

Curriculum Vitae



NAME: Dr. Thomas Buettner

BORN: 15 October 1949 in Berlin, Germany,
married, one child, two grandchildren.

POSITION: Assistant Director of the Population Division, Chief of Population Studies Branch, United Nations Secretariat, Department for Economic and Social Affairs, New York (retired).

EDUCATION/TRAINING:

- Diploma in Labour Economics, College of Economics, Berlin, Germany, 1974
- PhD in Economics/Demography, College of Economics, Berlin, Germany, 1979
- Facultas docendi (Lehrbefähigung; teaching qualification), College of Economics, Berlin Germany, 1978
- DSc in Demography, Academy of Sciences, Berlin, Germany, 1986

POSITIONS AND EMPLOYMENT

1974-1983: Assistant Professor, College of Economics, Berlin, Germany
1983-1989: Head, Research Group "Forecasting of Demographic Systems", Institute for Sociology and Social Policy, Academy of Sciences, Berlin, Germany
1988: Professor of Demography at the Academy of Sciences, Berlin
1989-1991: Research Scholar, International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria
1992-1993: Population Affairs Officer, Mortality and Migration Section, Population Division, United Nations, New York
1993-2003: Population Affairs Officer, Estimates and Projection Section, Population Division, United Nations, New York
2003-2006: Chief, Estimates and Projection Section, Population Division, United Nations, New York
2006 - 2011: Assistant Director and Chief of Population Studies Branch, Population Division, United Nations, New York
2011-: Consultant to the United Nations, NGOs.
2014-2015: Lecturer at University of Rostock, Germany, Institute of Sociology and Demographic Research, Faculty of Economic and Social Sciences.
2014-: Short Term Employment at the World Bank for an assignment with the Development Prospects Group.

OTHER EXPERIENCE

- 1985 – 1988: Member, Informal Working Group on "Economic and Social Implications of Changing Age Distribution in Selected ECE Countries", Economic Commission for Europe, United Nations, Geneva, Switzerland.
- 1986 Consultant, Population Activities Unit, Economic Commission for Europe, United Nations, Geneva, Switzerland.
- 1990 Vice Dean, Young Scientists Summer Program, Institute for Applied Systems Analysis, Laxenburg, Austria.
- 2008/9 Lead Author, Knowledge Module 18 on Urbanization, Global Energy Assessment.

MEMBERSHIPS

- 1990– International Union for the Scientific Study of Population
- 1992– Population Association of America
- 2003–2012 Board Member, German Fund for World Population (Deutsche Stiftung Weltbevölkerung DSW), Hannover, Germany
- 2005-2012 Board member, Berlin Institute for Population and Development
- 2004-2006 Member of the IUSSP Panel on Urbanization.
- 2003-2008 Member of UNAIDS Reference Group on Estimates, Modelling and Projections.
- 2012- Member, Board of Trustees, Berlin Institutes for Population and Development
- 2014- Member, Board of Trustees, German Fund for World Population (Deutsche Stiftung Weltbevölkerung DSW), Hannover, Germany

HONORS

- 1986 Peccei Scholarship of IIASA

TEACHING AND TRAINING

- 1974-1982 Introduction to Demography; Demographic techniques, College of Economics
- 1984-1988 Supervising a team of young scientists in development of a computer-based workplace for sociologists, Academy of Sciences, Germany
- 2009 United Nations Workshop "Strengthening the Analytical Capacity in Census Analysis in Developing Countries in Beirut, Lebanon, 9 – 11 December 2009. Developed the content of the course, identified qualified trainer and produced training material.
- 2011 Training workshop "Demography: Mortality-Life Table – (Basic)", Abu Dhabi Statistical Training Institute, 28 – 29 September 2011.
- 2011 Invited participant to a Panel Discussion Former organized by Vice President Al Gore on drivers of global change, New York, 21 July 2011. Delivered a presentation entitled "Population Estimates and Projections 1950-2100."
- 2012 Presentation on World Population Trends at "Forum Zukunft" Baden-Baden, 10-12 February, Baden-Baden, Germany

- 2012: Lecture on “Africa and the World: Demographic Challenges and Opportunities”, Berlin School of Public Health Master Program, Health and Society: Gender and Diversity Studies Berlin, 21 May 2012, Berlin, Germany.
- 2012: Consultant for United Nations Workshop on Population Projections, 10-14 September 2012, Rabat, Morocco, entitled “Atelier de l’Organisation des Nations Unies sur les Projections Demographiques pour les Pays Africains Francophones”. Developed the agenda, prepared teaching material and presentations, taught 8 sessions at the workshop.
- 1012: Consultant for talk at 2012 AUDI Management Training, 17 October 2012, Brussels, Belgium, entitled “Weltbevölkerung - Wachstum ohne Ende? Herausforderungen globaler Bevölkerungstrends”. Developed agenda, powerpoint presentation, and chaired the discussion) (in German).
- 2012: Consultant for United Nations Workshop on Population Projections, 29 October-2 November 2012, Pretoria, South Africa, entitled “United Nations Workshop on Population Projections for African Countries”. Developed the agenda, prepared teaching material and presentations, taught 8 sessions at the workshop.
- 2013: Consultant for United Nations Workshop on Population Projections, 14-16 January 2013, Beijing, China, entitled “International Workshop on Population Projections using Census Data”. Developed the agenda, prepared teaching material and presentations, and taught the sessions at the workshop.
- 2013 Presentation of the 2012 Round United Nations World Population prospects at the German Parliamentary Advisory Panel on Population and Development, June 13, 2013, Berlin, Germany.
- 2013 Presentation entitled “Demographers at the United Nations” at the 3rd Demo-Doc Fall School on 23 October, Rostock, Germany, organized by Max Planck Institute for Demographic Research, Rostock and the Institute for Sociology and Demographic Research, University of Rostock.
- 2013 Keynote Speaker at 13th Sector Network Conference “Demographic Megatrends in Asia and Eastern Europe. Challenges and Opportunities for Health and Social Protection”, organized by the German Development Agency GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit), Hanoi, Viet Nam, November 13-14, 2013.
- 2014 Presentation entitled “Population dynamics – Challenges and Opportunities for the Future” at the Federal Ministry for Economic Cooperation and Development (BMZ), Sector Health and Population Policy, January 14, 2014, Bonn, Germany
- 2014-2015 Teaching a course at University of Rostock, Germany, on “Migration and Projection”.

SELECTED PUBLICATIONS

- Buettner (1985). Experiences in Modelling Complex Demographic Systems. In *Systems Analysis and Simulation*, Berlin: Akademie-Verlag.
- Buettner, Lutz (1990). Estimating Fertility Responses to Policy Measures in the German Democratic Republic. *Population and Development Review*, 16(3), September 1990, pp. 539-555.
- Buettner, Lutz (1990). Comparative Analysis of Fertility Trends in the Federal Republic of Germany, the German Democratic Republic and Austria, in: *Acta Demographica*, No. 1. (in German).
- Buettner, Heilig and Lutz (1990). Germany's Population: Turbulent Past, Uncertain Future. *Population Bulletin*, 45(4), December 1990.
- Buettner, Prinz (1991). Structure and impact of German East-West migration, In *Future Demographic Trends in Europe and North America. What Can We Assume today?*, W. Lutz, ed. London: Academic Press, pp. 379-398.
- Buettner (1995). Sex differentials in old-age mortality. In *Population Bulletin of the United Nations*, No. 39, pp. 18-44.
- Buettner, Grübler (1995). The birth of a green generation? Generational dynamics of resource consumption patterns, *Technological Forecasting and Social Change* 50(2), 113-134. (ISSN 0040-1625). Reprinted as RR-96-3, International Institute for Applied Systems Analysis, Laxenburg, Austria.
- Buettner (1999). Approaches and Experiences in Projecting Mortality Patterns for the Oldest Old in Low Mortality Countries. Working Paper No. 31. Statistical Commission and Economic Commission for Europe. Conference of European Statisticians. Joint ECE-Eurostat Work Session on Demographic Projections.
- Buettner (2000): Überblick über moderne Bevölkerungsgeschichte nach Weltregionen. In: Mueller, Nauck und Diekmann (Hrsg.): *Handbuch der Demographie 2 – Anwendungen*. Berlin-Heidelberg-New York, S. 1172–1249 (in German. Engl: Overview of modern population trends by major areas, In *Handbook of Demography*)
- Buettner (2000). Ageing of the world population in the 21st century. In *Zeitschrift für Bevölkerungswissenschaft*, Vol. 25, No. 3-4, pp. 441-459. Opladen, Germany (in German).
- Buettner, Zlotnik (2001). The components of urban growth revisited. Paper presented at the XXIV IUSSP General Conference, Salvador, Brazil, 16-24 August 2001.
- Buettner (2002). Approaches and experiences in projecting mortality patterns for the oldest old. In *North American Actuarial Journal*, Vol. 6, Number 3, pp. 14-29.

- Buettner, Zlotnik (2005). Prospects for increased longevity as assessed by the United Nations. In *GENUS*, LXI (No. 1), pp. 213-233.
- Buettner (2008). Internationale Bevölkerungsprojektionen. In *Online Handbuch Demografie*. <http://www.berlin-institut.org/online-handbuchdemografie/bevoelkerungsdynamik/auswirkungen/bevoelkerungsprojektionen.html>.
- Bongaarts, Buettner, Heilig, Pelletier (2008). Has the AIDS epidemic peaked? In *Population and Development Review*, 34(2), pp. 199-224 (June 2008)
- Gerland, Pelletier, Buettner (2006). Levels and Trends in Adult Background Mortality in Sub-Saharan Africa. Paper presented at the Annual Meeting of the Population Association of America, Los Angeles CA, March 30 – April 1, 2006.
- Balk, Montgomery, McGranahan, Kim, Mara, Todd, Buettner and Dorélie (2009). Mapping Urban Settlements and the Risks of Climate Change in Africa, Asia and South America. In *Population Dynamics and Climate Change*, In *Population Dynamics and Climate Change*. UNFPA, New York.
- Heilig, Buettner, Li, Gerland, Pelletier, Alkema, Chunn, Ševčíková and Raftery (2010). A probabilistic version of the United Nations World Population Prospects: methodological improvements by using Bayesian fertility and mortality projections, Paper presented at EUROSTAT's Work Session on Demographic Projections, Lisbon, 28-30 April 2010.
- Alkema, Gerland and Buettner (2011) Probabilistic Projections of Urbanization for all Countries. Poster presented at the 2011 Annual Meeting of the Population Association of America. Extended abstract at: <http://paa2011.princeton.edu/download.aspx?submissionId=110768>
- Alkema, Raftery, Gerland, Clark, Pelletier, Thomas Buettner, Heilig (2011). Probabilistic Projections of the Total Fertility Rate for all Countries. In *Demography*. 2011 Aug; 48(3):815-39. <http://dx.doi.org/10.1007/s13524-011-0040-5>
- A. Grubler, X. Bai, T. Buettner, S. Dhakal, D. J. Fisk, T. Ichinose, J. Keirstead, G. Sammer, D. Satterthwaite, N. B. Schulz, N. Shah, J. Steinberger, H. Weisz (2012). Urban Energy Systems In: L. Gomez-Echeverri, T.B. Johansson, N. Nakicenovic, A. Patwardhan, (eds.), *Global Energy Assessment: Toward a Sustainable Future*. IIASA, Laxenburg, Austria and Cambridge University Press, Cambridge, U.K. and New York, USA. pp. 1307-1400.
- A. Grubler, T. Buettner (2012). Urbanization Past and Future In: Grubler, A.; Fisk, D. (eds.): *Energizing Sustainable Cities: Assessing Urban Energy*, Earthscan by Routledge. pp. 17-30
- Gerland, P., Raftery, A.E. [co-first authors]; Ševčíková, H., Li, N., Gu, D., Spoorenberg, T., Alkema, L., Fossdick, B.K., Chunn, J.L., Lalic, N., Bay, G., Buettner, T., Heilig, G.K. and Wilmoth, J. (2014). World Population Stabilization Unlikely This Century. *Science* 346:234-237.

Buettner, T. (2014). Urban Estimates and Projections at the United Nations: the Strengths, Weaknesses, and Underpinnings of the World Urbanization Prospects. *Spatial Demography* 2 (2).

Buettner, Thomas, and Rainer Muenz. (2016). "Comparative Analysis of International Migration in Population Projections." KNOMAD Working Paper 10. Washington DC. Available at: <http://www.knomad.org/thematic-working-groups/demographic-changes-and-migration>

SELECTED CONTRIBUTIONS TO UNITED NATIONS PUBLICATIONS

World Population Prospects, the 1994, 1996, 1998, 2000, 2002, 2004, 2006, 2008 and 2010 Revisions. Drafted chapters on The Demography of Countries with Economies in Transition, Population Size and Growth, Mortality and HIV/AIDS and Methodology. I prepared and supervised the production of Volumes I and II containing the results in tabular form, and supervised the preparation of Volume III.

World Urbanization Prospects, the 2003, 2005, 2007 and 2009 Revision. I prepared the production of the annex tables, supervised the preparation of the analytical chapters and drafted the methodological chapters.

World Population to 2300. New York, United Nations. 2004: I edited the complete volume, including the contributions of 12 invited scholars.

SOFTWARE, DATABASES, METHODOLOGY

- Co-author of open-source software package “bayesPop” that generates population projections for all countries of the world using several probabilistic components, such as total fertility rate (TFR) and life expectancy. Written in R and C, publicly available at <https://cran.r-project.org/web/packages/bayesPop/index.html>
- Initiated development and was responsible for enhancement and maintenance of a user-friendly graphical interface (abcInterface) for the standard UN projection software (Visual Basic 6)
- Developed the software package abcDIM for the modelling of the demographic impact of the HIV/AIDS pandemic including its integration into the existing demographic software environment (Visual Basic 6)
- Developed, tested and implemented the United Nations projection models for total fertility and life expectancy.
- Supervised and contributed to a project to enhance the UN model life tables and the Coale/Demeny model life tables to higher ages and higher life expectancy, in order to allow the standard projection program to extend the age format from 85 year and older to 100 years and older (FORTRAN)
- Developed several versions of an administrative tool for the execution of world population projections for all countries of the world.
- Developed several versions of increasingly flexible and powerful life table programs that have been used for the standard estimation and projection for all countries of the world, including HIV/AIDS (in Delphi and dot.NET/C#)
- Developed a projection program for long-range projections. The program included novel methods for mortality forecasting (Lee/Carter) and scenario management (zero growth option, migration balancing). The program was used to produce the UN long-range projection that extended the results of the 2002 and the 2008 Revision of World Population Prospects to 2300 (in VB.NET).
- Developed, implemented and maintained the Population Division's production database for its World Population Prospects (Demobase), first in Microsoft Access and later in SQL Server 2000, 2005 and 2008R2.
- Developed and implemented a prototype of Population Division's PRED database (Population, Resources, Environment, and Development) in Microsoft Access.
- Initiated, supervised and contributed to the development of a new implementation of the Population Division's projection program for urban, rural and city populations for all countries of the world, including a user-friendly graphical interface and the development of its production database ProUrban, first in Microsoft Access and later in SQL Server 2000, 2005, and 2008R2
- Developed and implemented a database-driven print program for the production of camera-ready tabular output of the World Population Prospects and World Urbanization Prospects, written in Visual Basic 6 and using postscript technology.