Fertility and mortality in North-Central Namibia: an assessment of quality of parish registers to be used "for civil registration" in Namibia.

Lessons learned.. Side meeting 7th African Population..

Veijo Notkola, Riikka Shemeikka, Nelago Indongo and Harri Siiskonen

University of Eastern Finland and University of Namibia





Research project

Demographic Change and the Resilience of the Social and Ecological Systems in North-Central Namibia

- o **Project partners** University of Helsinki (UH), University of Eastern Finland (UEF), University of Namibia (UNAM), Evangelical Lutheran Churc in Namibia
- o **Funding** Kone Foundation, Finland (Research programme on "Demographic Change")
- o Project period 2012-2017
- o **Project team** Harri Siiskonen, Veijo Notkola, Nelago Indongo, Loide Shaamhula, Rosamunde Amutenya, Riikka Shemeikka, Antti Erkkilä, Riikka Notkola



The aim of the resilience project

Main aim of the project is to:

Analyse demographic, socio-economic and environmental change since 1990 and estimate the future demographic, economic and social development, ecological change until 2020 in the targeted research area.

In more detail, the project aims to:

- Analyse the current demographic situation (1990-2011) and project the future population development (2012-2030)
- Assess the expansion of farmlands to forested areas and migration to the local urban centres and beyond
- •On-farm fruit trees and their current and potential role in social and ecological resilience will have a specific research emphasis
- •Look for new models for a dialogue between science and art in the field of demographic research (documentary film making is part of the project)



3

This presentation aims to

 To analyse the reliability of parish registers data to estimate mortality and "fertility", migration in North-Central Namibia

 What are the main problems to take account when this kind of material is used

 Present some results based on parish register material from the North-Central Namibia



History of vital registration in Finland

- First national census was conducted in Finland and Sweden 1749
- Due to this first census we are having population series since that!
- Vital registration was based on work of priesthood
- Priesthood used the system where they had main book (family book). After marriage of couple, couple was added to the main book
- In addition there were additional books for births, deaths, in and out migration etc. This information was added to the main book.
- Based on this information priests produced so called population tables (population by age in parish)
- This system was used and still is used in Namibia



Parish register data

- Close to civil register data: information on baptisms, deaths, marriages, migrations
- Important data source in the study of historical population development in Europe
- In Africa northern Namibia, Tanzania (e.g. Kilimanjaro region), South Africa (e.g. Western Cape), Kongo, Burundi, Senegal, Burkina Faso
- Coverage has to be estimated, quality varies
- Longitudinal data, no memory mistakes
- Also other disciplines use them (e.g., research on naming system in Namibia, history of slavery in Angola)

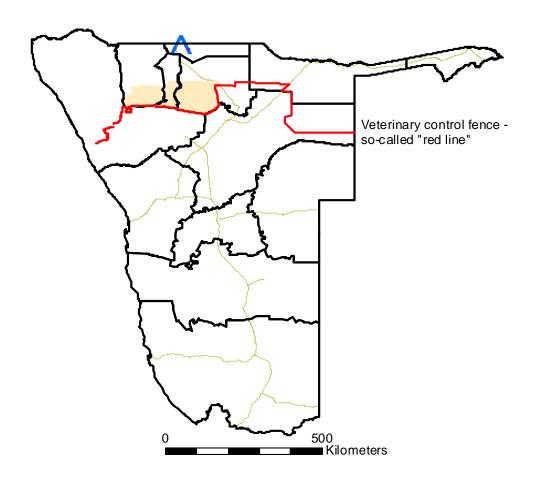


Parish register data from Northern Namibia

- Data sets collected during the earlier projects include:
- Marital cohorts 1925-85, 5 congregations, 7000 marital couples and their children
- Marital cohorts 1956-2004, 8 congregations, 4800 marital couples and their children
- 250 unmarried mothers and their children
- During the current project, a new data set has been collected from 8 former sample congregations and one new congregation (Eenhana)
- Follow-up period has been extended until 30 May 2012

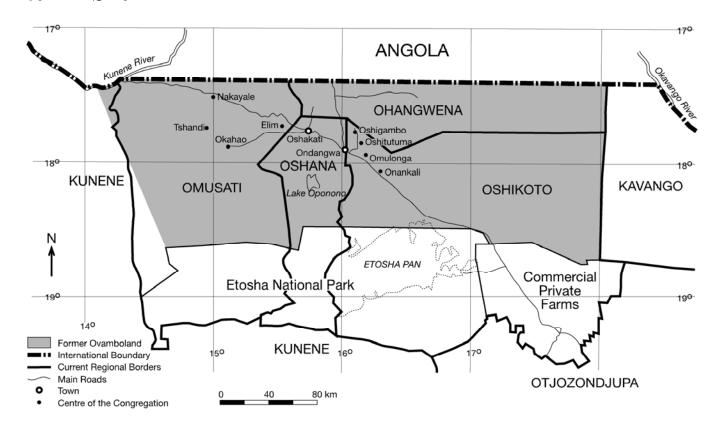


Location of the research area in Namibia



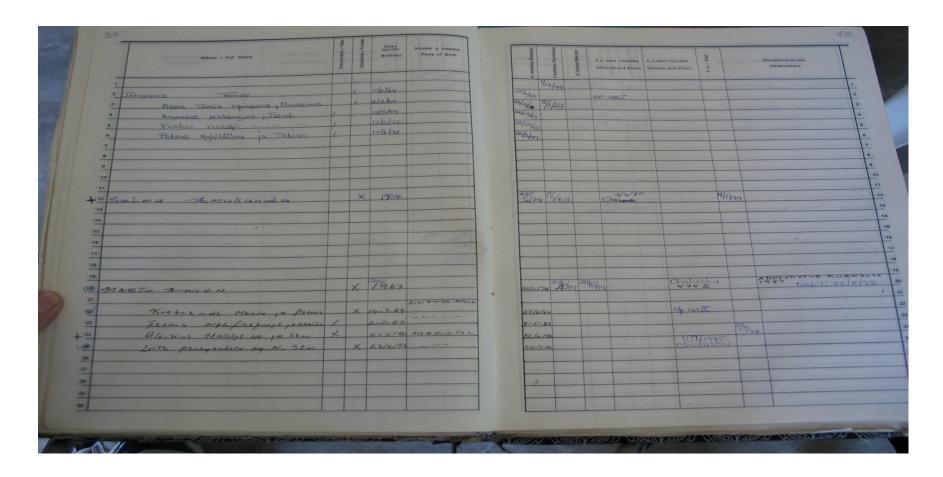


Location of the sample congregations in North- Central Namibia



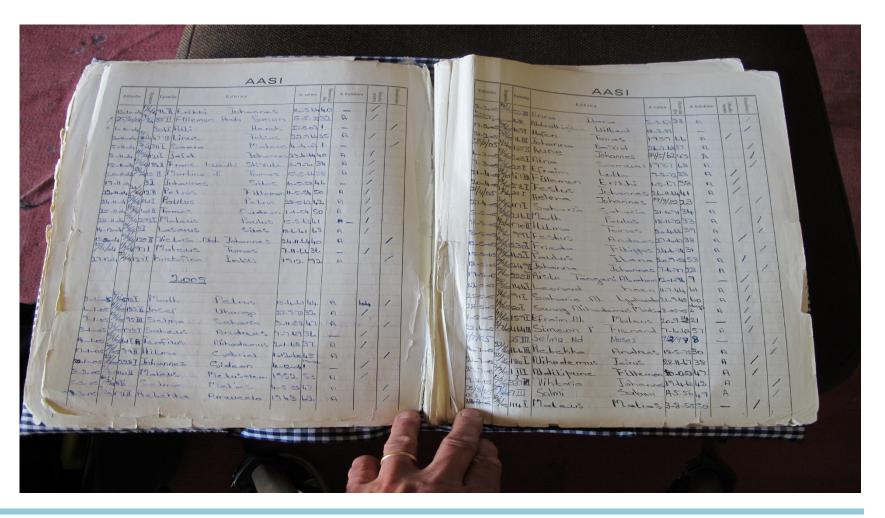


Main book





List of deaths 2005





Parish register analysis

- Family reconstitution
- Collection of information on couples married during some certain period, their children, and deaths, births and migrations among these families
- Families are followed from different church books until some certain date (end of the follow-up period)
- Data analysis is conducted with different statistical software (SPSS, Stata, etc.), and information on e.g. fertility and mortality rates produced. Different kind of demographic methods have been used.



Problems of the data

- Data include just Evangelical Lutheran population (71 per cent of the population of research region were members of the Evangelical Lutheran Church in 2001)
- Missing information about birth date, month
- People do not live in same area where they marry
- Follow up is not complete, just one main book, no information about migration
- •In particularly infant deaths are not recorded, also deaths after the 50



Proportion of marriages, not in main book or just in one main book (follow up not complete)

	Not in main book, %	Just in one main book, %
56-65	7.24%	21.53%
66-75	6.83	21.94
76-85	9.56	31.20
86-95	13.31	38.29
96-04	8.87	45.66
05-12	0.00	50.65



The proportion of missing birth dates by marriage cohort (birth date 30.6.xxxx)

• Marriage cohort, males

27.7% • 1976-85

• 1986-95 15.8

• 1996-04 6.3

2.0 • 2005-12

• Marriage cohort, females

1976-85 25.7%

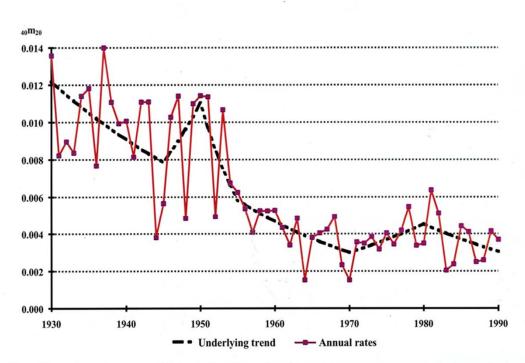
• 1986-95 15.1

• 1996-04 5.6

1.0 • 2005-12



Results from the previous parish register studies, long-term change

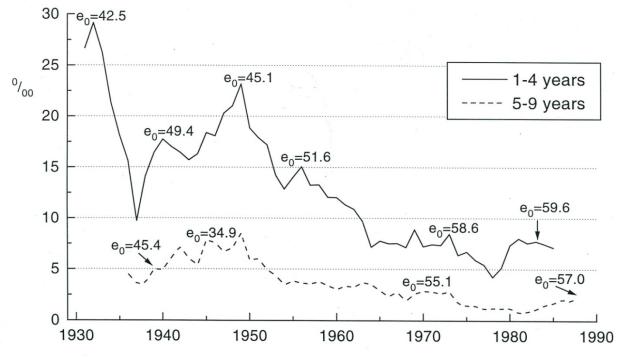


Death rate at ages 20 to 59, standardized by age, sex, and parish, Ovamboland 1930-1990



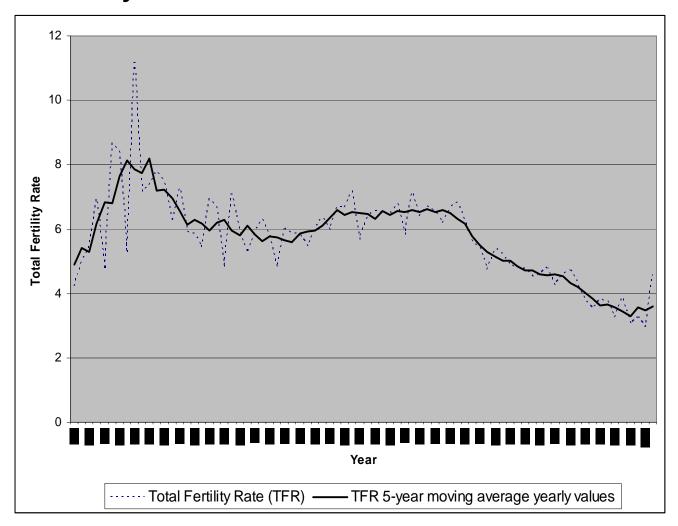
Childhood mortality 1931-1988

Figure 11. Childhood mortality in Ovamboland 1931-1988 (5 year moving average). (Expectation of life values are based on model life tables, Coale & Demeny West).



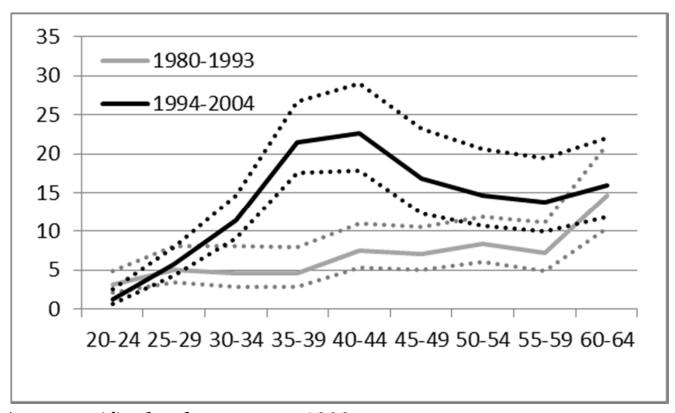


Fertility 1927-2004





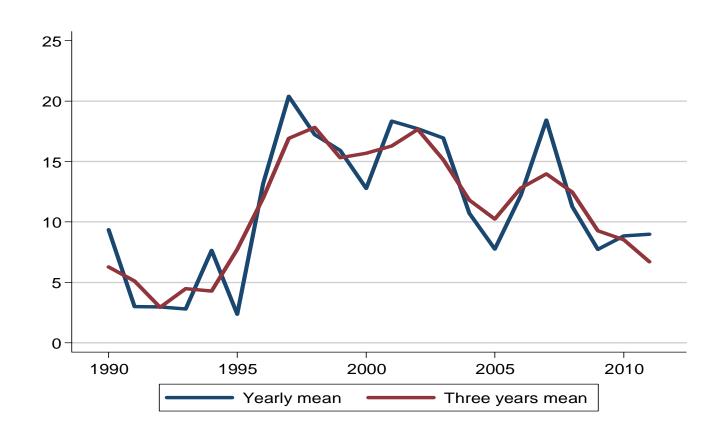
Increase in mortality among men due to HIV



Age-specific death rates per 1000 person-years among men aged 20-64 years with 95% confidence interwall (CI), North-Central Namibia, 1980-1993 and 1994-2004. Source: Shemeikka et al. 2013.



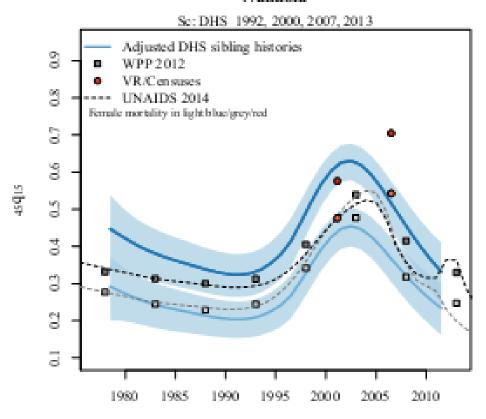
Mortality among males 30-39 years, North-Central Namibia, parish registers





Estimate of 45q15 mortality from DHS; Masqueliner et al. 2015

Namibia





Conclusions

- Parish registers can be used
- •They are in Namibia quite "reliable" but can not be used without modifying the data
- Long series of data
- The quality of data should be improved, good for all
- There are problems in registration of deaths in particular infant deaths, also mortality after the 50, migration! 10-20 percent of deaths are missing.
- Registration of marriage is problematic issue. People marry in different area where they are going to live!



Thank you for your attention!



Photo: R. Shemeikka

