

2011



مركز الإحصاء - أبوظبي
STATISTICS CENTRE - ABU DHABI

ABU DHABI CENSUS 2011 DATA COLLECTION PHASE EVALUATION

Lessons Learnt from the AD Census 2011 Data Collection and
Recommendations

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1.0 Executive Overview

1.1 Project and Phase Description

Project Name: Abu Dhabi Census 2011

Phase Name: Data Collection

Overview: This evaluation documents the data collection phase only. It follows on from the Census Pilot Evaluation completed in July 2011 to the end of the collection (December 2011). Therefore evidence and comment are limited to the timeframe of July to December. The Abu Dhabi (AD) Census 2011 continues until final dissemination in May 2012.

The Strategy & Policy Sector received the mandate from the Director-General to write this report. It is a joint effort between the Project Management Office and Policy teams. Project management analysis was used to assess risk, change, resources, communication and knowledge and document management. Highlights, recommendations, budget, logistics, and lessons learnt are also documented and assessed.

Evidence for this report is based on the weekly Quality Assurance (QA) and Continuous Improvement (CI) reports and the Lessons Learnt worksheets that Census teams completed with the Strategy & Policy Sector. There was also a review of PMS documentation on milestone progress and the original approved plan, *FUP3 Roadmap v5*.

Both the main goal and expected output are in the process of being achieved. The AD Census 2011 goal as stated in the *Roadmap* is to provide data about the population and housing characteristics of individuals and families at the Emirate and regional level. While the project is not yet complete, the data collection phase is finished and was a success. Evidence shows that SCAD is on its way to achieving the goal of providing data. The expected output from the data collection phase is to obtain quality data on the entire population within the Abu Dhabi Emirate. This output has been provided.

Overall objectives were established during the initial planning phase. They contribute toward achieving the goal and were approved in the *Roadmap*. The overall census evaluation slated for May/June 2012 will discuss each objective. Some are relevant for the data collection phase. They are listed below and assessed in Section 2.1 (page 5). The three objectives related to the data collection phase have largely been achieved at the time this report was written.

1. Provide Census Night (de facto) and Usual Residence (de jure) counts of the population of the Emirate of Abu Dhabi, and across the different regions.
2. Increase awareness of the role of SCAD in the collection and provision of statistical information.
3. Develop the capability and capacity of SCAD in the preparation, collection and production of statistics.

SCAD is a young government entity and this was its first census. Much was done within an incredibly tight timeframe. The volume of work and effort that has been undertaken in just ten months cannot be understated. The highlights from the data collection phase were numerous:

- SCAD prepared for and executed its first large-scale data collection phase.

- SCAD was the first official statistics agency in the GCC to use iPads as a mode of collection.
- Individual teams faced daily challenges but persevered and sought solutions to maintain progress.
- The communications campaign used social media to generate interest and raise public awareness.
- Over 3000 people were temporarily employed as enumerators, data entry administrators and coders.
- The project was executed within budget.
- Staff skill and knowledge (capability) increased and they now have a comprehensive understanding of what a large-scale data collection is and what work is entailed.
- SCAD can re-use the GIS infrastructure and some of the IT systems, applications and database structures that were built as a result.
- A flexible multi-modal approach was taken to data collection methodology – which meant that collection strategy and methods were adjusted to cater for problems identified as development proceeded. For example, a paper household form was developed and implemented to supplement the iPad collection if the devices proved unreliable. E- forms were created for VIPs to use and administrative registers were used to collect the labor camp data.

More highlights are available in Section 3.1 (page 12).

As with any large-scale project there were shortfalls. All the AD Census 2011 teams identified them in the Lessons Learnt exercise. Their comments are documented in Appendix A (page 27) and provided as evidence throughout this report. More importantly, the teams provided recommendations for improvement – they considered what change would benefit SCAD for the next census. Recommendations include earlier planning (2-3 years); stronger implementation of project management; improving processes; clarifying responsibilities; implementing a change management process; and improving the communication between teams. These are important recommendations to be seriously considered by management (Section 5.0, page 23).

The challenge now is to learn from the AD Census 2011 experience and build a better survey/census system for the future. Staff have gained invaluable skill and knowledge and SCAD is a stronger organisation as a result.

1.2 Phase Closure Summary

The Data Collection phase has been closed because quality data on the Emirate population within the targeted time period was achieved. Some data collecting continues such as receiving the VIP records as well as approaching respondents who refused. It is anticipated this will end in February 2012.

The closing activities related to the 37 operation centres were completed. For example, the operation centres were returned to ADEC, the equipment was picked up, the enumerators were paid, the iPads were synchronised and the data quality checks were completed.

Analysis of the achievement of the goal and all objectives in the *FUP3 Roadmap v5* will be addressed in the aforementioned May/June 2012 evaluation.

2.0 Project Requirements and Performance

2.1 Goals and Objectives

This section compares the actual phase performance to the overall project objectives that relate to the data collection phase.

Project Objective	Actual Project Performance
<p>Project Objective 1: Provide Census Night count and Usual Residence estimate of the population of the Emirate of Abu Dhabi, and across the different regions.</p>	<p>This object has been achieved. As a result of the collection, SCAD has the data to determine the Census Night count and the Usual Residence estimate.</p> <p>When compared to the 2005 Census Night count, the 2011 is better. There is less age-heaping which is a good indication of quality.</p> <p>Because SCAD is not conducting a Post-Enumeration Survey, the Population and Social Statistics team is looking at other ways of understanding the coverage issue and determining an estimate of the Usual Residence. Their analysis will look at Ministry of Interior airport arrival and departures data, the number of refusals, and the reconciliation of buildings between this data collection and FUP2. Modelling will be done in order to develop an estimate for the May release.</p>
<p>Project Objective 2: Increase awareness of the role of SCAD in the collection and provision of statistical information.</p>	<p>Because this report only covers the data collection phase, evidence and comment are restricted to the collection of statistical information. This objective has been achieved. The visibility of SCAD has increased as a result of the collection. The communications plan (the social media campaign, the printed promotional material, radio and television interviews, e-government newsletters, etc.) was effective. Also management conducted television and radio interviews, there were Arabic and English newspaper articles, and Fieldwork was delivering forms and collecting information every night in their uniforms. Finally, the government and private industries were instrumental in their assistance to spread the message about AD Census 2011. Their financial assistance meant that the logo was visible from the ADNOC petrol attendants' t-shirts to bridge advertisements in populated areas and the Lulu plastic bags. The public's awareness of SCAD increased as a result.</p>
<p>Project Objective 3: Develop the capability and capacity of SCAD in the preparation, collection and production of statistics.</p>	<p>Because this report only covers the data collection phase, evidence and comment are restricted to the preparation and collection of statistics. This objective has been achieved. This is the first time SCAD has conducted a census and with experience comes knowledge. At the Lessons Learnt meetings, Team Leaders mentioned the increased knowledge and skill of themselves and staff.</p>

2.2 Outstanding Tasks and Issues

At the time this report was written, the data collection was not yet complete. VIP data is still being collected. Also the reconciliation of data collected by Fieldwork compared with the data in the various Oracle databases needs to be done.

2.3 Phase Performance

Milestone and Deliverables Performance

The Project Management Support (PMS) team monitored the milestones and deliverables throughout the preparation leading up the data collection and then during the main field activity. Milestone deadlines were tight throughout and this meant a lot of work within a limited amount of time. The temporary shift of SCAD staff to census teams alleviated some of the pressure however the timeframe throughout the collection phase was very tight. If a deadline was missed there was usually an impact on another team. For example there were dependencies between Methodology, GIS, IT and Field milestones. If something such as the criteria for maps was late, the ripple effect had a big flow-on effect across all the teams and their deadlines.

During the preparation for data collection 24 milestones and 160 sub milestones were completed. Many were achieved on time such as the planning of field recruitment and field payroll, field methodology and questionnaires updates, and communications and publicity planning (see top graph on page 9).

During the data collection, 18 milestones and 98 sub milestones were completed. The Communication campaign was effective and resulted in the increased visibility of SCAD. Also the payroll process was implemented and checks were distributed to enumerators on time (see bottom graph on page 9).

There were milestones at risk throughout the data collection phase. The Quality Assurance (QA) reports assessed the ones considered critical. The table below summarizes the milestones which were delayed at some point and any resulting quality issues.

Late Milestones	Reason for delay/Quality issues
During the Preparation for Data Collection <i>(also see top graph on page 9)</i>	
Agreed final scope and high level statistical design of census	A paper was to be written for documentation purposes but the milestone objective was changed to get fundamental agreement on how SCAD “approaches” the Census. This included securing quality administrative data to reduce the number of “special cases” (VIPs, labour camps, military, etc.).
Agreed end to end architecture and database structures	It is not clear if the teams had a solid understanding of the task and what final product was expected. Deadlines were not confirmed.
Field recruitment	The final number of enumerators was not as high as needed or expected. At the beginning of recruitment there were around 8000 applicants and then it reduced by more than 40%. Lessons Learnt evidence suggests that applicants lost interest

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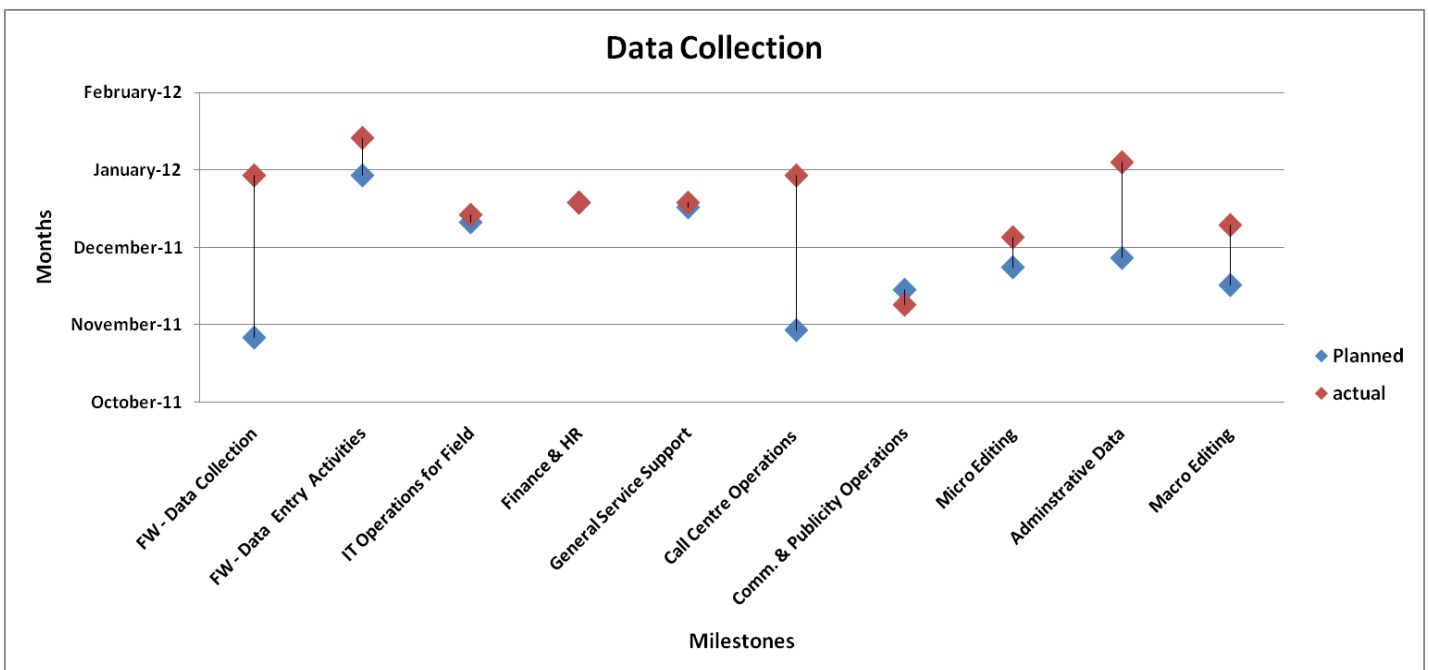
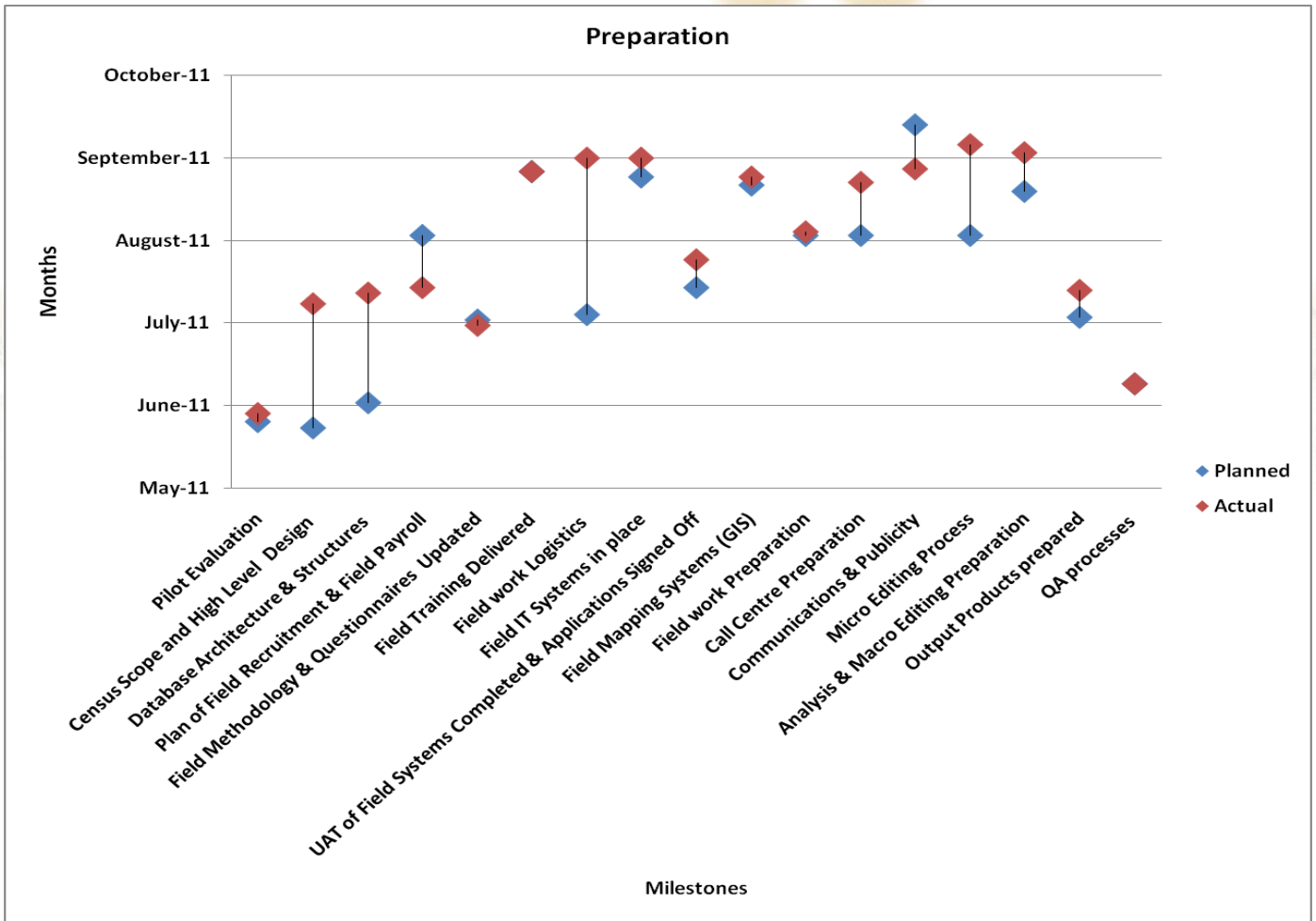
	<p>because the salary was not attractive and/or they had not been contacted in a timely manner to discuss the job opportunity or receive information.</p>
IT Systems in place	<p>There was a shortage of IT staff to complete their milestones.</p> <p>The iPads, Back Office and Dashboard did not meet all the required specifications. PMS, IT, and Methodology worked together and resolved the issue as best they could given the time constraints.</p>
UAT of Field completed and applications signed off	<p>The UAT ran over due to the iPads, Back Office and Dashboard not meeting the required specifications (which were submitted late). The iPads were usable but required more time for development as did the Back Office and Dashboard applications.</p>
Field mapping systems	<p>Due to contractor issues and delayed decision-making, the maps were not submitted to IT and Field on time. However the second company contracted did deliver on the final product. The manual checking required a huge effort from GIS and Fieldwork.</p>
Field training delivered	<p>Many enumerators struggled with trivial technical issues on their iPads due to a lack of training and time to become familiar with the device.</p> <p>In the enumerator training the groups in each session were too large therefore it was hard to control the crowds. This affected the quality of delivering the information.</p> <p>Another factor that affected the quality of the training was the disorganised tracking of who attended the training and who didn't. Knowing who received the training was challenging because there was no regular attendance form. This affected the standard of training.</p>
<p>During the Data Collection (also see bottom graph on page 9)</p>	
Identity cards	<p>The identity cards were not ready for many enumerators the first week of data collection. This meant they could not go out into the Field.</p> <p>HR had to request more photographs and more forms in order to print the correct cards because the list they had was not what was reflected in the centres.</p> <p>Shifting people to different schools without informing HR resulted in the re-issue of ID cards.</p> <p>By the end of the second week, all enumerators had their identity cards and were out in the field.</p>
Field Work Operations - iPads delivered to schools	<p>Not all schools had the correct number of iPads. Also, some schools had to reconfigure their iPads as the maps were not working properly. Eventually all iPads were delivered and working properly.</p> <p>The Dashboard and Back Office functions were not reliable. As result there were no feedback reports to operation centers of Field status in real time.</p>

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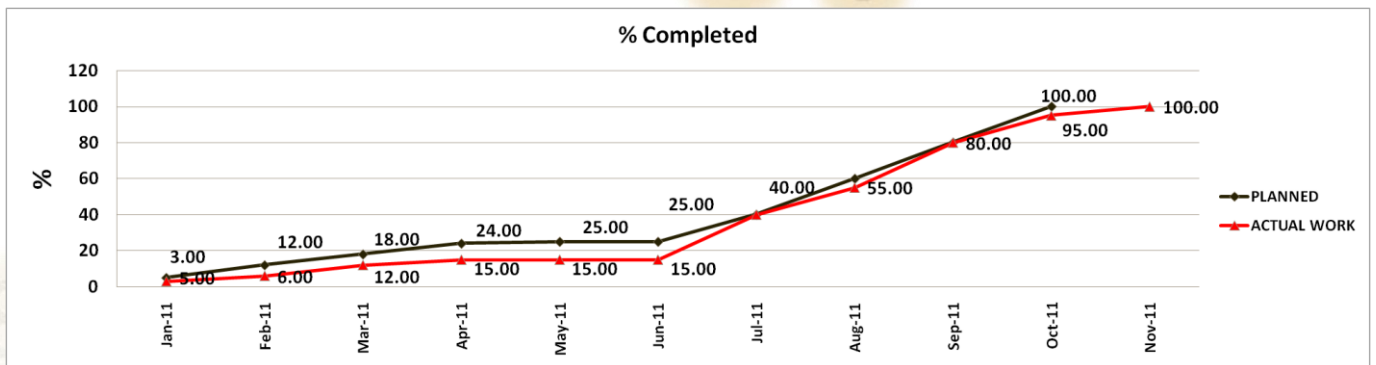
<p>IT Operations for Field- GPS Chips for iPad decision</p>	<p>The iPads did not have the necessary GPS function on time because the micro-chips were not purchased. This impacted on efficient collecting and quality FUP2 updates for the first three weeks of the data collection.</p> <p>The lack of GPS functionality led to the overlapping of enumerators' Working Areas.</p>
<p>Field Work Operations</p>	<p>Staff numbers decreased over time. Factors included disinterest after applying or attending the training, lack of communication and organization in the school centres, and lack of proper training as well as confidence with iPads. Accordingly the data collection period was extended from 24 October to 3 November.</p> <p>There were some missing data such as refusals, and forms not yet picked up so the collection continued until 31 December 2011. This also included the continued operations of the Call Centre.</p>
<p>IT Operations for Field- iPad synchronization</p>	<p>The iPads and the database were not reporting the same numbers.</p> <p>There were technical issues with the iPad reverting to default responses when enumerators were editing text. Also the synchronization process was taking a long time and was frustrating. There were inconsistencies between the database and the iPad after an enumerator completed the synchronization.</p> <p>IT and Field worked to address the issues.</p>
<p>Field Work Operations - Close down of schools</p>	<p>School Managers received the process to close down their schools late which caused some issues in implementation:</p> <ol style="list-style-type: none"> 1. Comparing the iPad data with the database was problematic because most iPads were no longer in use and the enumerators had completed the job and left. There was a potential risk of reusing the iPads and losing some data because of the syncing process. 2. It was difficult to compare the iPad data with FUP2 data. The School Managers had to give justifications for: <ul style="list-style-type: none"> ○ If iPad data was less than FUP2 data; ○ If iPad data exceeded FUP2 data by more than 20% 3. It was difficult to meet the quality criteria (e.g. nationality and economic activity status was supposed to be 95% complete out of all the records coming from each school) because of all the problems during the collection phase. <p>School Managers worked with IT, Field managers and Micro-Editing and were able to close their schools.</p>

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Graph 1 and 2: Performance of the milestone schedule (planned vs actual) in the preparation leading up to the data collection and then during the activity



Graph 3: Overall timely completion of the milestones

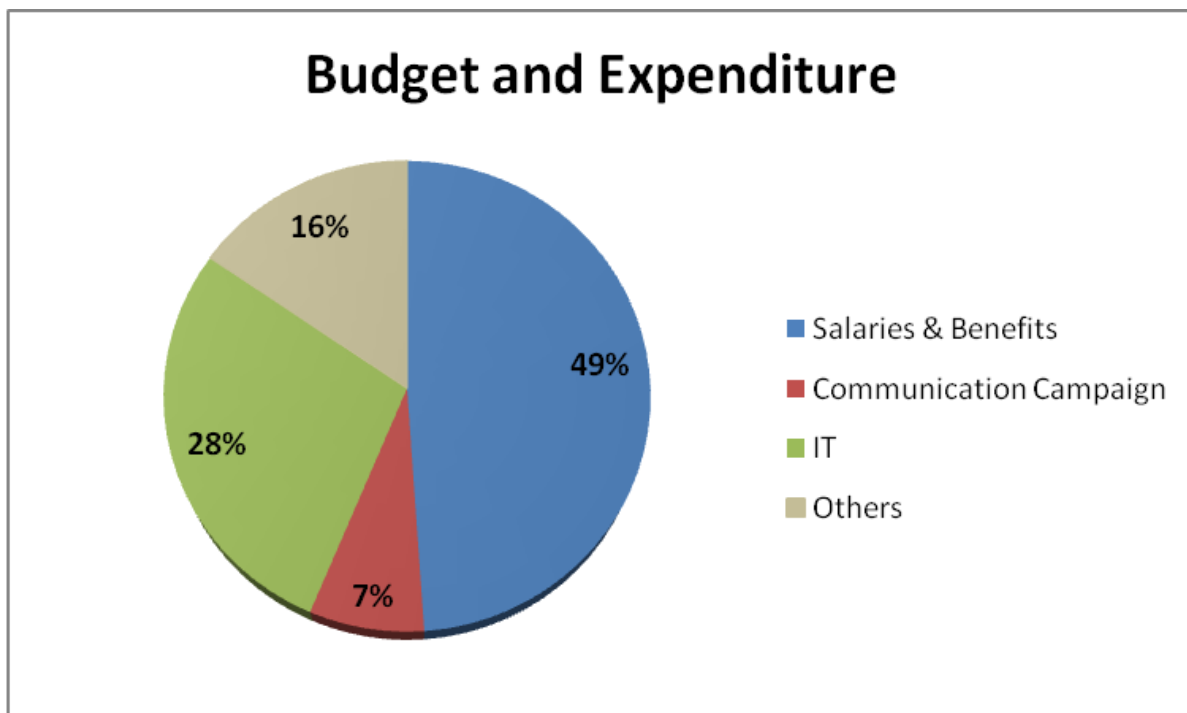


Graph 4: Budget Performance

Although the budget was not as large as needed, the project expenditures were within the original budget. By end of December, 98.9% of the total budget (AED 42,677,000) was spent. Further financial analysis is on page 17.

The graph below provides further analysis of the original budget allocation and actual expenditure. The main observations are:

- Salaries and benefit represents the main part of total expenditures (49%).
- IT represents 28% of total expenditures. This included both consultancy services and equipment.
- The Communication campaign represents 7% of the total budget. Most of the promotional support was provided free from the government and private sectors. ADNOC t-shirts, AD Census 2011 grocery plastic bags, Bank ATM machines displaying the Census logo, bridge advertisements, the electronic billboard in Al Khalidiya and more were all free for SCAD.



3.0 Highlights, Best Practices & Lessons Learnt

The AD Census 2011 is a huge project and the data collection phase is an important part of it. From the experience there are highlights, best practices and lessons learnt that emerged and are documented in this report. It is important to capture what went well, and to analyse what did not go well and why in order to improve planning, processes and execution not just for the next census but for SCAD's entire survey programme. For example, the lessons learnt by the Fieldwork team will help them improve their understanding of processes and preparation for any survey and census. Skill and knowledge has improved across SCAD and will positively impact on the future work programme.

The following AD Census 2011 teams discussed their highlights, best practices and lessons learnt:

- Field (including the School Managers)
- IT
- Methodology (including the Coding and Micro-Editing team)
- GIS
- Call Centre
- Communications
- HR
- GSS
- Project Management Support
- Training
- Technical Committee
- Macro-Editing
- Project Steering Committee

They provided succinct and informative answers to the following questions:

1. What were the team's objectives for the AD Census 2011 data collection phase?
2. What went well?
3. What went wrong and why?
4. What are the most important lessons for your team?
5. What will your team do differently in the 2016 Census?

Please refer to Appendix A (page 27) for the complete Lessons Learnt tables.

3.1 Highlights

Project Highlights are the positive aspects of AD Census 2011 – the activities, planning, development, and partnerships that went well. There were many examples from the data collection phase.

- SCAD prepared for and executed its first large-scale data collection phase.
- The Project Manager and teams stayed within the budget and completed the census on-time.
- SCAD staff improved their skill, knowledge and understanding of a census.
- The total population count is within the expected range.
- An e-form was designed for the VIPs. It was successfully implemented, easy to use, and provided the VIPs with confidentiality and security. It can be used in the future as well.
- The overall design of the census did work in the Field.
- Individual teams faced daily challenges but persevered and sought solutions to maintain progress.
- The Legal Advisor was supportive and helpful throughout the data collection phase. For example, he informed the enumerators of their responsibilities and rights and he resolved problems in the Field such as complaints and issues with the payroll.
- The Call Centre workflows went well and all cases were registered and followed up. Working with the Government Call Centre was a success and something to repeat in the future.
- There was government and private entity support for the project. Most promotion material was free from the ADNOC t-shirts to the AD Census 2011 plastic bags. That effort added value to the communications campaign.
- The Regional Supervisors and School Managers worked through many obstacles and often went the extra mile. They were a critical success factor for the Fieldwork.
- As a result of the census, a GIS infrastructure (IT systems and processes) was set up.
- There was good support from SCAD senior management.
- Overall the sourcing of schools to serve as operation centers went well and resulted in a positive partnership with the Abu Dhabi Education Council (ADEC).
- The recruitment agencies were helpful and supplied approximately 1000 recruits.
- SCAD was the first in the region to use the iPad technology for a census.
- During the data collection phase, standard output tables were designed to report on the data. They were for management reporting purposes and provided an indication of what the data were saying.
- A flexible approach was taken to data collection methodology – which meant that collection strategy and methods were adjusted to cater for problems identified as development proceeded. For example, a paper household form was developed and implemented to supplement the iPad collection if the devices proved unreliable.
- The data cleaning (imputation) was of good quality. A lot of work was achieved in a very short time with very limited resources.

- There were daily meetings with the Executive management and Director-General. This required input, analysis and presentations from every team. The meetings and input was helpful for the Executive management to understand what was going on.
- A top – down details plan was created. This was an important learning from the Pilot.
- There were consistent Quality Assurance/Continuous Improvement weekly reports during the data collection phase. They provided information on the quality of the processes.
- Because the training was not enough, a number of significant issues were raised by the Field staff that the Technical Committee resolved. For example, the committee decided what to do when a large number of the responses of nationality were missing and when servants were being incorrectly identified as UAE nationality.

3.2 Best Practices

This section discusses the best practices – an effective and efficient way of doing something that produces good results. AD Census 2011 teams displayed best practices in their work.

- It is well documented that people learn by doing. SCAD staff improved their capability by actually preparing and executing the data collection phase. Because they did the work they are now in a good position to work on any survey because they understand what is required.
- SCAD pulled all existing organizational resources together for the project in order to alleviate some of the pressure. In-house staff were temporarily moved from their day-to-day work to census operations. For example, analysts became School Managers for 3-4 months, most Data Sector staff manually checked the maps, and several staff from Strategy and Policy were moved into Communications and Quality Assurance. Moving internal resources and using their capabilities in order to accomplish the project was a good idea. It also fostered a sense of teamwork across SCAD and all developed a deeper understanding and appreciation of the survey cycle and statistical business.
- Elements of project methodology were in use during the data collection phase. There was reporting on milestones, risks, deadlines, progress, and quality of processes throughout the data collection phase. The *FUP3 Roadmap v5* provided the plan and included objectives, a charter and timeline all of which was approved by senior management. This all demonstrates a move toward a more developed understanding and implementation of project management.
- The data collection phase is a huge part of the census cycle but not the only part. Planning for the analysis and dissemination phases continued whilst the vast majority of attention was focused on the data collection. It is important that a survey/census is looked at in its totality – that all the phases are given their due consideration (planning, timeframe, deliverables, staff and budget requirements, etc.). The thinking and work for future phases continues whilst other are in operation.
- In a bi-lingual environment such as SCAD, it is important that as much high-level reporting as possible is done in both Arabic and English. This increases the chance of more understanding and discussion. The Quality Assurance reports which looked at processes became bi-lingual halfway through the data collection phase. It was noted that it made the reading easier and the reports garnered more interest as a result. The Continuous Improvement reports were bi-lingual from the beginning. Best practice for the future means that from the beginning all high-level reports should be bi-lingual.

3.3 Lessons Learnt

This section details the more important tasks/activities that did not go well and the lessons learnt from the experience. The information below is a result of discussions with the AD Census 2011 teams. Whilst it may appear that many things did not go well, this was the first time that SCAD organized and executed a large-scale data collection. It is important to note as well that for each challenge, there was a lesson learnt by the teams which demonstrates the amount of learning and awareness that occurred. To review all comments, please go to Appendix A.

What did not go well	Lesson Learnt
<p>The AD Census 2011 planning started too late and was too rushed. The timeline was not appropriate for the work and effort required to properly conduct the project.</p>	<p>Planning and organization of a large-scale project should begin at least 2-3 years from the data collection phase (Census Reference Night date). This will also allow for activities and deadlines to be sequenced and not occur in parallel streams.</p> <p>A stronger implementation of the Project Management methodology will help to ensure adequate planning occurs.</p>
<p>At times, it appeared that teams were not working together to prepare and execute the data collection phase. Teams commented in their Lessons Learnt workshops that not everyone understood the purpose and importance of a census. Therefore they did not understand how integrated and dependent the tasks and activities were.</p>	<p>Completing a census and achieving quality data are goals that teams share collectively--- in other words the tasks and responsibilities may differ from team to team but it is all linked and dependent upon the other and contributes toward the same goals.</p>
<p>Decision-making was sometimes late and the process not always clear to others. Some decisions that needed to be made quickly were not (e.g. GPS chips; iPad/Galaxy/paper form) and decisions thought to be final were suddenly changed without warning or notification (e.g. many Fieldwork processes such as using paper forms or iPads; closing down the schools).</p>	<p>Delegation of authority is necessary, along with clear and accepted accountabilities.</p> <p>To assist with minor decision-making, there should be more delegation of authority down to Team Leaders. This enables progress to continue and not stop therefore impacting on others and their work.</p> <p>Before a decision is made it is a good idea to understand the potential impact on other teams and activities. Formal sign-off from the appropriate authority and an announcement made should be sent to all affected teams.</p> <p>If a decision must be changed then it is recommended to follow the Change Management Process as created by the PMO. This process ensures that people will be notified.</p>
<p>There were problems with the iPad, synchronization of the data, and the Dashboard and Back Office functions which affected Fieldwork's ability to work effectively. The criteria provided to IT for the systems and applications was late and there was not enough time to for development. It is not clear if the criteria was followed.</p> <p>There were also version changes made to the iPad during the data collection phase that affected the data already on the iPad and the enumerators' ability to use it quickly and effectively. The changes had negative flow-on effects to Fieldwork.</p>	<p>Criteria/specifications for IT systems and devices, and maps should be provided as early as possible and be final. Once submitted for development it is advised to follow those specs.</p> <p>IT systems require adequate time for planning and development and an appropriate User Acceptance Testing period.</p> <p>Any changes to a system or application that has been signed off and/or in use during operations must use the Change Management process.</p>

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<p>There was not enough staff across all the teams for the work required. Teams were overloaded and often deadlines were missed. For example, due to a shortage of resources and a large amount of work to do within a very tight timeframe, Methodology was late with the criteria and IT was squeezed trying to complete development of systems and applications.</p>	<p>A project the size and scope of a census can be very difficult without an adequate amount of people to carry out the tasks and activities in the required timeframe. To ensure the next census data collection phase runs more smoothly, more people – preferably those with skill and experience – should be resourced.</p>
<p>The data collection database structure and data flow was not well organised. At one point there were over 11 databases for collection – iPad, VIP, labour camps, hotels and hospitals, islands, refusals, newborns, etc. It is not possible to ensure quality and consistency within the data when there are so many different people with access and control. It was not clear who was responsible for such a task.</p>	<p>The job is easier with one data collection database and one team ultimately responsible for what is done to the data within it. The planning of the structure and the dataflow should be finalised before the data collection begins.</p>
<p>Teams were unsure of their budgets and this impacted on their ability to plan with confidence (e.g. IT, Field, etc.).</p>	<p>It is helpful for each team to know their budget in advance in order to plan effectively. Knowing their budget means they know what to work with and what the limits are.</p> <p>In the future, it is recommended that budgets be determined through the monetary value of the current year, not based on a previous year.</p>
<p>The internal communications process did not work as well as it should. For example, HR, Training and Fieldwork reported on the disorganized and late communications between them in preparation for the enumerator training. There is a lack of evidence that all the methodology quality reports were cascaded to the School Managers.</p>	<p>Communication is essential to knowing what to do and expect, how activities are progressing, and what other teams are doing. A large-scale project is wholly dependent upon good communications – daily progress team reports, transparency (if something will be late, state that it will be late), and all messages cascaded down to staff.</p>
<p>There did not appear to be any defined processes and procedures for main tasks/activities. Having clear processes – as well as understanding them and then following through – sometimes failed for recruitment, training, and data collection. There was often confusion around paperwork (e.g. documentation required by HR), attendance at the training, exam times, and what equipment and materials the operation centres required and by when.</p>	<p>Ensuring that Team Leaders and staff understand not only their roles and responsibilities but the roles and responsibilities of the teams they work closely with is one way to reduce stress and misunderstanding. For example, in the future Methodology would to have clearer delineation between their roles and responsibilities and IT.</p> <p>Always having a Plan B is another good process. And be ready to act on it if required.</p> <p>In 2012 the Policy team will be documenting each phase of the survey cycle and the processes within them. For example, in the Dissemination phase, the tasks that need to be completed and in what sequence will be discussed, defined, agreed and written down. This will add to the experience and knowledge already gained by staff who worked on the data collection. As a result, processes will be easier to understand and follow when formally in place.</p>

4.0 Project Management Analysis

4.1 Resource Management

Resource management plays a major role in the successful completion of any project. It is the strategic function of project management methodology that organises, develops and enables the resources required to achieve the desired goals of the project.

The Resource Management analysis assesses the financial resources, human resources, and logistics (delivery of equipment, securing of venues, etc.) of the data collection phase and determines how appropriate and adequate the resources were. Was the budget large enough or allocated appropriately? What were the challenges in hiring over 3000 temporary staff and the quality of those people? Information was pulled from the QA and Continuous Improvement reports as well as the individual team Lessons Learnt worksheets.

Human Resources (outsourced and internal)

Outsourced

There was a shortage in enumerators throughout the data collection phase. Just before the training began in August many recruits had withdrawn their application or lost interest. There were originally 8000 applications but the number dropped to 4600. This may have occurred for the following reasons:

- The allowance offered was too low.
- Some of the training sessions were late at night and during Ramadan.
- Experienced/qualified people were not available due to employment elsewhere.
- It was difficult to contact all the recruits to inform them of the training because it was school/summer holidays as well as Ramadan.
- There are concerns that recruitment agencies gave recruits mixed messages such as the jobs were office, not field. Most of the recruits wanted office jobs, not to walk around in the heat going from door to door talking to people.
- SCAD was late in contacting people that had submitted applications and telling them when the training was. People had lost interest or possibly found other employment in the time between applying and the time they were contacted for training.

However, action was taken to resolve the issue such as the hiring of more enumerators, resource re-allocation, and increasing the working hours (overtime). Some School Managers reported that they still required more staff however overall there was adequate resources in the Field.

IT outsourced some of the development work (e.g. the iPad application).

Internal

The shortage of staff across all the AD Census 2011 teams was clear from the Lessons Learnt. Methodology, IT, Field, and GIS required more staff but the problem was that not just anyone could do the work. These particular teams required resources with specific knowledge and skill.

In order to alleviate some of this pressure in-house staff were temporarily moved from their day-to-day work to census operations. SCAD used its existing organisational structure. Analysts became School Managers for 3-4 months. Most Data Sector staff manually checked the maps. Several staff from Strategy and Policy moved temporarily into Communications and Quality Assurance. Moving internal resources and using their capabilities in order to accomplish the project was a good idea. It also fostered a sense of teamwork across SCAD and all developed a deeper understanding and appreciation of the survey cycle and statistical business. The downside was

that other projects and activities outside of census came to a halt. Finally, not all overloaded census teams benefited from this swap – it would appear that Methodology never had all the staff they required.

Logistics

The logistics of the data collection phase were many and the planning was important. SCAD logistical needs included securing operation centres and cars as well as delivering equipment, uniforms, and stationary across the Emirate. There was much to do leading up to Census Reference Night and those working on the logistics suffered from being the last link in the chain of teams preparing for that first day. If one team fell behind in the schedule it affected others because all the activities were linked and dependent upon one another for quality, completion and adherence to deadlines. For example when the ID cards and iPads were late, this meant delivering them on time to the operation centres was not feasible. This in turn meant that not all the centres were ready for Census Reference Night.

Whilst there was no evidence of an organised process for delivery and distribution, it appeared that teams sought solutions as issues arose. For example, there was a shortage of cars, so GSS arranged taxis and some staff used their own cars. There was also a last minute location change for at least one of the operation centres but a solution was quickly sought.

IT Resources

IT played a very important role in data collection phase both in terms of people and systems. The team was small and yet involved in almost every aspect. IT systems, databases, equipment (computer and internet connectivity in the operation centres) and applications were critical in the GIS, Field, Coding, and Micro-Editing operations.

The team developed skills and knowledge that can be used in future surveys. Like many teams they worked long hours during the collection phase. The team recognizes the necessity to stay abreast of IT developments to ensure SCAD's future collections are flexible and innovative.

The development of hardware, software, and systems was affected by the lack of adequate time to plan, build, test, and train (i.e. the Dashboard and Back Office). This meant that there were problems with functionality and the team had to resolve many issues. Also, the uncertainty of the budget affected their work -- it was unclear how much money was available..

Finance

Review of the literature suggests that there is no standard international approach to the management of Census budgets. Each statistical office must operate in the context of the particular country's government financial management system. Each agency makes decisions in the context of its work programme and government financial system. However due to the increasing cost of censuses, statistical offices have been required by governments to be clear about the total project costs.

At SCAD the budget was managed centrally (the Project Manager) to reduce risks and maximise flexibility. Some teams thought they could have been more effective if they understood clearly their financial parameters (e.g. IT, Field).

4.2 Change Management

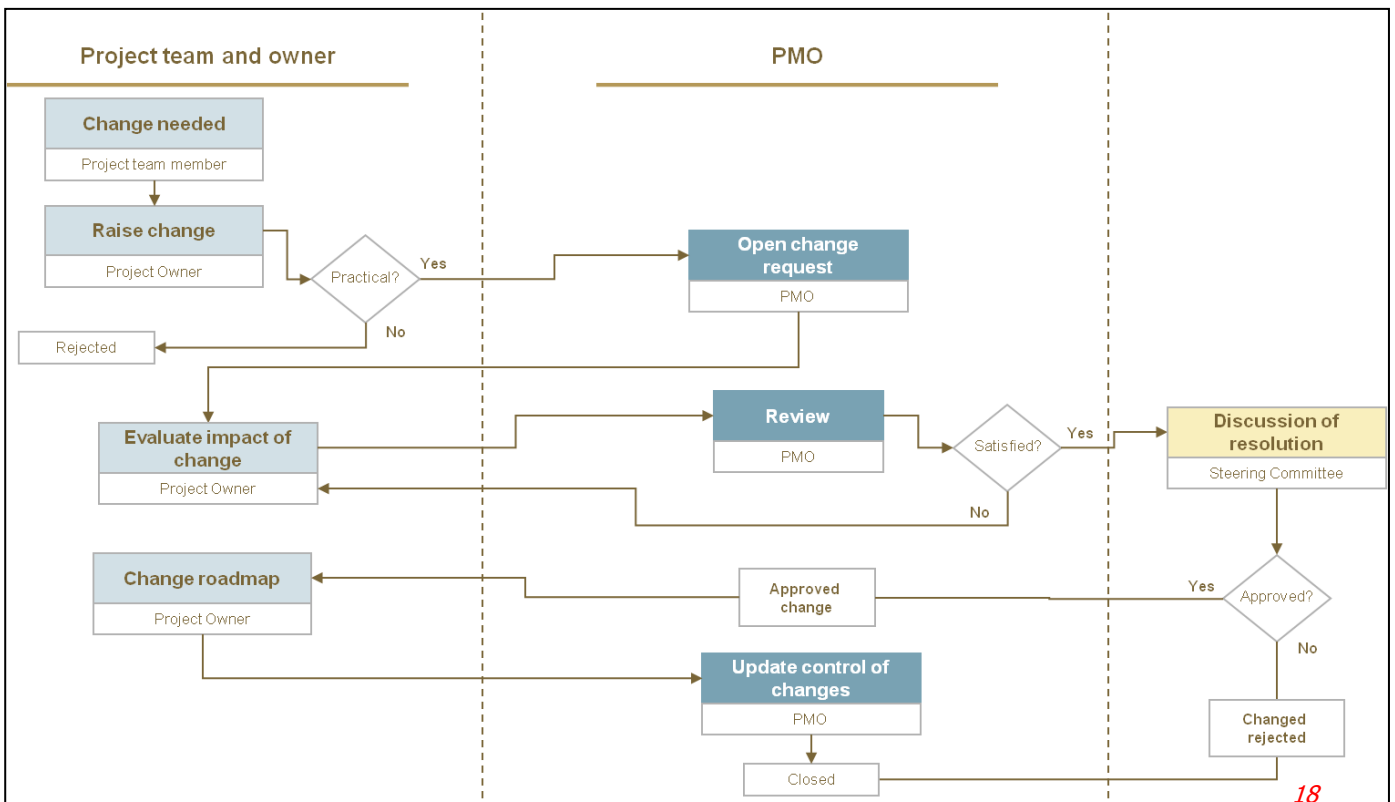
Throughout the data collection phase there was sometimes a lack of change control. Examples include:

- The Working Area closing requirements changed many times thereby causing uncertainty among the School Managers about how exactly to close their operation centres.
- Within the period of UAT a new field of 'Member name' was added to the iPad application. It was not requested and not part of the provided specifications. The field was not removed when requested and later it was too late because the routing required a question as a place-holder in the questionnaire. Then the field was changed without consultation to 'Question for Household Head or Responsible Adult' which did not make sense in the context of the questionnaire.
- There was a change from questions on specifications to include whether people received the marketing material.
- There was frequent changing of the overall AD Census 2011 message and brand. This caused delays in printing materials and beginning the communications campaign.

Frequent and un-consulted change in decisions, processes, deadlines, and IT systems can cause confusion and frustration for any team. It also increases the risk that the change won't be understood, communicated, or implemented properly.

The Project Management Office (PMO) created a Change Management process but it was not properly utilised. It may have not been widely distributed to the AD Census 2011 teams.

Changes in decisions, deadlines, processes and systems happen in any project. And some of it is necessary even if it is last minute and will impact on a group. A Change Management process requires any potential change to run through not only the proper chain of command but to question if it needs to occur at all. The process also has the consideration of impacts and communication built in to alleviate most problems when activating the change.



4.3 Risk Management

Risk management is the systematic process of identifying, analyzing, and responding to problems within the project before they get too big. This includes minimizing the probability and consequences of events adverse to the objectives, and considering and documenting options (what is Plan B) in case the original plan does not work. All projects suffer from threats to quality, processes, deadlines, etc. What good risk management does is find them and fix or lessen the damage before the project is unable to continue.

The data collection phase had a risk management aspect to it. The PMS team monitored milestone progress which led to determining which ones were at risk of either quality or missing a deadline. The QA team followed up seeking evidence of processes which could put the at-risk milestones back on track. Perhaps the most important lessons learnt across all AD Census 2011 teams and as identified in the QA reports was the necessity of having a back-up plan – a Plan B.

Below are examples of risks which were identified and then mitigated during the collection phase.

4.3.1 Project Risks Mitigated

Risks	Mitigation actions
Not enough storage for all the Fieldwork uniforms, questionnaires, equipment, etc.	Extra storage space was found in Al Ain.
Recruitment was slow at first.	SCAD hired recruitment agencies to assist.
There was a lack of enumerators in the Western Region.	SCAD worked with the military to use some of their staff in that area.
Some School Managers required more enumerators for their area than what was allocated.	HR provided more enumerators to certain areas. Enumerators worked overtime.
The original company selected to produce the maps did not fulfil their requirements which created serious problems for GIS.	Through the networks of the IT staff, a company in India was hired to provide the maps (Maptell).
The iPads did not come with GPS navigation chips as needed.	Funding for the chips was found and they were eventually delivered and installed.
During the Pilot, the ID cards were not ready on time due to machine breakdowns. There was a risk that the same would happen during the data collection.	HR sourced a second identity card machine and began printing cards as soon as security clearances were obtained.
It was perceived that the weekly Quality Assurance reports were not having the intended effect.	In order to ensure a wider readership, the reports were e-mailed in Arabic and English.
It was deemed inappropriate for an enumerator to approach the VIPs. As the date for the first night of the Census was approaching, the lack of an approach to collect their data was becoming a risk.	IT developed an on-line form for the VIPs to use.
A back-up was required in case the iPads were unreliable.	A Plan B was determined and then activated – a paper questionnaire form was created.
There was a shortage of official vehicles to use.	GSS arranged taxis and staff used their own cars.
There was the potential of accidents whilst enumerators were in the field.	Processes were in place to activate should there be an accident. There was one car accident in Al Ain and it was dealt with per the agreed process.

4.4 Quality Management

Quality management is usually considered to have four main components: quality planning, quality control, quality assurance and quality improvement. It is the component of project management that is focused not only on product and service quality, but also the means to achieve that quality. AD Census 2011 had a QA team that assessed the means to achieve data quality and complete area coverage. In statistics, the way to achieve quality is through the processes which acquire the data so the QA team looked for evidence that good processes were in place. Quality processes contributes to a quality product (data). The evidence used for this section were the QA and Continuous Improvement reports that were produced during the data collection phase.

The QA team was responsible for:

1. Certifying that processes are in place and are valid for key decision making regarding options at critical milestones.
2. Certifying & monitoring that evidence is being captured to enable the above processes to work at the right time and in an informed way.
3. Reporting regularly, primarily against exceptions and emerging risks to quality, to the Director-General and the Census Manager (and the Project Management Support team) and the Census Project Steering Committee.

It was determined that the output would be a weekly report sent to senior management.

During the entire data collection phase (July to December), 16 weekly reports were produced. From July to September the reports concentrated on the milestones deemed by senior management and PMS to be most at risk. Each critical milestone was reviewed by the QA team. Evidence of processes and then assurance of the quality of those processes was sought.

Questions were asked such as:

- Is there a Plan B if this milestone cannot be met? If so, is it documented and well-known?
- What are the flow-on effects if this milestone is late?
- What are the risks associated with this milestone? Have they been assessed?
- Who is responsible for this milestone?

Once the questionnaire was in the field (October to November), the focus of the reports shifted to highlights and risks of what was happening. The reports were also renamed Continuous Improvement (CI) because of the shift from looking at quality of processes to looking at highlights and risks. The new objectives became:

1. Seeking and documenting evidence to be captured for a future 2011 SCAD Census evaluation and a Lessons Learnt session
2. Reporting regularly on risks to quality to the Director-General and the Census Manager (and the Project Management Support team) and the Abu Dhabi Census Project Steering Committee.

The CI reports were wider in scope and whilst the evidence-searching and questions asking about processes continued, they also looked at overall progress toward completion of the data collection phase.

It is difficult to determine how effective or influential the reports were. They contained thought provoking questions that sought to improve the processes and assist staff. However, there is no direct evidence that the reports were being read and therefore affecting any change. It is unknown if the reports were forwarded to staff. There was much to do within the preparation period of the data collection phase – staff could have been overwhelmed and as such there was no time to read and consider a report.

At first the reports were not in Arabic which may have resulted in low readership. The information could have been more easily digested if in Arabic as well particularly for the non-native English speakers. It is advised that any high-level report be available in both English and Arabic to ensure messages and context are appropriately understood.

4.5 Communication Management

Effective communication – internal and external -- is an important aspect of any project. It is challenging in a large-scale project particularly for a data collection because of the multitude of dependent activities simultaneously being worked on. In project management methodology it is best practice to provide an organisation flowchart not only because it outlines the project hierarchy but it provides an indication of the communication flows. External comms can also be inserted into such a chart. AD Census 2011 had an organisation chart but it is not known how well it was distributed across the teams.

Best practice also includes the development of a communication plan documenting how key messages, progress updates, changes, and deadlines are to be spread across the teams. Each team as well should have an individual team communications plan which includes the forwarding of relevant information from Team Leader to staff and what other teams should be communicated with and why – what is the importance of the relationship and how will the exchange of necessary information occur and by when. There was no evidence of a Communications Management Plan for the overall project, the data collection phase, or the individual teams. In the future, it is advised to consider an agreed and visible plan.

In the Lessons Learnt worksheets, teams provided examples of when communication worked and when it did not. It should be noted that some teams did not admit their own communications could have been better. What can be said overall is that after this experience teams should now understand the importance of communication and how it is vital to keep talking to each other in an organised, daily manner.

Good examples of communication:

- The daily and fortnightly meetings with the Executive management and Director-General. These meetings were effective and solved many issues.
- The external communications with the government and private sectors was managed well. The messages and branding were visible throughout the Emirate in bridge billboard advertisements, ADNOC petrol stations, grocery plastic bags, SMSs, etc.
- GIS conducted on-site visits to the operation centres to assist with maps and software.

Examples where communications could have improved:

- Communications between Fieldwork and Training was not always timely nor were all messages passed around the two teams. For example, when an urgent change occurred in session times, Training was asked by Field to provide the necessary facilities, but no actions appeared to have been taken.
- Improved communications with Bayanet may have alerted SCAD earlier to the problems with the maps.
- The lack of communication and coordination between Training, Field, and HR contributed to the problem of attendance-taking at the enumerator sessions.
- It is not certain how formal and timely the communications were between GSS, IT, Training, and Fieldwork for the purposes of the training sessions. For example, deliveries of equipment weren't made when needed. Sometimes the trainees and trainers sat for periods of time without the proper tools required for the training session. It is uncertain who/what team was responsible for ensuring the delivery and how that person/team was to know what to deliver and by when.
- Communications between Field and IT was not always clear and messages were not cascaded down. For example, there was limited notification on the upgrading of the iPads throughout the data collection.
- It was unclear who was responsible for the IT Support Staff, Administrative Assistants, and GSS Coordinators in the operation centres. This affected the communications between IT, GSS and Fieldwork as staff weren't sure who they answered to and who to pass information on to.
- There is uncertainty over whether all the micro-editing data quality reports were cascaded down to the School Managers.

4.6 Knowledge and Document Management

The purpose of a knowledge and document management system is to collect, organize, transfer and distribute information among current and future staff. Documenting all the processes during the Data Collection phase is a formal, organised and important best practice in project management methodology. It is one of the top 12 recommendations that this report endorses along with support from several AD Census 2011 teams (e.g. PMS and GIS). This is an opportunity for SCAD to begin building a solid knowledge and document management culture.

The PMS team is managing the AD Census 2011 archiving process and ensuring that the work is done. At the time this report was written, they received part of the required documentation from census teams and developed a system to integrate the information once it is all received.

PMS has created the AD Census 2011 Archiving Plan. The process is:

1. Team Leaders will nominate a person from his/her team to be responsible for archiving all the team's files.
2. The responsible person should know and understand his/her team's archiving needs.
3. The responsible person will copy his/her team's current FUP3 files to the new shared folder created by PMS. It is called: AD Census 2011 Archiving.
4. A hierarchy of folder divisions has already been created. Responsible persons should follow the archiving plan divisions already determined by PMS.
5. The final division within the folders is: Preparation Period, Census Fieldwork Period, and After Fieldwork in Nov-Dec Release Period. The responsible person determines which file should go into which Period folder. For example, if the document is about working in the

field, it should go into the Census Fieldwork Period folder. If the document is about the methodology requirements for the iPad, it should go into the Preparation Period folder.

6. The task is to be completed by the end of January 2012.

Throughout the Analysis and Dissemination phases of the AD Census 2011 (December 2011– May 2012), the shared folder will be updated weekly. The persons responsible for archiving from the teams working in those phases will be pasting their documents into Jan 2012 until Census output Jul 2012 Period folder. As explained below:

- Every week the Survey Planning team will:
 - a. review and check all the added files to ensure they are in the proper folder.
 - b. add the additional files to the full census plan list in order to have a full complete archiving list at the end of the project.
- At the end of census project, PMS will provide each Team Leader with a soft copy of the archiving list. Each file will be provided as a hyperlink. Files can then be easily found and quickly accessed for future use.

There are areas where teams did not have processes. These teams will have to document them based on experience. The longer the time is between the experience and the documentation, the greater the risk is that the experience will be forgotten. It is in SCAD’s best interest that teams document their processes from the collection phase sooner rather than later.

The test of this process will be if all the teams participate. Due to fatigue or workload PMS may have difficulty. If all teams understand the importance of archiving their work, there may be an increase in activity. This documentation will also assist the Strategy & Policy sector when it is time to begin the Statistical Standard Business Processes project in 2012. The Policy team will work directly with the Statistics and Data Sectors to document the statistical business processes and the experience gained from the data collection phase will play an important role.

5.0 Recommendations

The recommendations included in this report are directly from the AD Census 2011 teams. Team Leaders and staff had the opportunity to discuss what went well for their team and what didn’t. Most important however was what they would change for the next census data collection. The answers could apply to any data collection phase across the SCAD statistical work programme.

This section contains the most important changes for consideration. The top 12 recommendations are in the table directly below and were determined as the priorities by the Strategy & Policy Sector based on the evidence within this report. To see the remaining recommendations, please refer to Appendix A.

Top 12 Recommendations <i>(not in priority order)</i>	Key Responsibility
<i>Use and learn from this experience.</i> It is important for SCAD to use and learn from this data collection phase experience. It is recommended to review the lessons learnt tables in this report.	All AD Census teams
<i>Implement a stronger adherence to project management methodology</i> when managing the next census.	SCAD
<i>Formally document all processes.</i> Capturing what each team did throughout the data collection phases is vital to improving future work and	All AD Census teams

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understanding what worked and what didn't. All processes (workflows) should be documented from this experience.	
<i>Resource a small team at SCAD to work on census improvements and planning leading up to 2016.</i> There should be a dedicated team working on the census. This is one way to ensure planning and organizing begins early enough. The workplan could include reviewing the lessons learnt, improving the statistical business processes, developing new processes, consulting with key government users, and working with IT, GIS and Methodology to develop a questionnaire, and a mapping and IT system. The team and budget could start off small and then within one year of Census Reference Night, more staff and budget resources are allocated.	SCAD
<i>Planning should start 2-3 years from the Census Reference Night.</i> This will provide Methodology, IT, Field, and GIS enough time to design, develop and test all systems, the structure of the collection databases and data flow, and applications.	SCAD
<i>Choose a different time of year for census in 2016.</i> Consider when Ramadan is, school vacations, and the temperatures for enumerators to be walking out in.	SCAD
<i>All teams should be properly staffed to avoid shortages.</i> Each team requires the appropriate amount of staff in order to do the work efficiently.	All future AD Census teams
<i>Recruit and select qualified enumerators and provide them with good allowances.</i> Increasing the pay increases the likelihood of getting better qualified applicants. This will directly lead to improved data quality and more productivity.	HR
<i>Improve IT functionality within the data collection phase.</i> In order for stable IT systems and applications, there should be enough development time allocated. Also they should meet the required specifications, be appropriately tested, and delivered on-time to the customers.	IT, Methodology, and Fieldwork
<i>Transparent budget across all teams.</i> Knowing the budget in advance in order to plan effectively is essential. And the budget should be as final as possible given the impacts on resources and planning when there are changes.	Project Manager, Finance team
<i>Follow decisions and processes.</i> When decisions are made and there is agreement to a process, it should all be followed. Agreement on all data collection processes and workflows one year out from the Census Reference Night is advised.	All AD Census teams
<i>All staff should receive an authority matrix.</i> The creation and dissemination of a simple and communicated authority matrix outlining responsibility and delegation will help staff understand the roles within census.	All AD Census teams

Other important recommendations for consideration

- Have a Plan B for each major task.
- Maps should be correct and on-time.
- Develop and agree to all methodology criteria (for maps, IT systems, etc) at an earlier stage.
- Have a clear and identified Change Management process established and then use it.
- Increase the delegation given to Team Leaders.

- Make the payroll process automatic.
- Ensure contracts are written to be flexible with time and dates.
- Improve the HR recruitment system and processes particularly to track recruits so that when/if they drop out, HR is notified.
- Strong cooperation between PMO and PMS to support teams to manage the project and to understand the whole statistical process of census
- Develop better tools to be used in reporting and train the project team on how to use them.
- Training requires better organization. The dates and venues should be announced at least one month in advance. The processes for planning the sessions, preparing the manuals, determining what equipment is necessary, finding a caterer and venues and any other processes are to be clear and efficient with an understanding of deadlines and what team is responsible for tasks. It is advised that HR, Field and Training sort out an appropriate attendance record-keeping. All material and equipment is to be delivered before the training begins. Training activities should incorporate more “doing” (becoming familiar with the questionnaire, practice talking to respondents through role playing etc) and scenarios.
- Bring Quality Assurance into the process from the beginning stages of planning in order to play a larger role and influence change (the improvement of processes).
- Form the Technical Committee at the beginning stages of planning. The committee could include members from Field, IT, Quality Assurance, Methodology, etc. and be involved in all technical aspects such as design, training, etc.
- Communications planning should start at least one year from the Census Reference Night. Finalise the budget, logo, Census Reference Night, key messages for the public and who the selected vendors are at the start of planning.
- Incorporate a part-time HR and GSS recruitment cycle for survey and census programmes. Train them in order to ensure properly understood Fieldwork processes.
- It would be helpful to School Managers if they were empowered to run their own schools, make minor decisions and have all staff (HR, IT, and GSS) in their school report to them.

6.0 Conclusion

This was SCAD’s first large-scale data collection project and for a young government entity it is an achievement to have completed the phase within budget and with quality data. The objectives associated with the phase have been achieved.

As with any project there were shortfalls – things that did not as well as they could have. There are always improvements to be made and lessons to be learnt. It is best practice to learn from them, and use the knowledge and experience to create improvements and change in SCAD’s statistical work programme. The most important and documented deficits are:

- Late planning
- Undefined processes and responsibilities
- Limited communications between teams
- Lack of a formal Change Management process

One positive step that will help to ensure that improvements and change do occur is the Statistical Standard Business Processes documentation project in 2012. As mentioned earlier, the experience gained from the census data collection phase will play an important role. Also the recommendations in this report will be referred to and will provide guidance as processes are developed. This is an opportunity to create an improved and meaningful survey programme because it will be built on SCAD's own experience.

7.0 Project Phase Acceptance and Closure

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Appendix A

Appendix A consists of the Lessons Learnt worksheets from each AD Census 2011 team. They are in alphabetical order.

Call Centre Lessons Learnt	
<i>What were the AD Census 2011 objectives for Call Centre?</i>	<ul style="list-style-type: none"> To provide information and answers relating to the census from the public. To serve as a hub for directing technical questions to relevant SCAD Census staff.
<i>What went well (the good things) for the Call Centre leading up to the collection phase (after the pilot) and during the collection phase?</i>	<ul style="list-style-type: none"> Call Centre registered all cases and followed them up. The workflows went well. It was a cost – free service. The team closed a large number of cases within one day.
<i>What did not go well (the bad things) for the Call Centre leading up to the collection phase (after the pilot) and during the collection phase?</i>	<ul style="list-style-type: none"> The approved translation workflows were provided late Not enough information provided earlier for the process of escalating cases to legal and media Not enough information about the answers and close report details from AD call centre (they didn't write details of answers which was provides it to client)
<i>What are the most important lessons for the Call Centre?</i>	<ul style="list-style-type: none"> Get clear and definite dates for training material for Call Centre. This should be 2 weeks before Media Campaign. Get clear call centre answers to provide to client (report of answers in details) Define workflows and role of all kind of cases earlier For complaints just use one channel to escalate to committee
<i>What will the Call Centre do differently for the next Census (2016)?</i>	<ul style="list-style-type: none"> As per above. Plan to have greater resources available as self services for the system from ADSIC (CRM and special dashboard for the census cases) Plan to have more SCAD resources available (6 to work 2 shifts)

Communications Lessons Learnt	
<i>What were the AD Census 2011 objectives for Communications?</i>	<ul style="list-style-type: none"> To build awareness of the Census
<i>What went well (the good things) for Communications leading up to the collection phase (after the pilot) and during the collection phase?</i>	<ul style="list-style-type: none"> Despite the time and budget constraints, the Comms planning went well. There was government support for the project. The Comms team was able to use social media platforms (blog, Facebook, and Twitter) at a very low cost. The school campaign was a good idea that was well executed. SCAD has good relations with the AD media. There were radio and tv interviews on prestigious and well-viewed programmes. SCAD has good relations with private companies. Everything was free from the ADNOC t-shirts to the AD Census 2011 plastic bags. All their efforts added value to the campaign.
<i>What did not go well (the bad things) for Communications leading up to the collection</i>	<ul style="list-style-type: none"> It was difficult to build awareness of the Census due to the timing of the Census – after summer, Ramadan and Eid holiday. People

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<p><i>phase (after the pilot) and during the collection phase?</i></p>	<p>were not around.</p> <ul style="list-style-type: none"> • The vendors were chosen late in the process therefore promotional opportunities were missed that could have positively impacted on the awareness campaign. • The Census Comms budget was cut without discussion or adequate notification. • There was frequent changing of the message and brand. This was confusing for Comms and the vendors. • There were no clear objectives sent out for Census overall which affected the teams. • The campaign did not start until one week before collection. It would have been ideal to begin one month before to build a stronger message and attract more interest. • Because Comms was responsible for printing as well, it was difficult to concentrate on the media campaign. • Changes in the questionnaire after it was submitted for printing caused problems. When something is final, it should be just that – the final product, the final decision, etc. There was too much change at the last minute that cost money, time and reputation. • In order to do their job effectively, Comms requires more staff, and needs deadlines that are adhered to, decisions (e.g. final questionnaire, when Census Reference Night is, etc.) that are final, and a timeline that is realistic, and communicated from senior management. • The overall AD Census 2011 planning process should have started at least one year earlier. • The Comms planning process should have started at least one year earlier. • There was a lack of Change Management and notification and timeliness of changed decisions. For example, the material outlining Census Reference Night were already printed and key messages had been publicised. The change of date caused problems and there was wasted money. • The overall AD Census 2011 approval process was lengthy and therefore approval took too long. Things move quickly in a media campaign and momentum was therefore lost. • The full potential of the social media campaign was not fully realized. The campaign should have started earlier and been more active with those online. • The government entity is a good place to forward and exchange key messages about activities that concern the entire Emirate. However the network needs to be more effective. For example, the blog only had 6000 hits but there are over 200,000 people working for the government and they were sent an electronic newsletter with links directly to the blog. Were the newsletters not forwarded across the government staff? • The financial procedures for AD Census 2011 are unclear, complicated and take a very long time. Setting up new vendors and putting through a payment should be the job of the Finance team.
<p><i>What are the most important lessons for Communications?</i></p>	<ul style="list-style-type: none"> • Please see row below.
<p><i>What will Communications do differently for the next Census</i></p>	<ul style="list-style-type: none"> • Planning – any census planning should start 1 year from the Census Reference Night at least. The budget, logo, Census Reference

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(2016)?	<p>Night, message and vendors for Comms work should be known and final at the start of planning.</p> <ul style="list-style-type: none"> • Budget – knowing the budget in advance in order to plan effectively is essential. And the budget should not change because this affects the plan. • Vendors – The vendors should be chosen six months from the start of the Comms campaign. • Campaign team – It is a good idea to bring the government entity and the media onto the campaign team. Bringing important partners to the table who can help with relaying the message is one key to a successful census.
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Fieldwork Managers Lessons Learnt	
<i>What were the AD Census 2011 objectives for Fieldwork?</i>	<ul style="list-style-type: none"> • To execute the data collection and ensure the quality of that data as defined in AD census methodology & scope of work • To ensure complete coverage within defined timeframe • To minimize the complaints and work hard for customer satisfaction
<i>What went well (the good things) for Fieldwork leading up to the collection phase (after the pilot) and during the collection phase?</i>	<ul style="list-style-type: none"> • Good field operation management (field work management, Regional Supervisors and School Managers). • School Managers worked through many obstacles. They were a key success factor and went the extra mile for each activity. They were committed. • The team spirit between Field teams. • All of SCAD built capability which will help to implement future surveys and improve the next census. Many SCAD staff developed skills and an understanding of the survey cycle. • SCAD built a better reputation.
<i>What did not go well (the bad things) for Fieldwork leading up to the collection phase (after the pilot) and during the collection phase?</i>	<ul style="list-style-type: none"> - <u>Overall:</u> <ul style="list-style-type: none"> o Teams and Team Leaders did not demonstrate ownership of their tasks and the commitment to achieve them. There was a lack of accountability across the teams. They were not aware of how this lack of ownership and commitment could affect the success of overall census. Accordingly field work had to accomplish a lot of tasks not related to them. o Teams tended to work in isolation – only understanding their part and only focused on their tasks. There was not a lot of thinking about the whole Census process. o Some teams were not proactive – in other words, they did not start their milestones and were waiting other milestones to be finished which affected progress and timeliness (there were dependencies between milestones). o Teams complained of not having enough time but how productive were they within the agreed timeline? Did teams fully understand the requirements and the amount of work to be done? o There were a lot of changes in the IT systems and the Fieldwork processes that were problematic for the operation centres. o The execution of the census did not match the plan, even though the plan was explained through a lot of workshops and all teams agreed with their responsibilities. Everything became urgent. All planning fell apart during the data collection phase. o A lot of changes have been done. This was to do the tasks of other teams which should be done by them. o The salary for the temporary Fieldwork staff was too low.

- There was widespread disorganization and Field had to get involved in all aspects. For example, School Managers were involved in everything instead of focusing on only data collection.
- Each team should do their job from beginning to end and have all the resources needed.
- People were afraid to make decisions. The Fieldwork management team escalated issues to the Project Manager for decision-making. This took time.
- When agreements are made, they should be adhered to. For example it was agreed that School Managers are empowered to run their own schools and make decisions. But IT and GS staff in the schools did not listen to the School Managers and instead awaited instructions from the Head of IT or GSS. There was no time for that and it was not what was agreed.
- Recruitment (HR):
 - Many applicants were registered in the website but they didn't receive any phone calls about training or updates or anything.
 - The communications with the applicants was poor.
 - HR was not present at the training sessions to assist with newcomers and collect paperwork and documentation and to answer any HR specific questions.
 - There was no proper organization and process for the HR documentation and paperwork. Some applicants had to hand in the same paperwork several times. It was embarrassing for the School Managers.
 - Planning didn't go well.
 - There was no proper system to count the exact number of applicants. For example at the earlier stage of the project the announced number of applicants was around 6000-8000. However, when the project started the number had been reduced by quite a lot. Was this because many applicants were registered more than once?
 - Frequent signatures of employment contracts were required due to many changes that resulted in new contracts. The contracts should be more flexible to prevent this from re-occurring.
 - Fieldwork staff IDs were not ready on time and negatively impact field operation at the project start.
- Training:
 - The groups to train were too large. (some venues it reaches 1300)
 - The communications & calling process with the trainees was poor.
 - The attendance taking method was not appropriate. It was messy and left to the field team to deal with on paper forms.
 - HR was not present at the Training to help with newcomers.
 - Fieldwork would have appreciated more assistance from IT in the training and the security of the iPads.
 - There was not enough hands-on training of the iPad and the questionnaire.
 - There was no process to classify who attended the training from the beginning and who did not. This affected the process to select the proper enumerators (in quality terms). The Fieldwork team felt like they were accepting staff blindly without knowing how much training they had had or how qualified the staff were.
 - The venues were not ready and the equipment was not there when

needed. Sometimes the trainees and trainers sat for hours without the proper tools. For example: when an urgent change in session times, the training was asked to provide the necessary facilities, but no actions appeared to have been taken.

- Overall, Training did not manage the training properly. There was a lack of ownership.
- GIS:
 - There was a delay in the delivering of the maps. This affected the Fieldwork team. According to the plan, the Fieldwork needed 45 days to verify the quality of maps, but this was done in one day only. The specifications of the maps didn't match the requirements particularly regarding the boundaries of the Sub-Working Areas. This resulted in confusion and frustration for the enumerators. For example, the same house would be in two maps (half in one map and half in another map) and would be visited twice by different enumerators.
 - The growth estimation done based on FUP2 was inaccurate. This affected the distribution of Working Areas between enumerators. In other words, the Working Areas were not distributed fairly.
 - GIS depended purely on BAYANAT Company to produce the maps and didn't activate Plan B in time.
 - Overall, the mitigation actions moved very slowly.
 - Only one school had their IPADs in the first day of data collection. This was because the maps were delayed.
 - The uploaded maps in the IPADs did not meet the needed Field requirements – the maps were of poor quality. This resulted in overlapping maps and the wrong buildings on some maps.
 - The absence of GPS for the majority of the data collection phase was difficult and caused confusion and frustration for the enumerators. They got turned around easily and found it hard to determine where they were or were to go next. It was not a straightforward process and having the GPS chip from the beginning would have made the job easier.
- IT:
 - Applications were not stable in IPADs. There were daily version updates that disrupted the daily 5 hours enumerators had to be in the Field. There was no notification on the upgrading either.
 - Data synchronization problems resulted in some missing data & it was take very long time which result part time staff to leave operation centres late due to big queue
 - Also activating the IPADs took a long time.
 - Access to the Dashboard took long, the School Managers couldn't access it anyway and there was no functionality to check real-time performance. Without a proper Dashboard it was like driving in the dark.
 - Dashboard and Back Office were not properly tested (no UAT) and neither met the specific Field requirements.
 - Back Office (administrative tool to activate work) didn't work properly.
 - IT support to School Managers was late.
 - Communications with IT was not clear and messages were not cascaded down.
 - Fieldwork and IT did not work as one team.

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	<ul style="list-style-type: none"> - <u>GSS:</u> <ul style="list-style-type: none"> o Distribution of items (e.g. ID cards and iPads) was not as agreed and the defined processes were not followed. o HR asked the school mangers to take pictures of IPADs even though this is HR responsibility. o Preparation for the first night of the data collection was inadequate. The schools were not ready. o The team did not seem to be aware of the work that was required or the responsibilities they had. - <u>Closing of the schools (Methodology and IT):</u> <ul style="list-style-type: none"> o Quality issues should be dealt with during the collection phase and not after the enumerators have left. It was much harder to resolve quality issues when they had left. It was too much for the School Managers. Few quality reports were delivered during the phase and didn't include any required actions from field. o Discrepancy between the Oracle database and the iPads was very difficult to resolve. - <u>Payroll:</u> <ul style="list-style-type: none"> o This is another example where Field had to get involved. o The calculations were wrong and the School Managers had to review
<p><i>What are the most important lessons for Fieldwork?</i></p>	<ul style="list-style-type: none"> • The census could be better if organized. • The census is a shared goal between many different teams. All the teams need to do their job and work with other teams in order to that job well. • Identified the gaps between different stakeholders within SCAD (IT, GIS, GSS and HR) • Transparency is needed. If something is running late, it needs to be stated up front. • IT systems (IPADS, Dashboard and back office) require a proper UAT. • Each team should take ownership of their responsibilities and meet deadlines with initiative and delegation to make decisions. • Plan B should be activated at the right time. • When agreements are made, they should be adhered to. For example it was agreed that School Managers are empowered to run their own schools and make decisions. But IT and GS staff did not listen to the School Managers and instead awaited instructions from the Head of IT or GSS. There was not time for that and it was not what was agreed.
<p><i>What will Fieldwork do differently for the next Census (2016)?</i></p>	<ul style="list-style-type: none"> • Incorporate a part-time HR and GSS recruitment cycle for survey and census programmes. Train them in order to ensure properly understood Fieldwork processes. • When agreements are made, they should be adhered to. School Managers should be empowered to run their own schools and make decisions and have all staff from HR to GIS to IT and GSS answer to them. • Focus on field work responsibility • Recruit and select qualified enumerators and provide them with good pay. • Stable tools should be tested and delivered. • Maps should be correct and on-time.

	<ul style="list-style-type: none"> • Ensure the budget is enough and will not change to reduce any compromising. • Learn from the previous 2011 Census and ensure that the lessons are considered and taken seriously. Learn from the past to improve the future otherwise nothing will improve.
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Fieldwork Regional Supervisors and School Managers Lessons Learnt (excluding Al Ain)	
<i>What were the AD Census 2011 objectives for Regional Supervisor and School Managers?</i>	<ul style="list-style-type: none"> • Regional Supervisors <ul style="list-style-type: none"> ○ To ensure correct allocation of resources ○ To ensure the coverage of the area ○ To ensure daily targets are met ○ To provide support to the School Managers ○ To make decisions ○ To increase Census knowledge and processes in the Field in order to meet SCAD requirements • School Managers' objectives <ul style="list-style-type: none"> ○ To generate daily reports ○ To supervise controllers, sub-controllers and enumerators ○ To cascade any instructions to staff ○ To ensure quality of the data and coverage of the Working Areas ○ To ensure methodology is going well (ensure process)
<i>What went well (the good things) for Regional Supervisor and School Managers leading up to the collection phase (after the pilot) and during the collection phase?</i>	<ul style="list-style-type: none"> • Regional Supervisors <ul style="list-style-type: none"> ○ Building leadership skills of both the Regional Supervisors and School Managers ○ Whilst there were certainly challenges, the Fieldwork teams worked together. ○ Fieldwork was supported by senior and middle management at SCAD. ○ Government entities supported SCAD e.g. the Army assisted in the Western Region. ○ The communications between the Field management teams went well. ○ Problems were solved as quickly and efficiently as possible. • School Managers <ul style="list-style-type: none"> ○ The communications between the Regional Supervisors and the School Managers went well. ○ In the Western Region, the collection of administrative data was straightforward -- i.e. processes were clear. ○ Haitham and Badria tried to make things better. ○ Ahmed Aldaheri's assistance in mediation and conflict resolution was helpful. ○ This is first time SCAD has done such a huge project. There is some experience and understanding now. ○ Knowledge transfer ○ Building social relations
<i>What did not go well (the bad things) for Regional Supervisor and School Managers leading up to the collection phase (after the pilot) and during the collection phase?</i>	<ul style="list-style-type: none"> • Overall <ul style="list-style-type: none"> ○ Everything in Fieldwork rushed and confusing from the Training and preparation to the data collection and IT processes. ○ There were daily changes that cause disruption and problems. ○ The responsibilities of the School Managers were not clear. ○ There were difficulties in cascading the information to large number of enumerators in English and Arabic. • Recruitment

- Salaries were not enough.
- People with skills were required and these people are already working.
- Job descriptions/criteria could not be used because any one who applied had the job.
- The HR administrative processes took too long especially the security clearance process.
- There were not enough recruits. Many School Managers needed more enumerators.
- The advertisements were not good enough to attract the required skills.
- **Training**
 - The training was disorganised and chaotic.
 - The training was too late in the timeline.
 - The enumerators did not receive enough training with the questionnaire, the iPad and understanding the sequence and the validation rules. They needed much more practice.
 - The training was during Ramadan and very late at night. That was a deterrent to maintain the numbers of staff.
 - There were too many people in each training session. The groups should have been smaller. The training would have been more effective.
 - Some people went to the training but were never contacted about the job. They did not know where to go or if they still had the job.
 - Some trainers were not trained well which affect to transfer the required knowledge to the enumerators.
- **Communications**
 - Instructions and communications varied between English and Arabic. Context and important messages may have been lost in translation. There was no time for translations.
 - Communications with IT and GS was problematic.
- **Maps**
 - The maps were late.
 - There was a lack of boundaries particularly on the Western Region maps. This was a real challenge to overcome.
 - The division of Working Areas was based on the population and in hindsight that may have not been the best.
- **The week leading up to Census**
 - Quick Count was unable to be done because the operation centres were not prepared or ready.
 - The identity card was the main problem the week before Census. They were delivered late or not at all.
 - Things were delivered late.
 - There was no GPS for the first 3 weeks of the data collection.
- **Reporting**
 - The template changed frequently.
- **Out in the Field**
 - Enumerators were out in the field without proper training.
 - The processes -- opening a school, equipment required, how to approach a villa, how to collect a form, how to synch the data, how to close a school etc. -- weren't outlined.
- **IT**
 - The changes made in the iPad throughout the data collection phase caused confusion and frustration for the Field staff. The

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	<ul style="list-style-type: none"> ○ constant re-versioning affected the data already collected ○ Field could not keep up with the changes. ○ The Dashboard and the Back Office functions never worked properly. ○ The IT infrastructure was inadequate. ○ Synchronisation did not always work. ○ The User Acceptance Testing was inadequate and the Field staff suffered. ● Technical Committee <ul style="list-style-type: none"> ○ The help and details from the Technical Committee came too late. ● GSS <ul style="list-style-type: none"> ○ The Administrative Assistants did not fully support the School Managers in distributing and collecting items. Also they don't have the required skills in Microsoft office. ○ The ID card arrived late. Accordingly some of Regional Supervisors took the risk of sending enumerators into the field without the cars because of the urgency and amount of work to be done. ○ There were no organized processes.
<p><i>What are the most important lessons for Regional Supervisor and School Managers?</i></p>	<ul style="list-style-type: none"> ● All census processes must be documented from GSS, to Field and HR and IT. ● Change management is required. ● Adopt a solid IT system
<p><i>What will Regional Supervisor and School Managers do differently for the next Census (2016)?</i></p>	<ul style="list-style-type: none"> ● School Managers train the staff at the schools. ● If the iPad is to be used in 2016, before it is provided to Field, it should be final. No changes allowed once data collection begins. ● Communications should be in Arabic. ● Learn from what was done in 2011. ● The next census should be well planned and prepared - methodology, responsibilities, timeline, reporting, IT (easy systems). ● The date of the census must be suitable for planning, recruitment and training. ● The enumerator salaries should be higher. ● Introduce a change management process that is adhered to.

Al Ain Fieldwork Lessons Learnt	
<p><i>What were the AD Census 2011 objectives for Al Ain Fieldwork?</i></p>	<ul style="list-style-type: none"> ● To cover the whole area by collecting as much data population as possible. ● To accomplish the project within the period. ● To use the latest techniques provided from (management, statistical experts of SCAD and IT department).
<p><i>What went well (the good things) for Al Ain Fieldwork leading up to the collection phase (after the pilot) and during the collection phase?</i></p>	<ul style="list-style-type: none"> ● Team work ● The IT support ● The direct supervision from supervisors ● Weekly meeting with DG and weekly workshop in AD
<p><i>What did not go well (the bad things) for Al Ain Fieldwork leading up to the collection phase (after the pilot) and during the collection phase?</i></p>	<ul style="list-style-type: none"> ● Lots of changes in the original due dates of the tasks assigned to the project. ● Lots of changes in the way of data collection (in special cases). ● Delay in delivering the GS items from AD to AA. ● Long working hours
<p><i>What are the most important lessons for Al Ain Fieldwork?</i></p>	<ul style="list-style-type: none"> ● Experience both managerial and fieldwork skills. ● Learned new concepts (managing large number of staff, statistical

	<ul style="list-style-type: none"> concepts, IT skills, time management). Making decisions based on different cases. Circulate the experience among school managers as a team.
<p><i>What will Al Ain Fieldwork do differently for the next Census (2016)?</i></p>	<ul style="list-style-type: none"> Prepare a plan B, or contingency plans for each single task to be taken in case of un-success. Provide a quality team for field work to ensure a (high quality results). Smooth the process of tasks and the communication hub between AD and AA as well as between the staff hierarchy. Use more advertisements to increase the awareness within the public. Develop criteria for hiring field work staff (e.g. education level).

GIS Lessons Learnt	
<p><i>What were the AD Census 2011 objectives for GIS?</i></p>	<ul style="list-style-type: none"> To create usable Working Areas (WAs) and Sub Working Areas (SWAs) as per the received criteria To create sustainable products (that can be used in other surveys) To build staff capability To build a GIS database
<p><i>What went well (the good things) for GIS leading up to the collection phase (after the pilot) and during the collection phase?</i></p>	<ul style="list-style-type: none"> Support from senior and middle management particularly when more resources were needed to check the maps – staff were provided. Also networks were used to find another company to create the maps. GIS overcame the challenges they faced through hard work and dedication not just of the team but SCAD as a whole. The problems were managed, and alternative solutions sought. The quality checks framework (criteria for the maps) was used. A GIS infrastructure was set up as a result. GIS staff developed time-saving procedures for the future. SCAD has a better understanding of what GIS does – there is great awareness as a result of the Census work. The GIS team has greatly increased their knowledge. A good relationship with Maptell was formed. Feedback was received from Field which improved the maps. There is a “return on investment” for what was spent (network, servers, software licenses) and learnt (increased knowledge). SCAD will benefit from the GIS team’s Census experience.
<p><i>What did not go well (the bad things) for GIS leading up to the collection phase (after the pilot) and during the collection phase?</i></p>	<ul style="list-style-type: none"> Overall communications across teams and from senior management downward was not optimal. There were resource constraints for GIS particularly people resources. The team was small and inexperienced. The Methodology criteria was late which set back vendor deadlines. Overall census planning started too late which impacted on all activities. The Municipality information/maps were late and only the base buildings were provided. A fee for the satellite imagery was required which SCAD was not willing to pay. There was no RFP calling for interest in creating the maps. Bayanet did not fulfil their map requirements which created serious problems for GIS. This relationship could have been managed better in hindsight. It was difficult to determine if they understand the work or were ignoring the criteria that SCAD provided. SCAD did not have a GIS network set up prior to the AD Census

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	<p>2011. The GIS environment was not set up to handle the necessary requirements.</p> <ul style="list-style-type: none"> • The GIS team lacked high-performance machines which were required to do work quickly and effectively. • There was a limitation on staff knowledge, PCs, servers and software licenses. • No one realized the huge task of quality checks on the maps. It was a lot of work that GIS hadn't prepared for as the team had not done it before and therefore had not thought about the volume of work (12,000 SWAs to review) and how long it would take. • Teams were overloaded and when they were required to do something that another team was dependent upon in order to progress, very often things were late. There was a big flow-on effect from Methodology to GIS to Field and back to GIS. • There weren't enough people working on census. • Ownership/responsibility was an issue. • Time was tight throughout the Census.
<p><i>What are the most important lessons for GIS?</i></p>	<ul style="list-style-type: none"> • There were too many parallel streams of work occurring at the same time that should have been sequenced. • Planning and organizing Census further out from the Census Reference Night which will leave more time for execution and integration of activities in a sequenced format. • Automation of WAs won't be possible. Manual is the only way. • Documentation is important. Processes from AD Census need to be documented because it is not known who will be around in 2016. Knowledge management must improve in order to ensure 2016 is run more efficiently and that SCAD grows from the first census. • Criteria should be developed and agreed to at an early stage. • The idea of census is simple but the execution is complex and dependent upon a mass of activities. • What is built in 2011 can be updated/modified for other surveys and the next census.
<p><i>What will GIS do differently for the next Census (2016)?</i></p>	<ul style="list-style-type: none"> • Ensure the GIS is a strong and reliable infrastructure and environment. This includes IT (necessary equipment), documented procedures, and experienced staff. • Get the methodology criteria developed and agreed to at an earlier stage. • Implement the project management standard for managing the census. • Have a clear and identified Change Management process established and used. • Have a dedicated Census team at the SCAD office. They can be working on census preparation and planning continually and one year out, more resources (people and budget) are provided.

GSS Lessons Learnt	
<p><i>What were the AD Census 2011 objectives for GSS?</i></p>	<ul style="list-style-type: none"> • To provide the required transportation, stationary, and catering across the Emirate.
<p><i>What went well (the good things) for GSS leading up to the collection phase (after the pilot) and during the collection phase?</i></p>	<ul style="list-style-type: none"> • Good organisation of schools and work locations in partnership with the Abu Dhabi Education Council (ADEC). There were some last minute location changes but solutions were quickly sought. Overall the sourcing of schools to serve as operation centres went well.

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	<ul style="list-style-type: none"> • Availability of full time outsourced staff to provide the necessary coordination across the emirate. (3 coordinators in Abu Dhabi, 2 and Al Ain, and 1 in Western Region). • Good cooperation (teamwork) with all teams across SCAD • Immediate actions were taken to solve some problems. (For example: in case of cars shortage, GSS has arranged taxis and used their own cars).
<p><i>What did not go well (the bad things) for GSS leading up to the collection phase (after the pilot) and during the collection phase?</i></p>	<ul style="list-style-type: none"> • The team was not enthusiastic towards supporting census because they are not aware about the importance of this project. However a meeting was conducted with the team to encourage them and spread the spirit of enthusiasm among the team. • Late formal response from Municipality and DED which affected the deadlines. • The census was too rushed. Planning and preparation should have started much earlier to provide more time for execution. No clear planning for distributing items. • There were urgent requests from management to implement some tasks immediately before due time as originally planned. One example was the delivery of the stickers. There was a lot of confusion and urgency around that task. • Communications across Fieldwork was not clear. • Lack of change control. (No solid decisions and frequent changes). Sudden changes were made that impacted teams. It caused confusion and frustration. • Confusion to distribute items (vests, telephone cards...etc.). Accordingly it's proposed that coordinators to be reported to school mangers. Confusion to distribute items (vests, telephone cards...etc.). Accordingly it's proposed that coordinators report to School Managers.
<p><i>What are the most important lessons for GSS?</i></p>	<ul style="list-style-type: none"> • Project management principles amongst all participants in census. Clear priorities are a must. • Proper planning, preparation and commitment are essential. Accordingly deadlines and milestones will be met as stated in the plan.
<p><i>What will GSS do differently for the next Census (2016)?</i></p>	<ul style="list-style-type: none"> • GSS coordinators to be reported under school managers to avoid confusion in distributing items. • Clear of authority matrix (clear responsibility and delegation). More delegation given to Managers. The approval chain was not effective. The approval chain was not effective. Each team should have the authority to expense, recruit within the allocated budget and 10% more as back up. They are in the field and so they knew how to deal with it. • Plan for budget in order to rent enough cars for transportation across the Emirate. • Be more organized to distribute and collect items at the beginning and end of the project. • Request formal agreements with the government entities. • Involve Finance section.

HR Lessons Learnt	
<i>What were the AD Census 2011 objectives for HR?</i>	<ul style="list-style-type: none"> • To provide the number of people required to work for Field and non-Field activities. • To conduct all administrative duties associated with getting temporary staff ready for AD Census 2011 (interviews, security clearance, contracts, identity cards, payroll)
<i>What went well (the good things) for HR leading up to the collection phase (after the pilot) and during the collection phase?</i>	<ul style="list-style-type: none"> • HR had to deal with a lot of problems from the online application to administrative processes for security clearance and contracts and even finding enumerators for the Western Region. But the team worked hard and actively sought solutions to the problems. • The recruitment agencies were helpful and supplied approximately 1000 recruits. • The payroll procedure went well particularly when compared to the pilot. The process is on track and each team (PMS, HR, Field and Finance) did their part. • The interview process went okay.
<i>What did not go well (the bad things) for HR leading up to the collection phase (after the pilot) and during the collection phase?</i>	<ul style="list-style-type: none"> • Nothing went as anticipated. • A lot of recruits withdrew or lost interest right before the training. There were originally 8000 but it dropped to 4600. This may have occurred for the following reasons: <ul style="list-style-type: none"> ○ Mixed messages from recruitment agencies who may have told interested people that the jobs were office, not field. Most of the recruits wanted office jobs, not to walk around in the heat from door to door contacting people. ○ SCAD was late in contacting people that had submitted applications and telling them when the training was. People had lost interest. • Interest in working for AD Census 2011 dropped during the training. There was no system or collective organized effort to list the people who dropped out. HR was unable to know exactly who was dropping out in order to stop the security clearance and identity card processes. • Field began finding and hiring people to work but HR still required passports, visas, etc. for security clearances. There was a lot of confusion regarding who had just been hired and what paperwork was required. No one appeared to be organizing the new recruits or knew what exactly what was going on. • Because approximately 4000 recruits had dropped out but HR did not know exactly who they were, identity cards were made. It was a waste of time, materials, and effort. • Having the training during Ramadan was not a good idea. • Communications and organization between Field and HR could have been better. • The enumerator salary was not enough and affected the quality and number of people applying. • People were given different roles than what the original contracts stated so new contracts and identity cards had to be provided. This was confusing and frustrating for HR to keep track of. • Contracts are currently too detailed and it caused problems with start and end dates.
<i>What are the most important lessons for HR?</i>	<ul style="list-style-type: none"> • Cut-off dates are important for recruitment otherwise it just continues and it is difficult to get all the paperwork done in a short amount of

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	<p>time to enable staff out on the street collecting.</p> <ul style="list-style-type: none"> • For such a large scale project and with so many temporary people to hire, contracts should be more flexible.
<p><i>What will HR do differently for the next Census (2016)?</i></p>	<ul style="list-style-type: none"> • Have enough time to plan. • Choose a different month for census. • Each operation centre should have its own identity card machine. • Depending on the budget, the enumerator salaries should be higher. • Make the payroll process automatic. • Contracts should be flexible with time and dates. • Have a system/process to track recruits so that when/if they drop out, HR can be notified.

IT Lessons Learnt	
<p><i>What were the AD Census 2011 objectives for IT?</i></p>	<ul style="list-style-type: none"> • To develop the iPad applications to collect data from the respondents. • To prepare the Back Office to manage the schools: <ul style="list-style-type: none"> ○ Tracks the enumerators and ○ Retrieves data from the Working Areas. • To generate the Oracle Dashboard (provides a general view): <ul style="list-style-type: none"> ○ Shows overall performance of enumerators and schools. • To train the temporary Fieldwork staff on the IT equipment. • To create an online survey for the VIPs. • To create a data entry system for hospitals, hotels, etc. • To create the database structures for the administrative data.
<p><i>What went well (the good things) for IT leading up to the collection phase (after the pilot) and during the collection phase?</i></p>	<ul style="list-style-type: none"> • Reallocating the maps on the iPads and Back Office. • The IT team developed skills and knowledge that can be used in the household and economic survey programmes. • A program was developed for the iPads that can be used for other surveys. • A sophisticated technology system was integrated with maps used to collect data. • SCAD was the first in the region to use the iPad technology for a census. • The team provided a “help desk” throughout the data collection phase in the evenings that IT support staff in the schools could call. • Tracked the performance of enumerators, supervisors, sub controllers...etc) at any time.
<p><i>What did not go well (the bad things) for IT leading up to the collection phase (after the pilot) and during the collection phase?</i></p>	<ul style="list-style-type: none"> • There was not enough time to plan, develop, test, and train. Work for the census should have started much earlier. • The temporary field IT staff did not have enough training and the manuals were insufficient. • It was not easy to find the resources and needed skills when looking for temporary staff in the Western Region. • The IT team is small in numbers and there and had to work a lot of extra hours • The IT team had to focus so much on census that other work was left for another time. • The Methodology requirements were confusing – different phases for closing of the schools, the requirements they needed. • The synchronization process needs improvement. • There was a lack of transparency and understanding about the IT

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	<p>budget. There was uncertainty regarding how much money was available and who was responsible for the IT portion.</p> <ul style="list-style-type: none"> • Imaginary satellite was not available (beyond SCAD responsibility). • Methodology of Work Allocation Area Closure was not clear.
<i>What are the most important lessons for IT?</i>	<ul style="list-style-type: none"> • The census was a difficult project and the IT team took many risks. • Keep up to date with technology that possible for use in the statistics field. • Keep things simple (e.g. iPad functionality for those in the field not properly trained or comfortable with technology).
<i>What will IT do differently for the next Census (2016)?</i>	<ul style="list-style-type: none"> • Start planning much earlier in order to have enough time to prepare the systems and applications. The timeline within AD Census 2011 was not appropriate for the work and effort required. • Know how much money each team has.

Macro-Editing Lessons Learnt	
<i>What were the AD Census 2011 objectives for Macro-Editing?</i>	<ul style="list-style-type: none"> • To identify any systematic errors that were demonstrated in the data (at a high level). • To provide advice to Field if there was something going wrong in a systematic way (e.g. add rules).
<i>What went well (the good things) for Macro-Editing leading up to the collection phase (after the pilot) and during the collection phase?</i>	<ul style="list-style-type: none"> • An expectations report was created. This resulted in a suite of tests to measure the expectations against the data. This report complements the micro-editing. It provided guidance on what the Macro-Editing team could check during the collection. • The macro-analysis reporting throughout the month was flexible and could pursue a particular line of analysis. It included a set of tests against the expectations. • The team was able to provide feedback to the Field staff and Technical Committee. Overall Field was receptive. • During the month, standard output tables were designed to report on the data. They provided an indication of what the data saying.
<i>What did not go well (the bad things) for Macro-Editing leading up to the collection phase (after the pilot) and during the collection phase?</i>	<ul style="list-style-type: none"> • The overall role of the macro-editing team was unclear. • Membership was limited. Expanded membership aligned with technical committee would be better • Not enough time overall to conduct the AD Census 2011. • Budget was not transparent and it was unclear what resources were required and by when. • Social and Population Statistics team has been unable to work on any Business as Usual (BAU) work. Work expectations outside Census have been significantly affected. • There was only one person with SAS skills. More persons with that experience are required. • Because there was only one person with SAS skills, more time was required to program code and build tables. The team wasn't ready as a result. • The resource planning and overall planning could have improved. • There were time constraints on the Macro-Editing team throughout the month. There was not enough time to properly analyse the data coming in. • Because the questionnaire was cut by 50%, a lot of planning had been a waste. • The Technical Committee was not sufficiently engaged with the macro-editing analysis.

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	<ul style="list-style-type: none"> All data should have been entered into one database. It has been difficult and very time-consuming for Macro-Editing to gather, organize and analyse 11 streams of data. The data flow is very fragmented.
<p><i>What are the most important lessons for Macro-Editing?</i></p>	<ul style="list-style-type: none"> More clarity around when census preparation starts and what resources are allocated. A dedicated Census team is a good idea. Use and learn from what was done in this census. Build on it (e.g. the Data Dictionary) Have good processes established beforehand to mould the product – don't wait until you have the product to figure out what to do. Specifications should be adhered to (e.g. iPad, Dashboard)
<p><i>What will Macro-Editing do differently for the next Census (2016)?</i></p>	<ul style="list-style-type: none"> Use modern, user-friendly, agile data analysis tools for better analysis. Have a mapping tool that is more flexible and adaptable Depending on the questions, have the Economic team provide another set of eyes looking at the data as well. Better integration between the Technical Committee and the macro-editing analysis. The macro-editing team has a stronger presence in the data collection planning and operations, for example to: <ul style="list-style-type: none"> contribute to development of a budget required to collect all high priority data – provide guidance on reasonable time frames for analysis and finalization of data for release. Start developing and finalizing the following <u>at least one year</u> before the data collection phase: <ul style="list-style-type: none"> Determine the structure of the collection databases and data flow Determine the variable names and categorization Determine the definitions of key terms and variables Have appropriate and well-thought out systems set up to capture the data before the data collection begins.

Methodology Lessons Learnt	
<p><i>What were the AD Census 2011 objectives for Methodology?</i></p>	<ul style="list-style-type: none"> Inform the field work with the quality issues related to progress update. Clean the data. Develop coding system and provide the necessary training to use this system. Develop the data collection methodology (i.e. administrative data such as police, military, etc.). Design paper questionnaires and make changes accordingly. Run a user acceptance testing Design the iPad questionnaire Design the specifications Write the training manual Translate questionnaire into 6 languages Train staff on the methodology and definitions
<p><i>What went well (the good things) for Methodology leading up to the collection phase (after the pilot) and during the collection</i></p>	<ul style="list-style-type: none"> System worked well. Solved problems such as dealing with frequent database changes. Necessary editing was done. Training for coding achieved.

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<p>phase?</p>	<ul style="list-style-type: none"> • The data cleaning (imputation) was of good quality. The quality objectives were met. A lot of work was achieved in a very short time with very limited resources. • Reports were generated to highlight the missing data and sent it to field work to track the progress. • Everyone pulled together and got the survey in the field on time. • Teams implemented many of the lessons learnt from the pilot in a very short time (e.g. – field feedback on experience with iPad in pilot resulted in creation of sub-working areas which enabled more efficient management of field staff during actual collection. This required a lot of work by GIS, Field, and Methodology). • A flexible approach was taken to data collection methodology – which meant that collection strategy and methods were adjusted to cater for problems identified as development proceeded – e.g. a paper household form was developed and implemented at the last minute to supplement the iPad collection when it became obvious that the iPads might not be reliable.
<p><i>What did not go well (the bad things) for Methodology leading up to the collection phase (after the pilot) and during the collection phase?</i></p>	<ul style="list-style-type: none"> • There was no proper communications channel. For example, quality check reports were not always cascaded to School Managers. It would appear that the reports were not forwarded to the right people because very little was changed. They would have been useful to the School Managers had they been received. The reports would have alleviated the frustration the School Managers suffered at end of the data collection phase trying to close their schools. • Some changes were done by IT without notifications. For example: <ul style="list-style-type: none"> • There were a number of inconsistencies when comparing the application with the specifications. The application was missing question "Full names of all usual residents, starting with the household head". This was a key questionnaire flow and routing question. IT reported that it was too late to change as the questionnaire had been designed with a different flow – i.e. against questionnaire design requirements. The application was a small progression from the Pilot, but not based on the specifications. • Within the period of UAT a new field of 'Member name' was added. It was not requested and not part of the specification. IT refused to remove and later said it was, by then, too late as the routing required a question as a place-holder in the questionnaire. It was then changed (without consultation) to 'Question for Household head or Responsible Adult' which did not make sense in the context of the questionnaire. • IT did not follow the specifications but instead used the Pilot and then the paper version as a template for the iPad version. This meant that any iPad specific requirements such as routing and validations were ignored. • There was editing of the data by others without notification. Methodology noticed data had changed but didn't know why or who was doing it. For example, the unique person reference numbers changed (it is a small number). Methodology had a small number of data coded that could not be found in the main data again. It is assumed that new ID numbers have been allocated, rather than persons dropped (maybe there were duplicates). • Specifications to IT to develop the database were not all adhered to.

There were a number of issues where what was provided differed to that expected. Examples are:

- a) For Work Camps the Economic Activity is recorded as a -1 (which translates to missing) against all members in the members table, yet the text description is recorded in the M_Camp file. This caused an issue for coding.
 - b) Later in the Field Work period the table "M_Data_Entry_Paper" appeared with no notification or description.
 - c) There is inconsistency in the naming of the same variables across data files.
 - d) The following did not happen "All variables to have correct labels describing what they are. (Not just copying the variable name across to the label column.)"
- Training provided to enumerators was poor, especially what's related to completing the occupation and economic activity variables. Methodology received no feedback at all, so they do not know if the information was used or not. They were asked on a number of occasions to provide management with examples of poor quality text descriptions and poor performing enumerators. It was apparent from day 1 that the text descriptions being collected were not very comprehensive. This was communicated many times. A lesson learnt for next time is to improve the training for enumerators. Words such as "driver" or "IT" are insufficient on their own. A driver of what? Is the person in IT sales or a computer programmer or what? Interestingly the paper based questionnaires administered in hotels and institutions had more detail, though of course response rates were significantly lower.
 - IT didn't respond quickly to implement what was requested.
 - When the new field of 'Member name' was added, IT was asked to remove it but it was never done. Then it was too late as the routing required a question as a place-holder in the questionnaire.
 - Insufficient time to sort data (source of data and format).
 - The supplied data dictionary was insufficient and poor. It did not do what was needed and took Methodology a lot of time and effort to understand the data they were dealing with. It would be fair to say that there is no complete documentation that describes all the tables, their relationships, the variables contained, the values they can take. As a result Methodology and Social & Population only found things by chance. There is a huge risk to any organization that the data is misused, due to the lack of understanding. Anything we have is incomplete. Therefore, in regards to what analyst would expect from a data dictionary we do not have one. Great work was done in the later stages making the SAS formats available, so that it was known what the code values were for a number of different variables.
 - At one point the data were not coming in fast enough for the coders. The workload was low sometimes.
 - More focus, planning and thought around the administrative data was required. The structure, formatting, coordination, organization, responsibility and tracking all needed much more thought. There was a loss of control over the collection of the administrative data.
 - The flexible approach to the data collection methodology resulted in late decision and changes which consumed extra time, effort and

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	<p>resources (e.g. iPad/Galaxy/paper form).</p> <ul style="list-style-type: none"> • Hierarchical management is still the organisation's de facto management method rather than project management. This means that people responsible for something refused to take action unless directly ordered by the DG or Project Manager (PM). The DG and PM cannot know every detail of every aspect of the project at all times and as a result delays occurred. • The revisiting of decisions slowed progress (e.g. there were three decisions re: the process for collection of labour camp spreadsheets).
<p><i>What are the most important lessons for Methodology?</i></p>	<ul style="list-style-type: none"> • Communication should be enhanced to cascade the necessary information. Everybody needs to be kept in the loop more. • Lock down changes as much as possible. • Understand and decide on the output (release) requirements well in advance. The requirements impact on micro-editing. • A decision should be final. • The roles and expectations of the relationship between IT and Methodology should be clearer.
<p><i>What will Methodology do differently for the next Census (2016)?</i></p>	<ul style="list-style-type: none"> • Start the design planning and development (Methodology, IT, Field, GIS) at least 2-3 years earlier. • Improve the change management control process. • The pilot should be earlier in the census timeline. • There should be a proper dress rehearsal with the final questionnaire and all systems and databases and applications final and ready. A dress rehearsal is a simulation/testing of all everything at its final stage right before the actual census event. At a dress rehearsal there is no intention of making changes unless something really goes wrong. • More time is needed between the pilot and the execution of the census. This will give better chance to understand and implement the lessons learnt from the pilot. • Delay coding so that it occurs after data collection, in order to be more automated.

Project Management Support (PMS) Lessons Learnt	
<p><i>What were the AD Census 2011 objectives for PMS?</i></p>	<ul style="list-style-type: none"> • Plan, monitor and provide reporting progress to Project Manager and Director-General. • Budget and financial support as needed (e.g. new budget proposal). • Additional technical support such as: <ul style="list-style-type: none"> ○ Establishing and testing UAT; ○ Macro process quality assurance; ○ Coding classification system; and ○ Census Payroll procedures/Work Area Closing.
<p><i>What went well (the good things) for PMS leading up to the collection phase (after the pilot) and during the collection phase?</i></p>	<ul style="list-style-type: none"> • Planned, monitored and provided range of progress reports. • Planning and monitoring was built into three stages (comprehensive plan): <ul style="list-style-type: none"> ○ June- prepared and got approval for top-down plan; ○ July -September (was tough due to a lot of tight deadlines); and ○ October –November (monitor the actual operation). This was the daily meetings with SCAD Executive team, as well as bi-weekly meetings with the big team (all Census Team Leaders). • Daily meetings with Executive management and the Director-

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	<p>General. This required us to get input from every team, analyse and prepare presentations. This was helpful for teams to understand what's going on.</p> <ul style="list-style-type: none"> • Bi-weekly meeting (main progress meeting to give information on census). • Provided presentations included the information on progress which was very useful to teams. • Top – down details plan. This was a big learning from the work for the Pilot. • Got the necessary feedback from teams to be reflected in the updated plan. • Good team working (PMS team), although the lack of resources in PMS, but there was an additional support given by Ghada and Reem. • Made sure that teams understood their responsibilities to achieve their tasks. • Able to improve our reporting throughout the project – e.g. introduced “% completed.” • Good cooperation to support testing UAT (40 to 50 people participated). • Good management support regarding UAT. • While PMS missed some small things, the team generally knew about the big issues and could advise on impacts.
<p><i>What did not go well (the bad things) for PMS leading up to the collection phase (after the pilot) and during the collection phase?</i></p>	<ul style="list-style-type: none"> • Lack of cooperation from some teams (Fieldwork and HR). Had to remind teams to implement their tasks. • Challenges to explain the plan to some teams. This explanation was done in both languages – Arabic and English – but still there was lack of cooperation (some teams were not proactive in reporting). In addition, a lot of people do not understand the full statistical process for surveys and census. • Some teams did not provide the needed information to PMS and instead they provided it directly to the Director-General – this limited PMS' ability to give advice. • Lack of resources in PMS and tight timeline which limited the ability to meet with all teams. However information was provided to Steering Committee to cascade to other teams. • Some teams were unwilling to give bad news which may affect some other tasks. For example, the delaying of maps. • No clear specifications for macro-editing and lack of key users to write the needed specifications. • Frustration during UAT period, there was no progress during pilot and UAT. For example: The validation check issues in the iPads which used during pilot (mid of July) were not resolved. • The working hours were too long (14 hour per day) for some people - this was an issue across SCAD – not specifically for PMS. • Sometimes, the senior management did not realize the potential risks and issues from the presented information - so maybe some of the reports were not appropriate.
<p><i>What are the most important lessons for PMS?</i></p>	<ul style="list-style-type: none"> • Planning earlier for next census (start planning in 2013). • Good to have a PMS function throughout the project – but the team needs to have experience and understanding of the statistical function that it is supporting. • Project management knowledge to be spread among project teams.

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	<ul style="list-style-type: none"> • Delegation of authority is necessary, along with clear and accepted accountabilities.
<i>What will PMS do differently for the next Census (2016)?</i>	<ul style="list-style-type: none"> • Dedicated resources (4 to 5) to work continuously for next census. • Strong cooperation between PMO and PMS to support teams in managing the project and understanding the whole statistical process of census. • Develop better tools to be used in reporting and train the project team on how to use those tools.

Project Manager Lessons Learnt	
<i>What were the AD Census 2011 objectives for the Project Manager?</i>	<ul style="list-style-type: none"> • The objectives as stated in the <i>FUP3 Roadmap v5</i>.
<i>What went well (the good things) for the Project Manager/AD Census</i>	<ul style="list-style-type: none"> • The teams started to feel a sense of ownership. This was the first SCAD project that the most staff were involved in together. It was a good opportunity to build the organisation's sense of teamwork and statistical mission. • Most had the attitude of "get it done". There was a sense of urgency, and no postponing. • Everyone worked hard.
<i>What did not go well (the bad things) for the Project Manager/AD Census</i>	<ul style="list-style-type: none"> • Not enough time for planning • The budget could have been better – it affected all teams.
<i>What are the most important lessons for the Project Manager/AD Census?</i>	<ul style="list-style-type: none"> • A budget cannot be determined based on the past salaries. It must be based on the value of salaries/money in today's market. • Planning must start earlier. If the next census is 2016, then start in 2013. Nominate a realistic budget and Project Manager and start the planning. • When the work and effort are done, it is amazing what was accomplished. • It is important to pro-actively manage the expectations of supervisors (i.e. stay on top of the updates, communication – give no wrong impressions).
<i>What will the Project Manager do differently for the next Census (2016)?</i>	<ul style="list-style-type: none"> • Implement a stronger adherence to project management. • Strive for a fully administrative census. The technology is there however there will be political obstacles to overcome. • Start experimenting with technology – keep an eye on the future. Innovation is important.

Quality Assurance (QA) Lessons Learnt	
<i>What were the AD Census 2011 objectives for QA?</i>	<p><u>Leading up to the Data Collection</u></p> <ul style="list-style-type: none"> • Certify that processes are in place and are valid for key decision making regarding options at critical milestones. • Certify & monitor that evidence is being captured to enable the above processes to work at the right time and in an informed way • Report regularly, primarily against exceptions and emerging risks to quality, to the Director-General and the Census Manager (and the Project Management Support team) and the Abu Dhabi Census Project Committee. <p><u>During the Data Collection</u></p> <ul style="list-style-type: none"> • Seek and document evidence to be captured for a future 2011

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	<p>SCAD Census evaluation and a Lessons Learnt session</p> <ul style="list-style-type: none"> Report regularly on risks to quality to the Director-General and the Census Manager (and the Project Management Support team) and the Abu Dhabi Census Project Committee.
<i>What went well (the good things) for QA leading up to the collection phase (after the pilot) and during the collection phase?</i>	<ul style="list-style-type: none"> The QA team was small and effective and independent of the process and management. They were consistent with weekly reports. They provided a communications vehicle to senior Census management re: quality of the processes and effectiveness of planning. The reports had some influence (also see negative below).
<i>What did not go well (the bad things) for QA leading up to the collection phase (after the pilot) and during the collection phase?</i>	<ul style="list-style-type: none"> The reports were not as influential as they could/should have been. The QA team was unsure if people were reading them. The weekly reports should have been in Arabic as well as English from the beginning. The reports weren't in Arabic until August (the reports began in early July). The QA team ended up doing some project management (i.e. HR recruitment) in order to help progress and encourage teams to make and then meet targets. This precluded total independence which is ultimately desirable in a QA team. The QA team and work were not as visible as it should have been.
<i>What are the most important lessons for QA?</i>	<ul style="list-style-type: none"> Bi-lingual weekly reports are essential. There is a greater chance of understanding and interest if the reports are in both English and Arabic.
<i>What will QA do differently for the next Census (2016)?</i>	<ul style="list-style-type: none"> Provide all weekly reports in Arabic. Be a part of the process from the beginning stages of the planning. Have the mandate/authorization from the DG.

Project Steering Committee (PSC) Lessons Learnt	
<i>What were the AD Census 2011 objectives for PSC?</i>	<ul style="list-style-type: none"> Develop the strategic plan which aimed to improve the level of project work, assign tasks and insure the implementation on time. Identify, track ,manage and resolve any problems that affects the workflow, including the potential risks of project Adopt the technical standards and guidelines of the best practices in survey methodology, including the aspects of quality, followed processing and control of data confidentiality
<i>What went well (the good things) for PSC leading up to the collection phase (after the pilot) and during the collection phase?</i>	<ul style="list-style-type: none"> Train SCAD staff with general tasks of census in the aspects of planning and implementation. This can be achieved by their affective participation in census work and acquire the necessary experience to conduct the statistical field work surveys Document the quality of processes and procedures for each project step and define its impact on the final output Strong communication among all teams, each team has to achieve its assigned tasks and to follow all the required administrative standards in order to ensure the smooth progress of project workflow
<i>What did not go well (the bad things) for PSC leading up to the collection phase (after the pilot) and during the collection phase?</i>	<ul style="list-style-type: none"> Limited benefit from pilot experience and not as expected because the concentration was only on the logistics and technical aspects. A lot of changes which affected the project such as: <ul style="list-style-type: none"> Delay in receiving GIS database and requested photographs (maps) from other agencies Shortage in recruiting the required number of enumerators Delay in the process and mechanism of updating the buildings and houses which were not covered in previous phases. This

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	<p>update was very important in phase 3.</p> <ul style="list-style-type: none"> ○ Delayed in design the required process of technical programs ○ The structure of designed database was not clear enough to proceed with the needed review (in office and field)
<i>What are the most important lessons for PSC?</i>	<ul style="list-style-type: none"> ● Allocate enough time for each stage and consider the time needed for emergency. ● Extend the training (theoretical and practical) for all employees to increase their capabilities to achieve their assigned tasks. ● Test all programs and allow sufficient time for note and edits.
<i>What will PSC do differently for the next Census (2016)?</i>	<ul style="list-style-type: none"> ● Benefit from the available administrative registers database in Government Agencies such as the Identity Authority, Ministry of Interior to conduct the next census. This will be by updating those administrative registers and adding some question to meet the statistical needs.

Technical Committee Lessons Learnt	
<i>What were the AD Census 2011 objectives for the Technical Committee?</i>	<ul style="list-style-type: none"> ● Provide technical consultation to the Project Steering Committee and the Project Manager in censuses in accordance with best international practices. ● Work proactively to identify technical issues that affect the quality of census results and propose appropriate solutions. ● Support branch managers and call centres by responding to technical questions. ● Conduct quality assurance procedures relevant to statistical outputs. Plan projects and prepare project implementation schedules. ● Regularly evaluate and follow up the quality of the collected data as well as coverage rates. ● Review and transitionally approve of micro and macro processing, auditing and coding outputs. ● Review and approve technical circulars to standardise the statistical concepts and terminology used for the census project and submit them to the Project Manager. ● Review and approve final output before it goes to Project Manager.
<i>What went well (the good things) for the Technical Committee leading up to the collection phase (after the pilot) and during the collection phase?</i>	<ul style="list-style-type: none"> ● Good advice and support was provided to field team. ● Good communication with other teams (Methodology, IT, Call Centre, Fieldwork team...etc.). ● Provided solutions for any technical issues such as, definition, classification and coverage rules. These will enhance the quality of the data collection. ● Resolved some big problems in the field. Because training was not enough, a number of significant issues were raised by Field staff. The Technical Committee developed the guidance and has summarized all issues raised during the collection and the related resolution. ● Reviewed the results from Fieldwork. The macro and micro-editing team used to send daily information to the Technical Committee to be reviewed technically. Accordingly, the Technical Committee was issuing the technical circulars to resolve any particular technical issue (for example, when high numbers of responses had nationality missing and when servants with were being incorrectly identified as UAE nationality). ● Sent an early warning to steering management to highlight the potential technical issues in order to take the appropriate decision to mitigate and avoid those issues. In addition, the Technical

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	<p>Committee escalated all the technical issues faced by other teams to Project Steering Committee.</p> <ul style="list-style-type: none"> • Provided regular reports to the Project Steering Committee which indicated the issues and its impacts. • Overall, the Technical Committee supported the project manager in technical issues. • Consistent with the international recommendations related to the population censuses implementations. • Committee members had worked in perfect cooperation so as to unify all their technical decisions. • All technical explanations and received questions which were received from Fieldwork, discussed by all members of the Technical Committee.
<p><i>What did not go well (the bad things) for the Technical Committee leading up to the collection phase (after the pilot) and during the collection phase?</i></p>	<ul style="list-style-type: none"> • Spent time to answer a lot of questions (should be explained in Training). • The formation of the Technical Committee was late. • There were different streams of data (survey, admin, refusals, islands, call centre, babies, 3 streams in the paper forms, etc.) which were needed to be integrated into one stream. The Dashboard was representing the database of households only. Accordingly, there was not enough visibility on other databases. • The Technical Committee did not include any member of other teams such as Field, IT (a member of IT was supposed to have been on the committee), Quality Assurance, etc. Accordingly, all aspects of technical quality were not fully covered. • No reports from field work • Some issues were resolved without guidance from the Technical Committee. For example the Manazel Project (Al Reef) was collected on forms and not iPads. There were a number of technical issues relating to buildings and locational data. • Some individual members of the Technical Committee were called upon to resolve many data entry and forms issues. These would have been best resolved by the entire committee. These were also raised too late for good resolution e.g. boxes of forms with origin unknown.
<p><i>What are the most important lessons for the Technical Committee?</i></p>	<ul style="list-style-type: none"> • Documentation of unusual cases is important as a Field resource. • Training design need to be reviewed and approved technically by the Technical Committee in order to reduce the potential technical issues. • The comparison between FUP2 and FUP3 was difficult. This was because different definitions were used in both phases.
<p><i>What will the Technical Committee do differently for the next Census (2016)?</i></p>	<ul style="list-style-type: none"> • Documentation of unusual cases is important for the training. • Technical committee should include members from field, IT, Quality Assurance, Methodology, etc. • Form the Technical Committee at the beginning of the project and to be involved in all technical aspects of the project such as, design, training, etc. • Develop an automated process between the Technical Committee and other teams. • Full monitoring was on the data quality so during the next census there should be more concentration on daily reports from Fieldwork management to monitor the daily work progress and issues arising in data management and data entry.

Training Lessons Learnt	
<i>What were the AD Census 2011 objectives for Training?</i>	<ul style="list-style-type: none"> • To provide and facilitate the training needed to achieve the success of AD census 2011. This will be done through a training section perspective that aims to evaluate the capabilities and capacity of SCAD training. • To organise and prepare the controller/sub-controller and enumerator (Fieldwork) trainings. • To evaluate the capabilities and capacity of the Fieldwork training.
<i>What went well (the good things) for Training leading up to the collection phase (after the pilot) and during the collection phase?</i>	<ul style="list-style-type: none"> • There was good support from senior management. • Teams worked together to solve the problems and persevere despite the lack of planning.
<i>What did not go well (the bad things) for Training leading up to the collection phase (after the pilot) and during the collection phase?</i>	<ul style="list-style-type: none"> - <u>Overall</u> <ul style="list-style-type: none"> o Teams were very busy and had many tasks. This affected deadlines and the milestones. The census was too rushed. Planning and preparation should have started much earlier (a year out for example) to provide more time for execution. - <u>Training:</u> <ul style="list-style-type: none"> o Updating the attendance sheet on a daily basis was a waste of time and effort. Attendance should have been tracked by the finger print machines. o It was difficult for Training to provide urgent reports due to shortage of staff and other commitments o Throughout the Census, Training had a staff shortage. o Late approval of plans from management and late decisions affected everything. o Training, IT, Methodology, GSS and Field could have worked better together particularly around timely communications, meeting deadlines, and making timely decisions. o The training venues were selected too late. o The training venues were too big and there were too many people attending at one time. It was hard to control them and give them the proper training they required. There was a lot of confusion and disorganization. o Training should have not occurred during Ramadan or summer. - <u>Field work:</u> <ul style="list-style-type: none"> o Late in providing the lists of employees so they could be contacted and dispatched to the training o Information was gathered from different sources which either provided Training with the wrong information or unclear information to disseminate and/or implement o School Managers did not know about the attendance template Excel spreadsheets and were therefore filling out different sheets. The template should have been used and not altered. o Communications across Fieldwork and Training was not timely nor was some of it cascaded down to staff. - <u>GSS:</u> <ul style="list-style-type: none"> o Work areas and all the requirements should be provided before the

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	<p>Training begins.</p> <ul style="list-style-type: none"> ○ There was a problem with the budget therefore catering was basic. ○ They were helpful in organizing schools but they were not delivering the required materials on time as planned. For example, the distribution of the materials to trainees. <p>- <u>IT</u>:</p> <ul style="list-style-type: none"> ○ The Back office report did not reflect the efficiency and effectiveness of the attendance to submit it for payroll. The format did not match what was required for payroll purposes. Accordingly, the PMS team helped.
<p><i>What are the most important lessons for Training?</i></p>	<ul style="list-style-type: none"> ● All material should be allocated in each school before Training begins. ● Schools preparations should be ready one month prior to the kick off project. ● Candidates' names should be sorted to schools before Training begins. ● Prepare all maps from GIS and IPADs from IT before training.
<p><i>What will Training do differently for the next Census (2016)?</i></p>	<ul style="list-style-type: none"> ● Carefully plan the training to occur well in advance of the beginning of the census collection. Training during Ramadan or summer is not optimal. The timing of the census is important. ● Utilize the fingerprint devices for time attendance -- this will dramatically save time and efforts. ● Create an email or a share folder so that HR, IT, Training and Fieldwork will get the same information at the same time, e.g. as attendance sheets, materials. ● Print all materials from Communications in advance. ● Get lists of the candidates in advance. ● Arrange for the catering in advance and know what the budget is for ordering purposes. ● Training facilities should be provided at least one week before the activity begins in order to prepare (catering, check the attendance system, etc.). ● Stage a rehearsal of the training in each facility before it officially starts. ● Provide training and testing scenarios. They are mandatory and necessary. ● Coordinate with HCT to mark the exams directly after the exams. ● Set a specific exam schedule for each auditorium. The schedule should not change and be adhered to. ● Get the questions from Fieldwork on time and prepare exam versions before the training starts. ● The printing should be outsourced and better planned. The number of copies to be printed should be known beforehand. ● Communication should improve for 2016. Before and during the data collection phase, timely communication between teams was not as effective as it should have been. More official emails to know what is required, what the deadlines are and any decisions made are necessary. ● Each meeting should have minutes taken and those minutes should be forwarded it to all team members not only to those who attended. ● Demonstrations of how to use the electronic exam should be mandatory for IT and Fieldwork.

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- The Trainers who train the trainees should be under the training section. This will ensure that the training system (preparation of schedule, exams and materials, and sourcing of training venues, etc.) is organized and executed well and must have presentation skills.