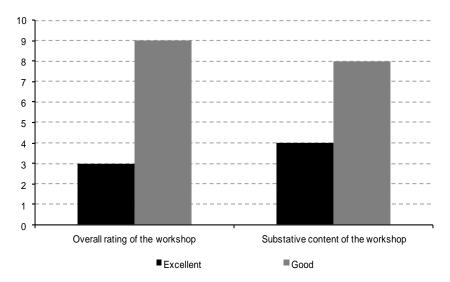
TABLE 2
SEX OF RESPONDENTS BY DEPARTMENT OR MINISTRY

		Type of organization	Type of organization you represent:		
		National Statistics Department/ Office	Other Department or Ministry	Total	
Sex of respondent	Male	6	2	8	
	Female	4	0	4	
	Total	10	2	12	

1. Substantive content and usefulness of the workshop

- 20. The evaluation sought participants' overall perceptions of various aspects of the workshop ranging from the relevance of the content and the value added by the training to the conduct of the sessions and the general organization of the workshop.
- 21. The two initial items assessed participants' views on the overall quality and substantive content of the workshop against a scale that ranged from "excellent" to "very poor". Participants' overall rating of the workshop was high with all responses being split between the categories of "excellent" (25 per cent) and "good" (75 per cent). With respect to the substantive content of the workshop, participants provided similar ratings. Figure 1 displays the distribution of the responses across the 5-point scale used for those two items.

FIGURE 1
PARTICIPANTS' FEEDBACK ON THE SUBSTANTIVE CONTENT AND
OVERALL QUALITY OF THE WORKSHOP



Participants were also required to indicate, through a dichotomous question, the extent to which the workshop lived up to their initial expectations. All but two participants responded positively to this item.

2. Usefulness and impact of training

- 22. A number of items were included in the evaluation form to assess the value added through the training sessions. Of particular importance were participants' views on the initial impact of the training. This was assessed by measuring participants' perceptions of relevance of the training to participants' needs and the usefulness of the training for strengthening technical capacity. A combination of open-ended and rating scale items were used for this component of the evaluation. Each of the closed-ended items was scored along a continuum from "highly useful" to "not useful at all".
- 23. In terms of the relevance of the training for the work of their respective institutions, 10 (83.3 per cent) respondents indicated that it was "very relevant", 1 (8.3 per cent) stated that it was "relevant" and 1 person rated it as "somewhat relevant".
- 24. As a follow-up to that item, participants were asked to identify specific areas for improvement such as topics that should have been included or could have been addressed during the sessions. The majority of participants articulated a high level of satisfaction with the workshop and corroborated the adequacy of the content. Those views were stated in the following comments:

[&]quot;The subjects addressed were adequate."

[&]quot;In my opinion the workshop covered all the areas that I felt were critical when it came to the subject matter."

[&]quot;All areas were addressed adequately which is needed to execute our objective of having our census and survey databases online."

[&]quot;All areas that are necessary to use the program were covered and sufficient time was given for persons to understand."

[&]quot;The overall presentation of the training was good."

25. A few participant's however felt that the pace of some of the sessions was rushed at times and suggested that the duration of future workshops be extended. Participant comments included the following:

"The create and process modules could have been longer since a clean data set is critical for the overall success."

"The daily presentations were very clear but at points were rushed. Due to the nature of the application, missing anything could be the difference between the successful execution of this program or not."

- 26. Given that the main objective of the workshop was to build on existing national capacity to use the REDATAM software for the development of data dissemination application, participants were provided with an opportunity to evaluate the extent to which this objective was met by indicating the usefulness of the training for strengthening their capacity in that area. Responses to this item were key indicators of actual impact of the training. Of the 12 respondents, two thirds stated that the training was "very useful" for meeting that goal. Responses of the remaining participants were split between "useful" (25 per cent) and "regular" (8.3 per cent).
- 27. With regard to the usefulness of the training for engaging in discussions and exchanging experiences with representatives of other institutions, participants held diverse views. The majority of participants rated this aspect of the workshop as "very useful" (5 or 41.7 per cent) and "useful" (5 or 41.7 per cent). The two remaining participants rated it as "regular".

3. Organization of the training workshop

28. Three components related to organizational aspects of the workshop were assessed. These included: the quality of the documents and materials, the duration of the sessions and time for discussions and the quality of the infrastructure. Each aspect was scored along a continuum with end point anchors "excellent" and "very poor". A sixth option "no response/ not sure" was also included for participants who were unsure or had ambivalent feelings. Participants provided high ratings for two aspects: the quality of documents and materials and durations of sessions, and time for debate/questions. More than 75 per cent of participants rated those aspects as "excellent" or "good", and the modal response was "good". With respect to the quality of infrastructure, 7 (58.3 per cent) stated it was "good". The remaining participants rated that aspect as "regular" (4 or 33.3 per cent) or "poor" (1 or 8.3 per cent). Table 3 shows the totals and percentages of participants who provided high ratings of "excellent" or "good" for each organization aspect assessed in the evaluation.

TABLE 3
PARTICIPANTS' VIEWS OF THE ORGANIZATION OF THE WORKSHOP

Question	Percentage (absolute number) of responses rated as excellent or good
Quality of documents and materials provided	100 % (12)
Duration of sessions and time for debate/ questions	83.3 % (10)
Quality of the infrastructure (room, sound, catering)	58.3 % (7)

29. The final section of the evaluation, elicited participants' general comments on what worked well as well as suggestions on what could be improved in relation to the organization and conduct of the workshop. In terms of the strengths of the workshop and what worked well, participants noted the value of the practical sessions and commended the organizers and facilitators on the timeliness and usefulness of the workshop.

Some of the comments included:

- "The workshop was very timely for me. I embraced the knowledge. It was well organized and delivered appropriately. The facilitators exercised lots of patience and were extremely willing to help to ensure that we understood."
- "The fact that countries had an opportunity to work with their data went very well."
- "The quality of the documentation and the timeliness of the information were very good."
- "Everything listed was adequate and fulfilled the objectives of the training."
- "Overall, everything was good."
- "The facilitators were very clear and precise but it could have been a bit slower at points. Other than that they did a commendable job."
- "Congratulations on a job well done."

In terms of areas of improvement, participants cited the pace and duration of the sessions, the venue of the workshop and the catering as the main issues of concern:

- "The documents provided work well. However the infrastructure could have been better also the length of time of the daily sessions need to be shortened."
- "The training venue was not bad but getting to and from the workshop was sometimes challenging."
- "The only thing I felt needed improvement in this workshop was the transport arrangements to and from the sessions."

4. Follow-up activities and areas for future work

- 30. The final component of the evaluation included a few questions on ways in which ECLAC could support their respective institutions and countries, in the area of statistics and population development. Only a few participant's responded to this item and made the following suggestions:
 - "Training in population projections and a robust system for tracking migration."
 - "Training in sampling and estimation methodology and techniques for both household and establishment surveys."
 - "I would like to see ECLAC undertake training in Computer-Assisted Personal Interviews (CAPI), data capture and data processing of census and survey in the future."
 - "I would like assistance in converting an excel database into a structural database."
 - "CSpro Training Training in the development of CAPI applications for conducting surveys."
 - "Further assistance with REDATAM, training in data analysis and producing results from statistical data."
 - "After the applications are done and information has been disseminated we could have dialogues or some form of survey with users as it relates to their experience with the software."

E. CONCLUSIONS

- 31. Overall, the workshop was highly valued. Participants' responses reflected a high level of satisfaction with the training and outcomes of the workshop. There was evidence that the workshop met its immediate objective of strengthening national capacity in the use of the REDATAM software and provided a positive learning environment for all in attendance. Further, there were strong indications of participants' appreciation of the timeliness and practical orientation of the workshop.
- 32. Participants commended the organizers on the structure and content of the workshop. The documentation used by facilitators to aid in the delivery of the training was also highly praised. Additionally, feedback on the organizational aspects of the workshop was also positive. However, participants noted the need for small improvements with respect to the pace of delivery of the sessions. This will be addressed in future workshops.

F. FOLLOW-UP / FUTURE ACTIONS

- 33. The public release of REDATAM applications would require both the finalization of the REDATAM census databases. In addition, the REDATAM applications for all three countries would also need further work to turn them from prototypes into fully working, tested and validated applications which can be released online. Consequently, in the period following the workshop there would be a need for close follow-up with all participants from all countries to ensure that the work continues and results in the development of a fully functional database that is accessible to the public by the end of the first quarter of 2015. To that end, follow-up meetings with be held with participants and Directors of the respective Central Statistical Offices on a regular basis to ensure all tasks are completed on time.
- 34. Further, as a follow-up activity, ECLAC would conduct a post-training evaluation six months after the workshop to assess impact of the workshop in terms of the transfer of knowledge, particularly its application for developing applications for microdata dissemination. The evaluation would be conducted through an electronic survey via the Vovici Survey Platform in April 2015.

Annex I

LIST OF PARTICIPANTS

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Annex II

WORKSHOP EVALUATION



REGIONAL TRAINING WORKSHOP ON THE DEVELOPMENT OF REDATAM APPLICATIONS FOR DISSEMINATION OF POPULATION AND HOUSING CENSUS DATA

St. George's, Grenada 29 September – 10 October, 2014

WORKSHOP EVALUATION

In an effort to assess the effectiveness and impact of this training course, kindly complete the following evaluation form. Your responses will be invaluable in providing feedback on the overall workshop, identifying areas of weakness and help improve the organization of future workshops.

IDENTIFICATION						
Sex	☐ Male	☐ Female				
Type of o	Type of organization you represent:					
	Central Statistical	Office	Other			

Substantive content and usefulness of workshop

1. How would you rate the training overall?								
1. Excellent □	2.Good	3.Regular ☐ 4.F	Poor 5.V	ery poor □	6. Not sure/no response □□			
<u> </u>								
2. How would y	2. How would you rate the substantive content of the workshop?							
1. Excellent \square	2.Good □ 3	.Regular ☐ 4.Poo	or	ery poor □	6. Not sure/no response \Box			
3. Did the work	shop meet your ini	tial expectations?						
1. Yes □	2. No □□ 3	Not sure / no respons	se 🗆 🗆					
[
4. How relevant	t was the training f	or the work of your	institution?					
1. Very Relevan	t 2. Relevant	☐ 3. Somewha	t relevant \square	4. Not relev	ant □ 5. Not sure/no			
					response \square			
1					_			
		orksnop in terms oi i greater depth or su			r example, issues you would nportant)?			
	6. How useful did you find the training for strengthening your capacity to develop REDATAM applications for the dissemination of microdata?							
1. Very useful	\square 2. Useful \square	3. Regular □□	4. Not very					
			useful 🗆 🗀	at all □□	response \square			
			•					
7. How useful did you find the workshop for engaging in discussions and exchanging experiences with representatives of other institutions?								
1. Very useful	☐ 2. Useful ☐ ☐	3. Regular □□	4. Not very					
			useful	at all \square	response \square			

Organization of the training workshop

8. How would you rate the organization of the workshop? If you choose "poor" or "very poor" please						
explain your response so	that we can tal	ke your opi	nion into acco	ount.		
Quality of documents	1. Excellent	2. Good	3. Regular	4. Poor	5. Very poor	6. Not sure/No
and materials provided						response
Duration of the sessions	1. Excellent	2. Good	3. Regular	4. Poor	5. Very poor	6. Not sure/No
and time for						response
debate/questions						
Quality of the	1. Excellent	2. Good	3. Regular	4. Poor	5. Very poor	6. Not sure/No
infrastructure (room,		пП	пП		П	response
sound, catering)						
	I					
9. Based on the ratings se	lected above, p	lease indica	ate what work	ked well and	l what could be	improved.
10. Do you have any other	r comments or	suggestion	s on the organ	nizational as	spects of the wo	rkshop?
11. What additional tech				ld of popu	lation developn	ent or statistics
would you suggest that E	CLAC underta	ake in the fu	ıture?			

Thank you!!

Annex III

RESPONSES TO QUANTITATIVE ITEMS

Table A.1 **Sex of Participants**

	Frequency	Percent	Valid Percent	Cumulative
				Per cent
Male	8	66.7	66.7	66.7
Female	4	33.3	33.3	100.0
Total	12	100.0	100.0	

Table A.2 **Type of organization being represented**

	Frequency	Percent	Valid Percent	Cumulative
				Per cent
Central Statistical Office	10	83.3	83.3	83.3
Other	2	16.7	16.7	100.0
Total	12	100.0	100.0	

Table A.3 **Overall Rating of the workshop**

	Frequency	Percent	Valid Percent	Cumulative
				Per cent
Excellent	3	25.0	25.0	25.0
Good	9	75.0	75.0	100.0
Total	12	100.0	100.0	

Table A.4

Rating of substantive content of the workshop

	Frequency	Percent	Valid Percent	Cumulative
				Per cent
Excellent	4	33.3	33.3	33.3
Good	8	66.7	66.7	100.0
Total	12	100.0	100.0	

Table A.5 **Did workshop live up to initial expectations**

	Frequency	Percent	Valid Percent	Cumulative
				Per cent
Yes	10	83.3	83.3	83.3
Not sure/ no response	2	16.7	16.7	100.0
Total	12	100.0	100.0	

Table A.6

Relevance of the training to the work of your institution

	Frequency	Percent	Valid Percent	Cumulative
				Per cent
Very relevant	10	83.3	83.3	83.3
Relevant	1	8.3	8.3	91.7
Regular	1	8.3	8.3	100.0
Total	12	100.0	100.0	

Table A.7
Usefulness of the training for strengthening participants' capacity to develop REDATAM applications for the dissemination of microdata

	Frequency	Percent	Valid Percent	Cumulative
				Per cent
Very useful	8	66.7	66.7	66.7
Useful	3	25.0	25.0	91.7
Regular	1	8.3	8.3	100.0
Total	12	100.0	100.0	

 $\label{thm:constraints} Table~A.8 \\ \textbf{Usefulness of the workshop for engaging in discussions and exchanging experiences}$

	Frequency	Percent	Valid Percent	Cumulative
				Per cent
Very Useful	5	41.7	41.7	41.7
Useful	5	41.7	41.7	83.3
Regular	2	16.7	16.7	100.0
Total	12	100.0	100.0	

Table A.9 **Quality of the documents and materials provided**

	Frequency	Percent	Valid Percent	Cumulative Per cent
Excellent	3	25.0	25.0	25.0
Good	9	75.0	75.0	100.0
Total	12	100.0	100.0	

 $\label{eq:analytical_constraints} Table \ A.10 \\ \textbf{Duration of the sessions and time for debate and questions}$

	Frequency	Percent	Valid Percent	Cumulative
				Per cent
Excellent	1	8.3	8.3	8.3
Good	9	75.0	75.0	83.3
Regular	2	16.7	16.7	100.0
Total	12	100.0	100.0	

 $\label{eq:A.11} \begin{tabular}{ll} \textbf{Quality of the infrastructure (sound, equipment, catering)} \\ \end{tabular}$

	Frequency	Percent	Valid Percent	Cumulative
				Per cent
Good	7	58.3	58.3	58.3
Regular	4	33.3	33.3	91.7
Poor	1	8.3	8.3	100.0
Total	12	100.0	100.0	