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CENSUS PILOT EVALUATION

Lessons Learnt from the Census Pilot and
Recommendations for Improvements

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Executive Summary

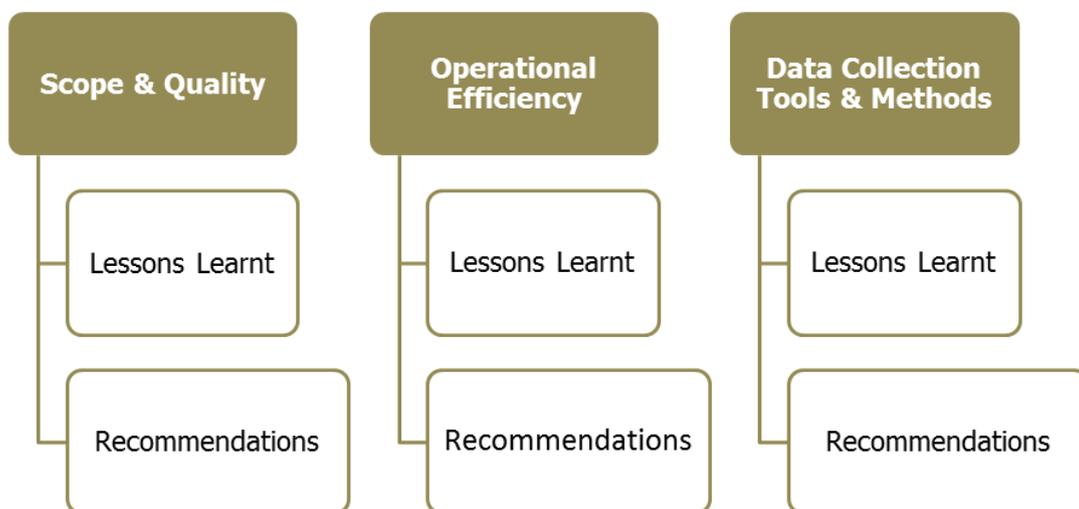
The Statistics Centre-Abu Dhabi (SCAD) Census Pilot was held in the Abu Dhabi Emirate from 14 – 28 May. Census night was 14/15 May.

The Pilot proved to be an invaluable experience and the first SCAD had ever conducted which is a huge accomplishment. The opportunity to test field procedures, electronic devices, and the questionnaire provided the organisation with a more robust understanding of how the main Census will work and what needs improvement leading up to September.

The purpose of the Pilot was to determine if the scope and quality of the Census was on track and what requires improvement before the main exercise in September. The purpose of this evaluation is to collect all the lessons learnt from the Pilot and the resulting recommendations and organise the information for easy assimilation. This report can only structure and present the information. It is up to the Census teams to determine what is feasible to change/improve given the budget and time constraints leading up to September.

After the Pilot, all census teams submitted their lessons learnt and recommendations for improvements. For the purposes of this evaluation, the information was then organised into three elements:

1. Scope and Quality
2. Operational Efficiency
3. Data Collection Tools and Methods



The information in this evaluation was compiled directly from the Lessons Learnt worksheet that each team completed, one-on-one meetings with the Team Leaders, and the Director-General's Lessons Learnt meeting. Also the Methodology and Population Statistics teams conducted some analysis which impacts on recommendations for the questionnaire and micro-editing system.

It is important to note that the recommendations come directly from the Census teams as a result of their experience on the Pilot. The lessons learnt and recommendations are the necessary evidence to make key decisions particularly around which electronic device to use and the length of the questionnaire.

Purpose of the evaluation

The purpose of the evaluation is to determine what the main lessons were from the Pilot and as a result of the experience, capture the recommendations that will improve the Census in September.

Methodology

The information within this evaluation was provided from the following Census teams:

- Field (including the School Managers)
- IT
- Methodology
- GIS
- Call Centre
- Communications
- HR
- GSS
- Project Management Support
- Training

Census Team Leaders were asked to complete Lessons Learnt worksheets. They provided succinct and informative answers to the following questions:

1. What went well for your team in the Pilot?
2. What went wrong?
3. What are the most important lessons for your team?
4. What will your team do differently in the Census – how can SCAD save money and time?

One-on-one meetings with the Team Leaders were also conducted to further elaborate on the information within the worksheets. The meetings were beneficial as it gave Team Leaders an opportunity to talk directly with the Project Manager and Project Management Support team and discuss particular issues that occurred during the Pilot. The Project Manager endeavoured to ensure that each team had analysed what went wrong, what had they learned as a result and therefore what improvements to consider for the main Census.

The Methodology and Population and Social teams conducted some analysis which is tabled in this evaluation. Their analysis on the questionnaire and the quality of the age and sex variables provide insight into the Data Collection Tools and Methods as well as the Quality and Scope of the Pilot.

The two-week information gathering culminated in a three-hour session with the Director-General. Census Team Leaders, the Project Manager, Executive Directors, the Project Management Support staff, and other key staff discussed the lessons learnt and the recommendations to improve certain significant aspects for the main Census.

Evaluation – Lessons Learnt

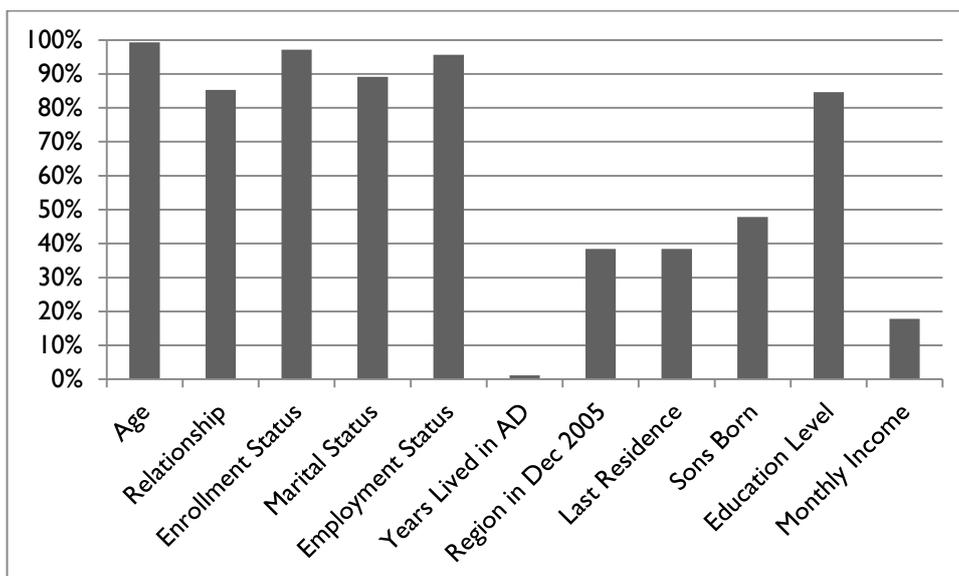
It is worth stating again that the information below was compiled directly from the Census project teams. Scant information was provided on methodological techniques, quality assurance and staff management. This does not imply there were no lessons learnt but that they did not come up in the worksheets and meetings. Staff appeared to be focussed on understanding how the questionnaire, electronic devices, procedures, etc. worked. Staff were also concerned about tight deadlines.

Quality assurance is an important aspect of the scope and quality of a Census and should have played a bigger role in the Pilot. There were no quality checks on coverage. It is expected that the team will be more visible leading up to September. Their contribution will be the monitoring and reporting on critical milestones.

Scope and Quality

1. There were unrealistic expectations of deadlines and the Pilot dates. Therefore all Census teams took shortcuts because of time pressure and had no sufficient time to consider the right way of doing something.
2. The overall quality of the electronic devices was not sufficient for the Pilot. The Samsung Galaxy failed to operate and the iPad whilst it was usable was still problematic.
3. The questionnaire (number of questions) should be reduced.
4. All questions should be fit for use. In Graph 1 below, analysis shows what questions were answered. Note that the responses to Years Lived in AD is very low because the iPad did not route to the question therefore causing it to be unanswered (the Samsung Galaxy was not working to test the question). What respondents appeared to object to were the Monthly Income and Sons Born questions.

Graph 1: Percentage of Respondents that Answered Pilot Questions



5. Time constraints hampered Population and Social Statistics' ability to conduct internal and external consistency checks. Analysis was only able to be done on Age and Sex. The data looked reasonable and Population and Social Statistics felt confident of the validity, accuracy and consistency of the two variables.

Operational Efficiency

1. The purpose of the Dashboard is to monitor the Census in real time, and it did not work for the Pilot. The Field team had to rely on verbal communications and reports. Having a working Dashboard will save time and effort and provide online monitoring.
2. More reporting from the Census teams is required. There was uncertainty throughout the two weeks over the process -- to whom one reports, what exactly and by when.
3. There was a lack of planning across all teams. Project management is not actively practiced across SCAD which makes organising and planning harder. There were impacts across all the Census teams during the Pilot. For example, there was not enough time to properly test the paper questionnaires and electronic devices on hotels and labour camps.
4. Census tasks and activities should be done in sequence rather than parallel. Doing things in parallel leads to problems and disorganization. For example, there should be no IT development before determining and approving the specifications.
5. Staff should feel confident to resolve their own problems instead of relying on others.
6. Document management is required. Control versioning of documents is essential because it ensure staff are reading the latest version.
7. Crisis management must be dealt with in a systematic way. Handling things in an ad-hoc and disorganized manner is a problem across SCAD.
8. Improved and daily communication is required across teams, from the Project Manager down to the teams and from the teams up to the Project Manager. Decisions were made but then not cascaded down or across.
9. Communications to the field staff needs improvement. HR, the School Managers and Controllers found timely communications with the enumerators difficult.
10. There were not enough experienced people involved in the Pilot. This is a difficult lesson to turn into a recommendation because in order for people to become well-versed in something, they have to have the experience. This Pilot experience will benefit all those involved
11. Approval process for things needs to be simplified (e.g. training manual).
12. The ID card process was not organized. There were problems getting the information on time, the machines weren't sufficient and all these delays meant that field staff weren't getting their cards on time for the Pilot.
13. Field staff require training in soft skills. These soft skills include how to read body language and to be aware of their own, and how to "sell" the Census to reluctant respondents.
14. Train the Trainers and the enumeration training need better organisation – manuals, vests, and ID cards should be at the schools and the electronic devices should be working properly.

15. Having a formal change of request procedure would provide more certainty and organisation around any changes made.

Data Collection Tools and Methods

1. The electronic devices need to be more user-friendly, simplified and ready when required for Training. For Field, the devices not working properly were the biggest problem. They were unable to achieve their range of 50 interviews a day.
2. User Acceptance Testing must be mandatory and should include real scenarios, actual enumerators involved in testing, and real households.
3. The User Acceptance Testing needs to occur differently in preparation for the main Census.
4. More documentation is required from IT on their work and final results so other teams can understand what was done and why.

Recommendations for the main Census

The recommendations in the table below are suggestions from the staff as result of working on the Pilot. These are their ideas of what can be improved to ensure a better Census in September. Most of the recommendations are drawn from the lessons learnt. Some came out of the one-on-one and Director-General meetings and cannot be traced back to a specific lesson.

Similar to the lessons, each recommendation has been categorised under Data Collection Tools and Methods; Operational Efficiency; or Scope and Quality. Pages 8 – 10 contain a brief introduction to the recommendations for a “quick look”. Pages 10 – 12 contain further explanations and insight. It is suggested that readers peruse the brief list first to determine which recommendations they are interested in or that impact on their teams and then look at the longer version to fully consider the recommendation.

Each recommendation below has one or more Census teams responsible for implementation and achievement. The red coloured cells mean work is in progress or complete – a recommendation that is currently being progressed or has been successfully implemented.

Please note there may not be money or time for all these recommendations. The feasibility has not been assessed.

Recommendation List – Brief Version

Scope and Quality

Recommendation	Key Responsibility
Allot enough time for statisticians to conduct an adequate analysis of the data once collected and processed.	Project Manager, Project Management Support, Methodology Census team
Have a Plan B.	All Census teams
Set enumerator goal at 40 interviews a day.	Project Manager, Project Management Support and Field
Move quickly to ensure administrative data can be sought from other government entities on the labour camps.	Methodology
Cut questionnaire by 50%.	Project Manager, Project Management Support, Field and Methodology
A media campaign is required as soon as possible.	Comms
Get updated mapping layer from DMA.	GIS
Allocate field time to controllers/school managers so they can check on the quality and accuracy of the enumerators' data.	Field
Re-assess ratios of Sub-Controllers to Enumerators in urban and rural or large scale areas.	Field

Operational Efficiency

Recommendation	Key Responsibility
To improve overall planning for the Census major milestones should be agreed and adhered to.	Project Management Support
Improved knowledge of deadlines and the interdependencies between them.	Project Management Support and all Census teams
Establish a clear reporting process during the main Census.	Project Management Support
Decentralise and delegate more.	Project Manager, Project Management Support, Field and GSS
Increase the number of staff in most Census teams where possible.	All Census teams that require more staff
Improve communication all around the Census teams.	All Census teams
Reduce key decisions made over the weekend.	All Census teams
Operation teams (Field, HR, and GSS) should have formal daily or weekly meetings.	Field, HR and GSS
Improve identity card creation and delivery process.	Field, HR and GSS
Project teams use the same shared folders.	Project Management Support
Prepare for the unexpected and handle the stress as best you can.	All Census teams
A formal Change Request procedure is necessary to manage big changes that will cause big impacts.	Project Management Support and all Census Team Leaders
Training improvements are necessary.	Training, Comms, GSS
Documents should be named correctly and given a version number to track the most updated copy.	All Census teams
Enumerator-user profiles should be provided to IT at least one week in advance.	HR, Field

Ensure Preparation Week occurs before Census starts.	Field
Distribute vests, bags and ID cards at beginning of Preparation Week.	GSS, HR
Provide extra charge packs, devices and accessories in schools.	IT, GSS
All field staff should be adequately trained on the electronic devices.	Training, Field
Back office report requirements should be provided to IT by mid-June.	Methodology, Field
Complete the Dashboard.	IT
Provide email access to AD Census IT Support, Controllers and School Managers.	IT
Activate an SMS to communicate with field staff.	IT
Printing is provided to Comms 5 days in advance.	Project Management Support and Comms
The DG approves all press releases.	Comms and DG
School preparation requirements are needed at least 3 weeks prior to kick-off.	HR, Field, Training, IT, GSS
Get more power/memory for GIS PCs.	IT, GIS

Data Collection Tools and Methods

Recommendation	Key Responsibility
Use the 16GB iPad as the electronic device. This should be Plan A. For Plan B have the iPad used for maps and a paper questionnaire.	Project Manager, Project Management Support, Field, Methodology and IT
Disable 3G functionality of iPads.	IT
User Acceptance Testing (UAT) on the electronic devices requires two weeks at a minimum.	IT, Methodology and Field
Need a common view of data structure.	Methodology, SIS and IT
Documentation on the level of coding and variables is required.	IT and Methodology
Get final and agreed criteria from Methodology at start of design work (for maps).	Methodology and GIS

Recommendation List – Elaborated Version

Scope and Quality

Recommendation	Key Responsibility
<i>Allot enough time for statisticians to conduct an adequate analysis of the data once collected and processed.</i> During the Pilot, Population and Social Statistics were given too short a timeframe to conduct analysis on the data. The data analysis is a main function of the Census – it's why the information was collected in the first place. The statisticians should have an appropriate amount of time to ensure the validity, consistency and accuracy of the data.	Project Manager, Project Management Support, Methodology Census team
<i>Have a Plan B.</i> Conducting a Census is a huge effort and for every plan there must be a Plan B. And in some cases even a Plan C. Things can go wrong and having a backup will ensure a smoother rebound and that things will get back on course more quickly.	All Census teams
<i>Set enumerator goal at 40 interviews a day.</i> Reduce the interviews to 40 a day as the Pilot proved that 50 was unrealistic. Analysis conducted post-Pilot determined that even with 50% of the questionnaire cut, enumerators still only have 70 seconds per interview. This is insufficient time.	Project Manager, Project Management Support and Field
<i>Move quickly to ensure administrative data can be sought from other government entities on the labour camps.</i> There should be a person put in charge of this task and given a deadline to see if the data can be provided in time. If not, there will have to be enumerators going to the labour camps.	Methodology
<i>Cut questionnaire by 50%.</i> In order to reduce the time it takes for enumerators to collect information, the less important questions (to be determined by the key players) should be removed.	Project Manager, Project Management Support, Field and Methodology
<i>A media campaign is required as soon as possible.</i> A media campaign is needed urgently to inform the Abu Dhabi Emirate of the upcoming Census. Budget, key messages, timeline and advertising plan should be developed.	Comms
<i>Get updated mapping layer from DMA.</i>	GIS
<i>Allocate field time to controllers/school managers so they can check on the quality and accuracy of the enumerators' data.</i> They cannot check all data but a sample. This will help to verify the accuracy and reliability of the overall Census data.	Field
<i>Re-assess ratios of Sub-Controllers to Enumerators in urban and rural or large scale areas.</i> It is a good idea because it will provide smoother field movements and ability to assist enumerators.	Field

Operational Efficiency

Recommendation	Key Responsibility
<i>To improve overall planning for the Census, major milestones should be agreed and adhered to.</i> The Project Management Support team is working on the major milestones to ensure the team individual plans are integrated within them.	Project Management Support
<i>Improve knowledge of deadlines and the interdependencies between them.</i> The Census teams should be more aware of their deadlines, be realistic and upfront about meeting them, and the interdependency of the deadlines (in other words understanding the impact of not meeting them on others).	Project Management Support and all Census teams
<i>Establish a clear reporting process during the main Census.</i> A weekly report against the milestones will work during the preparation leading up to the Census. Something for during the main Census – when staff are in the field – needs to be established.	Project Management Support
<i>Decentralise and delegate more.</i> Give more freedom and empowerment to field staff and GSS – more control can be given to those working in the schools. For example, increase responsibilities to school managers, controllers, and sub-controllers. Another example would be to provide petty cash to enumerators so they can purchase water, petrol, etc whilst on the road.	Project Manager, Project Management Support, Field and GSS
<i>Increase the number of staff in most Census teams where possible.</i> The Census is an important SCAD project. There are teams under-resourced and therefore struggling to effectively meet the deadlines. There could be staff in other sectors able to temporarily transfer and able to do some urgent work without much assistance.	All Census teams that require more staff
<i>Improve communication all around the Census teams.</i> Important messages need to be communicated more quickly. This includes from the Project Manager through to the Project Management Support team and to the Census teams and back up.	All Census teams
<i>Reduce key decisions made over the weekend.</i> Some teams suffered from ad-hoc changes that occurred especially over the weekend. If decisions have to be made during the weekend a way to communicate them needs to be established.	All Census teams
<i>Operation teams (Field, HR, and GSS) should have formal daily or weekly meetings.</i> Field, HR and GSS Team Leaders should meet either every day or 2-3 days from 14 Aug until the end of field collection to ensure collaboration, understanding, communication and a smooth delivery of operations. This will particularly help in planning the logistics of the operations and the communications between the teams.	Field, HR and GSS
<i>Improve identity card creation and delivery process.</i> HR now has two machines but they still require all relevant information in a timely manner to ensure the cards are printed on time so GSS can deliver them on time.	Field, HR and GSS
<i>Project teams use the same shared folders.</i> Each team should be using the same shared folder. This means saving all Census documents on to it. Project Management Support should provide better communications and training on how to use it.	Project Management Support
<i>Prepare for the unexpected and handle the stress as best you</i>	All Census teams

<p><i>can. Teams need to be prepared for the unexpected and ready for any fire-fighting. Everyone must do their best to minimize risk but this is the Census – a vast and complex survey. There will be problems and acknowledging that up front whilst being committed to work together will make the unexpected and the stress more manageable. The planning for the main Census will continue to be tight. All staff activities and deadlines will be squeezed.</i></p>	
<p><i>A formal Change Request procedure is necessary to manage big changes that will cause big impacts. One is required in order to manage the big changes that impact on the milestones and interdependencies between workstreams. Having a formal change of request procedure would provide more certainty and organisation around any changes made. The Project Management Support team should be notified when milestones require revision. Any Team Leader whose team would be affected by the change should be present in a meeting to discuss the impacts and how to work through them.</i></p>	Project Management Support and all Census Team Leaders
<p><i>Training improvements are necessary. This will require teamwork and communication amongst the relevant Census teams. For example, the manual needs revision and as most of the trainers will be Arabic speakers, the changes should first be in Arabic and then translated to English. The catering budget should be known and food and drink provided by GSS. The manuals should be printed and distributed on time for the workshops. Soft skills should be part of the training and a system to take attendance needs to be established (fingerprint devices). If a manual attendance reporting system is created, it must be simple and disseminated across HR, Field and Training Team Leaders.</i></p>	Training, Comms, GSS
<p><i>Documents should be named correctly and given a version number to track the most updated copy. All Census teams should be naming documents exactly what they are. For example if it is a report on HR recruitment it should be named something similar to: HR Recruitment Report. Document versioning is also important. Using the example above: HR Recruitment Report_March_v2. Or if it is final: HR Recruitment Report_March_FINAL Final hard copies should be stamped "Final".</i></p>	All Census teams
<p><i>Enumerator-user profiles provided to IT at least one week in advance. Included in the information should be who they report to (controller and sub-controller).</i></p>	HR, Field
<p><i>Ensure Preparation Week occurs before Census starts. Enumerators and Sub-Controllers should go out into the field during preparation week with their iPads to identify their work areas in order to be more familiar them and to distribute brochures. This will contribute towards a smoother Census.</i></p>	Field
<p><i>Distribute vests, bags and ID cards at beginning of Preparation Week.</i></p>	GSS, HR
<p><i>Provide extra charge packs, devices and accessories in schools.</i></p>	IT, GSS
<p><i>All field staff should be adequately trained on the electronic devices. This includes the use of the maps.</i></p>	Training, Field
<p><i>Back office report requirements should be provided to IT by mid-June.</i></p>	Methodology, Field
<p><i>Complete Dashboard. Both the Headquarters and Schools would benefit from a complete and robust Dashboard that meets their requirements. It will facilitate the school managers' ability to track enumerators. Time is an issue. Plan B is required if the</i></p>	IT

Dashboard cannot be successfully created. If there is no Dashboard for the main Census, the ratios (Controller:Sub-Controller; and Sub-Controller: Enumerator) need to be reduced.	
<i>Provide email access to AD Census IT Support, Controllers and School Managers.</i>	IT
<i>Activate an SMS to communicate with field staff.</i> The most efficient and effective method to for mass communications with field staff is through an SMS system. This will allieviate in particular HR's problem of communicating with enumerators.	IT
<i>Printing is provided to Comms 5 days in advance.</i> This should be strived for at all times however Comms should realize that sometimes it cannot be done and a quick turnaround may be required.	Project Management Support and Comms
<i>The DG approves all press releases.</i> Any Census press release must go through his office for approval. Comms will have to take any extra time this could incur into account when considering deadlines.	Comms and DG
<i>School preparation requirements are needed at least 3 weeks prior to kick-off.</i> GSS needs to be as prepared as possible and need to know the requirements for all logistics (cars, delivery schedules for iPads, brochures, id cards, etc).	HR, Field, Training, IT, GSS
<i>Get more power/memory for GIS PCs.</i> It is necessary to increase the capacity for the computers to work faster.	IT, GIS

Data Collection Tools and Methods

Recommendation	Key Responsibility
<i>Use the 16GB iPad as the electronic device. This should be Plan A. For Plan B have the iPad used for maps and a paper questionnaire.</i> The Samsung Galaxy did not work. The iPad worked better therefore it should be selected. This will save money and meet Census IT requirements. There are concerns that there isn't enough time to ensure the bugs are fixed and that the devices will be capable/ready. Therefore Plan B should be realistically considered and planned for: the iPads used for maps and paper questionnaires provided to households.	Project Manager, Project Management Support, Field, Methodology and IT
<i>Disable 3G functionality of iPads.</i> Enumerators can go back to the school and transfer data through WiFi. This will save money.	IT
<i>User Acceptance Testing (UAT) on the electronic devices requires two weeks at a minimum.</i> The field staff was unable to effectively test the devices due to technical problems. The two weeks of UAT should enable Methodology, Field and IT to work through any technical issues before the Census begins.	IT, Methodology and Field
<i>Need a common view of data structure.</i> Methodology specifications, the SIS data dictionary and IT should all have the same data structure. IT has hardcoded the variable names so those will still be different because it is not worth redoing the work to hardcode SIS's labels. As long as this is understood and SIS's labels are used, the situation can be dealt with effectively.	Methodology, SIS and IT
<i>Documentation on the level of coding and variables is required.</i> IT should be providing as much documentation as possible about the level of coding and variables in the way the data is stored (including the coding of missing data).	IT and Methodology
<i>Get final and agreed criteria from Methodology at start of design work (for maps).</i> More certainty is required.	Methodology and GIS

Conclusion

As mentioned earlier, the purpose of this evaluation was to determine what the main lessons from the Pilot were and as a result of this experience, determine what improvements are required. The information – which came from the teams themselves – is meant to improve the overall scope and quality of the upcoming Census, not to highlight what went wrong.

It should not be lost on SCAD that this was the first Census Pilot the organisation has conducted. Despite unrealistic timeframes, and disorganisation, this was an important exercise to have conducted. The commitment of all teams should be recognised. And despite the failure of the electronic devices, the data the enumerators collected was of reasonable quality. Ensuring this good standard of enumerators for the main Census is important.

Determining the lessons learnt and recommendations was time well spent for the teams and it provided them the opportunity to reflect on their experiences during the Pilot. It was an invaluable exercise and it has greatly assisted in preparing them for the main event in September.