

48^{ème} session de la Commission de statistique des Nations Unies

Mégadonnées provenant de sources traditionnelles

Sauvegarder et partager la mémoire des données démographiques en Afrique francophone

Événement en marge de la commission - jeudi 9 mars 2017
13 h 15 - 14 h 30

Salle de conférence A, Siège de l'ONU, New York

Contexte

Le terme «Mégadonnées» est à la mode dans la communauté démographique d'aujourd'hui, souvent liée à de nouvelles sources de données telles que l'imagerie satellitaire, les réseaux sociaux ou les téléphones mobiles. Les sources de données traditionnelles ont reçu moins d'attention. Cette manifestation parallèle organisée par la Division de la population des Nations Unies présente des projets qui produisent des mégadonnées provenant de la collecte, de la préservation et de la numérisation des données du recensement et des enquêtes.

L'événement

L'objectif est de partager et discuter des efforts pour compiler, numériser et élargir l'accessibilité aux données démographiques dans le temps et à travers les pays, en mettant l'accent sur l'Afrique francophone. Les conférenciers présenteront des activités de projet qui s'appuient sur des réseaux de chercheurs travaillant sur la démographie africaine pour intégrer et systématiser les données et tabulations démographiques et numériser les recensements. Les moyens que la communauté statistique élargie peut utiliser et contribuer à cette masse croissante d'informations empiriques seront mis en évidence. La participation de l'auditoire est vivement encouragée.

Intervenants

Modérateur: Patrick Gerland, Division de la population de l'ONU, Département des affaires économiques et sociales (DAES)

1. Richard Marcoux, Directeur de l'Observatoire démographique et statistique de l'espace francophone (ODSEF), et Laurent Richard, chercheur, de l'Université Laval (Canada), avec Assa Gakou-Doumbia, Chef de Département des Statistiques Démographiques et Sociales de l'Institut National de la Statistique du Mali: **Sauvegarde du patrimoine démographique: l'exemple des recensements en Afrique francophone** (<http://bit.ly/2leSNMO>)
2. Lara Cleveland, chercheuse, responsable d'IPUMS-International, Université du Minnesota: **Préserver les données et faciliter leur accès: l'IPUMS et ses partenaires des Bureaux nationaux de statistique** (<https://international.ipums.org>)



Big data from traditional sources

Preserving and sharing the demographic data records in francophone Africa

Side Event Thursday 9 March 2017

1:15 p.m. – 2:30 p.m.

Conference Room A
UNHQ New York

Background

'Big data' is a buzzword in today's demographic community often related to new sources of data such as satellite imagery, social networks or mobile phones. Traditional data sources have received less attention. This side-event organized by the United Nations Population Division presents projects that produce big data from the compilation, preservation and digitization of census and survey data.

The Event

The objective of the event is to share and discuss efforts to compile, digitize and expand accessibility to demographic data over time and across countries, with a special emphasis on francophone Africa. The speakers will present project activities that build on networks of researchers working on African demography to integrate and systematize demographic data reports and tabulations and digitize censuses. Ways that the wider statistical community can make use of and contribute to these growing bodies of empirical information will be highlighted. Audience participation is strongly encouraged.

Speakers

Moderator: Patrick Gerland, UNDESA Population Division

1. Richard Marcoux (Director, Demographic and Statistical Observatory of the Francophone, ODSEF, Canada) and Laurent Richard (University of Laval, Canada), and Assa Gakou Doumbia (Director, Department of Demographic and Social Statistics, National Statistical Office of Mali):

Saving demographic heritage: the census in selected countries of Francophone Africa (<http://bit.ly/2leSNMO>)

2. Lara Cleveland, Principal Investigator for IPUMS-International, University of Minnesota (Minneapolis, USA):
Preserving data and facilitating access: IPUMS and its National Statistical Office partners (<https://international.ipums.org>)



Biographies

Richard Marcoux

Richard Marcoux (PhD) est professeur en sociologie à l'Université Laval et ses travaux portent principalement sur les dynamiques démographiques et les changements sociaux en Afrique. Il est directeur de l'[Observatoire démographique et statistique de l'espace francophone \(ODSEF\)](#), notamment président de la Commission d'évaluation de l'Institut national d'étude démographique (INED) à Paris et siège sur plusieurs comités de rédaction et comités d'organisation de la recherche au Canada, en Europe et en Afrique.

Laurent Richard

Laurent Richard est professionnel de recherche à l'Université Laval. Il supervise la création et le fonctionnement des ateliers de numérisation de l'[ODSEF](#) en Afrique. Au cours des dernières années, Laurent a occupé la fonction d'analyste à Statistique Canada. L'analyse des données, les systèmes d'information géographique ainsi que les nouvelles technologies de l'information constituent ses principaux champs d'expertise.

Assa Gakou-Doumbia

Ingénieure des travaux statistiques, Assa Gakou-Doumbia occupe actuellement le poste de Chef de Département des Statistiques Démographiques et Sociales à l'[Institut National de la Statistique du Mali](#). Elle était notamment au cœur des travaux de collecte de données du tout dernier recensement du Mali, celui d'avril 2009 et elle supervise les travaux de sauvegarde des recensements du Mali de 1976, 1987 et 1998.

Lara Cleveland

Lara Cleveland (PhD) est co-responsable pour l'[IPUMS-International](#) et gestionnaire de projet pour les deux projets de recensement internationaux du Centre de Population du Minnesota (MPC): IPUMS International et le [Projet de population de l'Atlantique Nord \(NAPP\)](#). Elle a plus de 10 ans d'expérience en intégration de données au MPC, les 7 dernières années travaillant sur IPUMS-International. En tant que chef de projet, Lara dirige une équipe de professionnels et de chercheurs étudiants diplômés dans des activités liées à la qualité des données, à l'intégration, à l'analyse et à la documentation. Lara est titulaire d'un doctorat en sociologie de l'Université du Minnesota, où elle a étudié les méthodes quantitatives et la sociologie du droit et des organisations. Elle a publié des articles sur la qualité des données, la confidentialité et l'intégration des données.

Patrick Gerland

Patrick Gerland (PhD) est Chef de la Section de la Mortalité de la Division de la Population des Nations Unies et a plus de 25 ans d'expérience dans le domaine des statistiques démographiques internationales, de la collecte/gestion/analyse des données et du renforcement des capacités IT / SIG dans les pays en développement, ainsi qu'en terme de recherches méthodologiques sur les estimations et projections démographiques. Parmi les activités liées à la Révolution des données, il préside le [panel scientifique de l'UIESP sur les innovations pour renforcer les systèmes d'enregistrement des faits d'état-civil et leurs statistiques](#).

Biographies

Richard Marcoux

Professor Richard Marcoux (PhD) is a social demographer with a longstanding interest in studying population dynamics and social changes of African societies. He is the Director of the [Demographic and Statistical Observatory of the Francophone \(ODSEF\)](#) at Laval University, President of the Evaluation Commission of the French Institute for Demographic Studies, on the editorial board of several scientific journals and on the organisation committees of major scientific research projects, mostly in Canada, Europe and Africa.

Laurent Richard

Laurent Richard is a research assistant at Laval University. He oversees the planning and operation of [ODSEF](#) digitization workshops' in Africa. Among other things, he also ensures the development and management of ODSEF Web content's. In recent years, Laurent has served as an analyst at Statistics Canada. His main areas of expertise are data analysis, geographic information systems and new information technologies.

Assa Gakou-Doumbia

Statistical engineer, Assa Gakou-Doumbia holds the post of Head of the Department of Demographic and Social Statistics at the [National Institute of Statistics of Mali](#). In particular, she was involved in the data collection work of the most recent census in Mali (April 2009), and she oversees the work to safeguard the Mali censuses of 1976, 1987 and 1998.

Lara Cleveland

Lara Cleveland (PhD) is co-Principal Investigator for [IPUMS-International](#) and Project Manager for the Minnesota Population Center's two international census projects: IPUMS International and [North Atlantic Population Project \(NAPP\)](#). She has more than 10 years' experience in data integration at the MPC, the past 7 years working on IPUMS-International. As Project Manager, Lara directs a team of professional staff and graduate student researchers in activities related to data quality, integration, analysis and documentation. Lara holds a PhD in Sociology from the University of Minnesota, where she studied quantitative methods and sociology of law and organizations. She has published in the areas of data quality, confidentiality, and data integration.

Patrick Gerland

Patrick Gerland (PhD) is Chief of the Mortality Section of the Population Division of the United Nations, and has more than 25 years of experience working on international demographic statistics, data collection/management/analysis and IT/GIS capacity-building in developing countries, as well as methodological research on demographic estimates and projections. Among several activities related to the Data Revolution, he chairs the [IUSSP scientific panel on Innovations for Strengthening Civil Registration and Vital Statistical Systems](#).



Safeguarding the heritage of the Francophone population

Tasked with preserving the demographic memory of Francophone populations worldwide, **Professor Richard Marcoux** describes the challenges of digitising census archives and the importance of studying linguistic dynamics

Why is the heritage of the Francophone population under threat, particularly in African states?

Censuses, particularly in Africa, are often the only written traces of the many social and economic characteristics of the individuals who make up a given territory's population at a certain point in time. These data form the demographic memory of the individuals in a collective group and, as such, represent a high cultural value. Censuses are also costly operations, which is especially important in the African context, and thus we should carefully preserve the information collected.

In the past few decades, data storage technologies have evolved at such a rapid pace that, quite often, the digital data from earlier censuses have now been completely lost. Most French-speaking African countries have paper archives of census documents, but, of course, paper documents collected in the 1970s and 1980s aren't always stored in proper conditions and are under threat from fire, bad weather, vandalism, vermin, competition for storage space and so on.

Could you introduce the Demographic and Statistical Observatory of the Francophone (ODSEF)?

ODSEF was set up in Quebec in 2009, following the signing of a protocol between the Government of Quebec, International Organisation of the Francophonie (OIF), Francophonie University Agency and Laval University.

The first objective of ODSEF is to take steps to both preserve and promote the demographic

heritage of French-speaking states, at a time when the heritage of certain African countries faces serious threats. The second objective is to support all initiatives seeking to get a deeper understanding of the place occupied by the French language, not only within French-speaking populations, but elsewhere as well.

How is ODSEF working to safeguard Francophone heritage?

So far, two digitised workshops have been created: one in Bamako, Mali, and one in Kinshasa, Democratic Republic of the Congo (DRC). Mali's 1976, 1987 and 1998 census forms have been digitised, as well as the 1984 census in DRC, which is the only scientific census for this country.

Overall, what progress has this initiative made so far with its research endeavours?

We can be extremely proud of what we have achieved so far, knowing the multiple challenges we faced. Of course, there are a lot more census forms that are waiting to be digitised in numerous African countries. One of our next objectives is to create new census micro-datasets from the digitised images, providing the opportunity to investigate complete datasets and better understand sociodemographic trends over a medium- to long-term period.

ODSEF and its partners, particularly OIF, have made great progress in estimating the number of French-speaking people in the world. All researchers who have tried to take on this challenge in the past know this is not a trivial undertaking.



A race against time to preserve demographic heritage

In challenging environments and working to strict deadlines, the **Demographic and Statistical Observatory of the Francophone**, Canada, is pioneering a programme to digitise and preserve archives of census data in Mali, the Democratic Republic of the Congo and other French-speaking African nations

AT THE END of the 1960s, the UN Population Fund set up the African Census Analysis Project, which empowered 20 countries on the African continent to organise their first general census and thereby gather data required to develop robust public policies. The problem was that this collection of valuable census data was not accompanied by any real strategy to preserve the information collected. Now, the census archives of many African nations, together with the demographic heritage contained within them, is at risk.

In addition to the challenges of storing such vast paper archives in sometimes extreme environments (heat, humidity, pests etc.), the actual space that the archive occupies can also be at risk; sometimes, paradoxically, due to future censuses. For example, in 2007, Mali's archives director was concerned about finding storage space for more than five million A3-sized documents from the 2009 census, and one of the options under consideration was to destroy the documents from the 1976 and 1987 censuses to free up the required space.

PRESERVING PAPER ARCHIVES

It was with this in mind that the Demographic and Statistical Observatory of the Francophone (ODSEF), directed by Professor Richard Marcoux, together with its partner the International Organisation of the Francophonie, set up a digitisation workshop to preserve the archived 1976 census data in Mali.

The process of preserving the paper archives involves four steps: extracting a document from the archives, preparing the document (dust removal and cropping paper to A3 size), digitising the document (using an automatic sheet feeder), and returning the document to storage. Well-trained local workers are responsible for managing the entire workflow, keeping appropriate data backups and creating weekly reports. "Most of the challenges are about operating technical equipment in a particular environment," Marcoux explains. "In tough conditions [such as heat, dust, humidity and fluctuant power], computers, digitisers and hard disks need more maintenance than usual."

Over four years, in Mali and in DRC, more than 14 million images (A3 size, in colour and at a resolution of 150-300 DPI) were created, taking up about 10 terabytes. Overall, the sociodemographic data of more than 56 million

individuals were preserved, and the programme was declared a success.

ENABLING NEW RESEARCH ON CENSUS DATA

In addition to preserving census data, ODSEF has also been instrumental in studying linguistic dynamics. Previously, the estimations proposed for the number of Francophones worldwide were widely criticised. ODSEF, employing its academic networks in Africa, Europe and North America, facilitated the inclusion of multiple data sources in the calculation, including censuses, major surveys, polls and informed local observers. However, the challenge of estimating the number of Francophones remains dependent on the availability of reliable data and, most of the time, choices have to be made about which sources to include. ODSEF therefore developed a list of ordered criteria, and the final decisions on these inclusion criteria are both well documented and publicly available.

ODSEF has also given many researchers the opportunity to analyse the census information from their respective countries. As a result, many new reports have been written on census data from Francophone countries, including Benin, Burkina Faso, Cameroon, Congo, Niger, Mali, Senegal, Tunisia and Vietnam. Yet there is still a lot to discover, and ODSEF is committed to helping statistical agencies make best use of census data and take language questions into account in their surveys and censuses.

"Over the coming years, ODSEF will continue to work with its institutional partners at both national and international levels to preserve census data and extend the current programme to some 20 other French-speaking countries," concludes Marcoux.

DEMOGRAPHIC AND STATISTICAL OBSERVATORY OF THE FRANCOPHONE

OBJECTIVES

- To both preserve and promote the demographic heritage of French-speaking nations
- To help other initiatives seeking to advance knowledge on French-speaking populations and languages dynamics

PARTNERS

Members of the Demographic and Statistical Observatory of the Francophone (ODSEF) Scientific Committee:

Professor Danièle Bélanger, Department of Geography, Laval University, Canada • **Professor Jean-François Kobiané**, Superior Institute of Population Sciences, University of Ouagadougou, Burkina Faso • **Professor Issiaka Mandé**, Department of Political Sciences, University of Quebec in Montreal, Canada • **Professor Marc St-Hilaire**, Department of Geography, Laval University, Canada • **Professor Cheikh Mbacké**, Visiting scholar, Laval University, Canada, and Thiès University, Senegal

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Laval University, Canada

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Director of ODSEF at Laval University, President of the Evaluation Commission of the French Institute for Demographic Studies, on the editorial board of several scientific journals and on the organisation committees of major scientific activities, mostly in Canada, Europe and Africa.



Québec



FRANCOPHONE POPULATION ESTIMATES

Recent ODSEF calculations estimate the number of Francophones to be 278 million in 2015, which is close to 4 per cent of the world's population. Based upon UN World Population Prospects, it is predicted that this number will increase to nearly 340 million in 2030 and to 430 million in 2050. Taking into account an expected improvement of schooling rate in some Sub-Saharan African countries, the number of Francophones could reach 400 million in 2030 and 535 million in 2050. Following this thread, an estimated 90 per cent of young Francophones (aged below 30) will live in Africa by the middle of the 21st Century.

