Keynote Speech
for the International Seminar on
Population and Housing Censuses in a Changing World

Seoul, South Korea
November 27–29, 2012

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Good morning.

Thank you, Keiko, for the kind introduction. I would also like to thank Commissioner Woo for your inspiring opening remarks and your warm welcome to South Korea.

I want to thank Statistics Korea, KOSTAT, and the United Nations Statistics Division for organizing this seminar.

Opening

I'm honoured to represent Canada today at this international gathering of census experts. And I'm so pleased for the opportunity to offer my perspective on population and housing censuses in a changing world.

On every continent, population mobility, the state of housing, and the many changes in society and technology are driving the rapid evolution of census programs, the kind of data we gather, and how we measure it.

We all have a common goal: to continually improve the value of our censuses for our governments, researchers, and all our citizens, no matter where they live.

Many countries are assessing new methods of census-taking. They're doing this because traditional methods are becoming less and less affordable, the need for publishing data on a wide array of topics is growing, users want information more frequently; and in some countries, the ability to reach and/or engage respondents is becoming an increasing challenge. .

Value of Census in Canada

I couldn't describe the value of the census in Canada much better than Statistics Canada's 2006 Census Manager, and a former colleague of mine, Anil Arora.

He said, "In Canada…the first and foremost objective of the census is to get a good portrait, a good picture of how a country is evolving and changing. The second is to measure how funds and taxation are spread across this country. And, the third relates to the delivery of a number of programs—at federal, provincial, territorial, and municipal levels."

Statistics New Zealand provides this concise description of the census for their country, "Census data underpins effective and efficient allocation of government funding; provides unique information for monitoring small populations and localities; and supports future planning at a national, regional and local level."

Statistical organizations around the world look to the census to accurately measure and report on the state of the population to support planning and decision-making at all levels.

Canada's decision-makers rely on census data to plan, develop, monitor, evaluate, and make recommendations on programs for our people.

At the federal level, census data help the government make funding and policy decisions. This data helps ensure that programs are designed to benefit even the smallest geographical areas, and the sub-populations who live there. They could be single parents or large families, Inuit communities in the North, First Nations people on or off reserve, new immigrants, or people living in lower socio-economic conditions.

Canada's provinces and territories rely on census data to plan and deliver education, health, and judicial programs. Municipalities, or the communities within them, use census data to plan emergency services and transportation systems. And we all know the value of census for such purposes, as it provides accurate information at the very smallest geographical location.

All levels of government need to understand the characteristics of specific populations, and how these characteristics are changing. It is critical information for developing or adapting programs to benefit the greatest number of people. I'm sure your countries rely on census data for much the same reasons.

Today, our populations demand that programs and services be delivered efficiently, to the right people, and in the right places.

Using census data to help target programs and services sounds like a modern idea, but we all know that censuses have been conducted for centuries.

Now, if I may, I'd like to share the story of how Canada's census has evolved and demonstrate how change has been with us for centuries.

Evolution of the Canadian Census

Canada's first census was taken more than 340 years ago—long before we even became a country.

In 1666—almost 200 years before Confederation—Jean Talon, the most senior public servant in the colony of New France, commissioned the first census. Monsieur Talon braved the winter snow alone, travelling on horseback door-to-door to collect data on people and their possessions, much like the censuses or social and business surveys that we conduct today.

The colony's thirty-two hundred French inhabitants were counted—their age, sex, marital status and occupation. Conducting his own data analysis, Talon learned that men in the colony outnumbered women about two to one. Back then, one of the key points of his policy advice to France was, "please send eligible young women." Louis the Fourteenth took his civil servant's advice, and sent about nine hundred single women to the colony.

That gesture, and the economic measures recommended by Jean Talon, kick-started the colony's growth.

New France continued to conduct censuses over the next century, until the British conquest in 1760.

Some hundred years later, in 1867, Canada became a country through Confederation.

In 1871, the first census of the new country was taken. Its main purpose was to determine appropriate representation in the new Parliament. It was also the only means to collect information about every aspect of Canada's population and economy.

At that time, the census consisted of nine questionnaires with 211 questions. Enumerators brought questionnaires to every household to collect information on vital statistics, religion, education, land holdings, agriculture, and more.

Population questions looked at age, sex, religion, education, race, ancestral origins, and the occupation of each person. Much of this original census content remains a part of our modern census program. Fortunately, we have scaled back from the 211 questions!

In 1901, a wave of immigrants began flooding into Canada. Our need for information about them, and our need for better economic statistics were the catalysts for the *Statistics Act* of 1905.

When the Dominion Bureau of Statistics was created in 1918, it introduced other household and business surveys, which decreased the need for some of the Census Program content. By 1921, the Vital Statistics Program began gathering birth and death data from provincial governments, replacing the separate census questionnaire that had been used for that purpose. And thus, the beginning of the use of existing administrative data to replace census content.

After World War Two, large population movements among the provinces and into urban areas created more regular demands for information on our population.

So, in 1956, The Dominion Bureau of Statistics carried out the first, nation-wide, quinquennial census program.

In 1971, Canada's new *Statistics Act* made it a legal requirement for the bureau—then renamed Statistics Canada—to hold censuses of population and agriculture every five years.

Comprehensive data was collected from all Canadian households prior to the introduction of a "short form" Census in 1971. Beginning that year, the short form Census, which contained only selected questions, was distributed to approximately 67 percent of households. The remaining households received the "long form", which contained the full complement of questions.
In 1981, the sample size for the long form was decreased to 20 percent of households.

In 1996, the Census added new questions on Aboriginal identity and population groups to meet the information needs of our increasingly diverse population. Questions on mode of transportation to work were added to help us better understand our commuting patterns and our use of public transit. And, questions on household activities or unpaid work were also added to tell us more about the contributions of caregivers.

In 2001, the definition for common-law couples changed to include both heterosexual and same-sex couples. Five years later, same-sex marriages became legal in Canada. To reflect this change, the census counted same-sex married couples for the first time.

That same year, the wording of census questions and response categories began changing to reflect new social realities. For example, the definition of marital status was expanded to include five categories: legally married, separated but still legally married, divorced, widowed, or never legally married.

As the content of the census evolved, so, too, did the methodology for collecting data.

Since 2006, Statistics Canada has used a multi-mode delivery and collection process. Another major step forward, in 2006, was the introduction of the Internet response option. But this idea really found traction in 2011.

Statistics Canada has strongly emphasized the Internet collection method to maximize response and increase the efficiency of Census collection.

Also in 2006, for the first time, Canadians were given the option of granting Statistics Canada permission to retrieve income information directly from their tax records.

The citizens who did not select this option were required to provide income information on the census questionnaire.

The tax option was very popular, as over 82% of the population, aged 15 and over, agreed to this method that reduced respondent burden and improved the quality of the income information.

Last year, we mailed census packages to 80% of private dwellings. Of these, 75% received a letter only with an Internet access code. This approach was adopted to promote response via the internet. Even though these households did not receive a questionnaire, we did provide instructions on how to obtain a paper questionnaire if the respondent preferred to respond by paper. The letter, combined with subsequent reminders is called the 'wave methodology' which resulted in an Internet response rate of over 54 percent, up from 18 percent in 2006. There is no doubt, this was an extremely successful approach for us in Canada. Canadian citizens have spoken: the Internet is now the primary response choice for our Census Program.

2011 Census Program and Beyond

In 2011, Canada introduced a voluntary survey to replace the long-form census.

Called the National Household Survey, it covered most of the same topics as the 2006 long form, and was distributed to 30 percent of Canadian households.

As I mentioned earlier, Statistics Canada introduced a new, cost-effective 'wave' collection methodology to promote self-response to the census and to the voluntary survey.

Not only did we reach a 54% response rate, we also saw an unprecedented self response rate of 84% on the Census. Despite the success of the wave methodology and the internet response, the voluntary National Household Survey however, did not achieve the same level of response as the 2006 mandatory long-form.

As is customary, Statistics Canada reviews and evaluates the successes and lessons learned from each census cycle. In light of the changes introduced to the 2011 Census Program and changes to census-taking approaches internationally, Statistics Canada launched the 2016 Census Strategy Project in December 2010.

The objective of the project was to study methodology options, and evaluate if other approaches deployed internationally would comply with Statistics Canada's mandate and whether they would be well suited to the Canadian context.

We know that some countries are in the process of adapting their census approach in response to various drivers of change, which include

- costs
- quality of information
- privacy concerns
- technology
- decreasing participation
- availability of alternative information sources, and
- a strong demand for information on a more frequent basis.

These catalysts for change are the same in many countries.

However, we know that, before we even consider changing our census program, we must research and fully evaluate our options and, most importantly, test the options to ensure they are suitable for our needs.

The Census: Three Different Approaches

From our research project, we believe there are three basic approaches to census-taking.

The **first** is the '**traditional census**' that has been deployed in Canada since the days of Jean Talon. Simply put, it's an enumeration of the entire population at a specific point in time.

However, a 'traditional' census can take on many forms: for example, some countries use questions that are only administered to a subset of the population, other countries provide respondents with the option of using administrative information to replace information collected directly from the household. Others, such as Poland and Brazil, use a paperless census and a full door-to-door enumeration.

According to a United Nations Statistics Division survey conducted in 2011, 83 percent of the 109 responding countries use the traditional census.

In 2010, Thailand used the traditional approach, with multi-modal data collection methods, and a combination of self-enumeration and interviewer enumeration.

Australia, one of the few countries along with South Korea, Japan, Canada and New Zealand that still conducts a quinquinniel census, is investigating an approach similar to Canada's 2011 Census; in particular, the option of using centralized mail-out and implementing a wave methodology.

Several factors are at play when a country is thinking about changing a census model or its frequency. The rapid pace of change in alternative data systems, and a lack of clear evidence with which to make long-term decisions, causes considerable uncertainty.

In the United Kingdom, the Office for National Statistics has run a decennial census for that past 200 years. Now, it is investigating alternate options for producing census data with its 'Beyond 2011' programme. The incentives for change relate to budget constraints and the demand for more frequent, detailed, and accurate statistics.

The United Kingdom government has ruled out a formal national population register or the use of a national unique personal identifier, so the Office for National Statistics is focussing research on options for producing population statistics from existing administrative data. In 2014, The Office for National Statistics will make recommendations for the future, based on the feasibility of potential options, and a full understanding of user requirements and public burden.

The **second** most common census approach is the **register-based census**, which uses information from administrative registers and administrative data sources. Scandinavian countries and, increasingly, European countries, follow this approach.

In 2010, Singapore used a register-based approach to gather basic population counts and characteristics. More detailed information from a sample of 200,000 households complemented this information. An advantage of this approach is that census information can be produced with increased frequency.

India is also in the process of evaluating the possibility of replacing traditional face to face interviews using paper questionnaires Information collected during the 2011 Census will be used by the Unique Identification Authority of India to develop the National Population Register, which will be used to issue national identity cards to the entire population, over the next several years.

India is considering the potential role of the National Population Register in future Indian censuses.

Over the past decade, both the United States and France have changed their census model to address the problems associated with the long intervals between their censuses.

This brings me to the **third main approach** to census-taking: **the continuous measurement approach**, which involves regular sample surveys of the population.

Until the year 2000, the United States Bureau of the Census used both short and long form questionnaires. That same year, it pilot tested the continuous measurement approach as a replacement for the traditional decennial, long-form census. It evaluated the feasibility of this approach from both an operational and methodological perspective, and compared the quality of the data produced with that of the 2000 Census long form.

The survey was successful on both counts and, in 2005, this approach was fully implemented. The American Community Survey was developed over 18 years, from the research proposal stage to the first publication of five-year estimates in 2010.

The United States continues to conduct a short form census using traditional methods every ten years.

In 2002, France passed legislation to pave the way for using the rolling census, particularly to establish, on an annual basis, the legal populations of its various administrative units. The rolling census took 12 years to develop, from the initial proposal stage to the first full production of results. It is still new and evolving, although it has achieved its primary goal to produce data on a more regular basis.

Conclusion

We are living in a time when information is available in an instant and, as a result, change is also happening quickly. Change is not a new development – what is new, is the accelerate pace at which change is occurring and the global impact of this change.

Given increasing labour mobility, we need accurate and consistently measured estimates of population flows—both between and within countries.

We have a growing thirst for social and demographic data and, in particular, data that can be segmented to different levels of geography.

And our growing concern over the protection of privacy, and the role that census content and how we collect it, play a role in creating a perceived intrusion. This concern is influencing the content and methodology of the census.

What we have seen through our dialogue and research is that all countries with a census program face challenges. The second common thread is that each and every country has responded to these challenges with innovative solutions that meet their unique legislative and policy frameworks.

In addition, each country has varying access to technology, administrative data, and civil registers. And, where administrative data does exist, the question of quality remains an issue. Many countries using administrative data do so in combination with sample surveys.

What we have also learned over the years is, to navigate change with success, we need time to assess, plan for, and mitigate the risks that accompany change.

We must consult our counterparts in the international statistical community to help inform our decisions and to share what we have learned. At the same time, we must consult our own data users and policy-makers to ensure they understand the trade-offs, and that we clearly understand their priority information and data needs.

It's critical that data users and providers support our decisions, and that they become ambassadors for the value of the census in their respective communities. Perhaps the most important thing we must keep in mind is to ensure we maintain data standards that support both individual needs and the different legislative and policy context in which each of our countries works.

Although societal and technological changes have transformed what we collect and how, changes in census methodology have been more constant. For most of us, our focus has been on improving collection, processing, quality, and measurement of data.

As countries continue to introduce innovations in technology and improve collection methods to increase the efficiency of conducting a census, new challenges will emerge. We must constantly be prepared to adapt and change.

For example, in Canada, the introduction of the wave methodology was a huge success – it boosted self response as well as internet response. However, the initial contact with Canadian households was dependent on our national postal system. During our collection phase of the 2011 Census Program, we experienced a labour dispute with postal workers. Although it did not affect our initial Census mail out and reminders, it did have a negative impact on the reminder mail outs for the National Household Survey. As we look forward to 2016 and beyond, we also know that more and more Canadian households are moving away from the traditional mail delivery. So the very foundation of our successful innovation in 2011 is already at risk. As a result, we must work with our private sector partners and international colleagues to explore further innovations such as electronic postal services and pre-registration to mitigate our risks, increase our internet response and maintain the quality of our census program.

As we move forward, we will need to continue to focus on data quality, respondent burden, and the demand for more frequent information. As societies evolve, we are also faced with challenges regarding privacy and decreasing participation in the census.

It is becoming more difficult to categorize census approaches, given the number of different methods used. The various approaches adopted world-wide are introducing complexities in terms of data comparability and in developing standards regarding census content and dissemination. .

For all of us here today, we continue to share one common objective: to produce high-quality data that respects our legislative framework, that is relevant to our users and operations that are delivered in the most cost effective way possible.

Given that our census programs will continue to evolve, we must continue to respond to these changes by making good decisions. These decisions should reflect

innovative solutions to reduce costs and reduce respondent burden, without sacrificing data quality. They should strike the perfect balance between data relevance and privacy concerns.

We know what we have to do. We must nurture our partnerships to meet the census challenges of the 21st century. We must continue to innovate and take calculated risks. When an approach does not work the way we had planned, we must learn. We must learn from our mistakes as well as our successes. And we must share these lessons.

I'm certain with continued collaboration we will collectively and strategically plan improvements to our future census programs….and the future begins today!

In closing, I would like to leave you with the following thought:

'To accomplish great things we must not only act, but also dream; not only plan, but also believe.'

Thank you.