

SENEGAL - Bandafassi HDSS INDEPTH Core Dataset 1970-2014 (Release 2017)

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Overview

Identification

ID NUMBER

INDEPTH.SN011.CMD2014.v1

Version

VERSION DESCRIPTION

CMD2014.v1: For public distribution

PRODUCTION DATE

2017-05-20

Overview

ABSTRACT

The Bandafassi HDSS is located in south-eastern Senegal, near the borders with Mali and Guinea. The area is 700 km from the national capital, Dakar. The population under surveillance is rural and in 2012 comprised 13 378 inhabitants living in 42 villages. Established in 1970, originally for genetic studies, and initially covering only villages inhabited by one subgroup of the population of the area (the Mandinka), the project was transformed a few years later into a HDSS and then extended to the two other subgroups living in the area: Fula villages in 1975, and Bedik villages in 1980. Data gathered include births, marriages, migrations and deaths (including their causes). One specific feature of the Bandafassi HDSS is the availability of genealogies.

Villages are quite small - 270 inhabitants in average - divided in hamlet pour a part. The population density is 19 inhabitants per km.

The population is divided in three living ethnical groups in distinct villages. In 2000, the ethnical groups are :

1 - Bedik (25 % of population).

2 - Malinke (17 %),

3 - Peul (58 %).

The housing unit is the square (or concession) which hosts members of an extended patrilineal family. It contains 17 people in average. Peul and Bedik squares are less populated (15 and 18 people in average) than Malinke squares (27 people in average). Polygamy is intense (160 married women for 100 married men). Women married to the same men usually inhabit in the same square. Each wife has her own hu, sharing the same square courtyard.

KIND OF DATA

Event history data

UNITS OF ANALYSIS

Individual

Scope

NOTES

It specifically only includes the events defining the resident exposure of individuals under surveillance as well as the delivery events of resident women. Each type of event contains minimal attributes describing the event:

Attributes common to each event:

Event Type,

Event Date

Observation date

Migration

Orign & Destination

Death:

Cause

Delivery:

Live born and Still born counts

Parity

TOPICS

Topic	Vocabulary	URI
Demography [N01.224]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Age Distribution [N01.224.033]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Censuses [N01.224.175]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Emigration and Immigration [N01.224.625.350]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Residential Mobility [N01.224.791.700]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Sex Distribution [N01.224.803]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Vital Statistics [N01.224.935]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Life Expectancy [N01.224.935.464]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Mortality [N01.224.935.698]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Birth Rate [N01.224.935.849.500]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Rural Population [N01.600.725]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Parity [N06.850.490.812.600]	MeSH	http://www.ncbi.nlm.nih.gov/mesh
Survival Analysis [N06.850.520.830.998]	MeSH	http://www.ncbi.nlm.nih.gov/mesh

KEYWORDS

Fertility, Mortality, Migration, Population

Coverage**GEOGRAPHIC COVERAGE**

The Mlomp DSS site, about 7500 km from the capital, Dakar, in Senegal, lies between latitudes 1249' and 1272'N and longitudes 1253' and 1628'E, at an altitude ranging from 0 to 350 m above sea level. It is in the region of Kedougou, Dpartement of Bandafassi, in southeast Senegal. It is located 12 km west of the city of Kedougou, 30 kms north of the border with Guinea Bissau and 70km west of the border with Mali

UNIVERSE

At the census, a person was considered a member of the compound if the head of the compound declared it to be so. This definition was broad and resulted in a de jure population under study. Thereafter, a criterion was used to decide whether and when a person was to be excluded or included in the population.

A person was considered to exit from the study population through either death or emigration. Part of the population of Mlomp engages in seasonal migration, with seasonal migrants sometimes remaining 1 or 2 years outside the area before returning. A person who is absent for two successive yearly rounds, without returning in between, is regarded as having

emigrated and no longer resident in the study population at the date of the second round. This definition results in the inclusion of some vital events that occur outside the study area. Some births, for example, occur to women classified in the study population but physically absent at the time of delivery, and these births are registered and included in the calculation of rates, although information on them is less accurate. Special exit criteria apply to babies born outside the study area: they are considered emigrants on the same date as their mother.

A new person enters the study population either through birth to a woman of the study population or through immigration. Information on immigrants is collected when the list of compounds of a village is checked ("Are there new compounds or new families who settled since the last visit?") or when the list of members of a compound is checked ("Are there new persons in the compound since the last visit?"). Some immigrants are villagers who left the area several years before and were excluded from the study population. Information is collected to determine in which compound they were previously registered, to match the new and old information.

Information is routinely collected on movements from one compound to another within the study area. Some categories of the population, such as older widows or orphans, frequently move for short periods of time and live in between several compounds, and they may be considered members of these compounds or of none. As a consequence, their movements are not always declared.

Producers and Sponsors

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FUNDING

Name	Abbreviation	Role
Institut de Recherches pour le Dveloppement	IRD	Current Funder
Institut National d'Etudes Dmographique	INED	Current Funder

OTHER ACKNOWLEDGEMENTS

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Emilie Ndiaye	Institut de Recherches pour le Dveloppement	Referencies Management

Metadata Production

METADATA PRODUCED BY

Name	Abbreviation	Affiliation	Role
iSHARE2 Technical Team	iS2TT	INDEPTH Network	Documentation of the study
INDEPTH Network	int.indepth	INDEPTH Network	agency
Emilie Volpi	ON	Institut de Recherche pour le Dveloppement	DDI author

DATE OF METADATA PRODUCTION

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DDI DOCUMENT VERSION

CMD2014.V1: 2017-05-20

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DDI.INDEPTH.SN011.CMD2014.v1

Sampling

Sampling Procedure

No sampling is done

Deviations from Sample Design

None

Response Rate

On an average the response rate is about 99% over the years for each round.

Weighting

Not applicable

Questionnaires

Overview

List of questionnaires

Household book

- used to register informations needed to define outmigrations

Delivery questionnaire

-used to register information of dispensaire ol mlomp

New household questionnaire

New member questionnaire

Marriage and divorce questionnaire

Birth and marital histories questionnaire (for new member)

Death questionnaire

- used to register the date of death

Data Collection

Data Collection Dates

Start	End	Cycle
1970-01-01	2014-12-31	Release Coverage

Time Periods

Start	End	Cycle
1970-03-01		Round1
1971-03-01		Round2
1972-03-01		Round3
1973-03-01		Round4
1974-03-01		Round5
1975-03-01		Round6
1976-03-01		Round7
1977-03-01		Round8
1978-03-01		Round9
1979-03-01		Round10
1980-03-01		Round11
1981-03-01		Round12
1982-03-01		Round13
1983-03-01		Round14
1984-03-01		Round15
1985-10-01		Round16
1986-03-01		Round17
1987-03-01		Round18
1988-02-01		Round19
1989-03-01		Round20
1990-01-01		Round21
1991-02-01		Round22
1992-02-01		Round23
1993-02-28		Round24
1994-02-28		Round25
1995-02-28		Round26
1996-02-28		Round27
1997-02-28		Round28
1998-02-28		Round29
1999-02-28		Round30
2000-02-28		Round31
2001-02-28		Round32
2002-02-28		Round33
2003-02-28		Round34
2004-02-28		Round35
2005-02-28		Round36
2006-02-28		Round37
2007-02-28		Round38
2009-02-28		Round39
2010-02-28		Round40
2011-02-28		Round41
2012-02-28		Round42
2013-02-28		Round43
2014-02-28		Round44
2015-02-28		Round45

Data Collection Mode

Proxy Respondent [proxy]

DATA COLLECTION NOTES

Field procedures

INITIAL CENSUS - The initial census was followed by several surveys designed to improve the information of the census and collect other data needed for subsequent studies. These included an age survey to estimate ages of adults and children or improve the unreliable data collected on these during the census. It also included a genealogical survey to collect genealogies, going up to known ascendants and down to living collateral relatives. One use of the genealogies in the project is to get detailed information on the relationships between members of a compound and in particular the relationship of each one to the head of the compound (Pison 1985). Finally, a union- and birth-histories survey was conducted for adult men and women.

At the census, a person was considered a member of the compound if the head of the compound declared it to be so. This definition was broad and resulted in a de jure population under study. Thereafter, a criterion was used to decide whether and when a person was to be excluded or included in the population.

A person was considered to exit from the study population through either death or emigration. Part of the population of Mlomp engages in seasonal migration, with seasonal migrants sometimes remaining 1 or 2 years outside the area before returning. A person who is absent for two successive yearly rounds, without returning in between, is regarded as having emigrated and no longer resident in the study population at the date of the second round. This definition results in the inclusion of some vital events that occur outside the study area. Some births, for example, occur to women classified in the study population but physically absent at the time of delivery, and these births are registered and included in the calculation of rates, although information on them is less accurate. Special exit criteria apply to babies born outside the study area: they are considered emigrants on the same date as their mother.

A new person enters the study population either through birth to a woman of the study population or through immigration. Information on immigrants is collected when the list of compounds of a village is checked ("Are there new compounds or new families who settled since the last visit?") or when the list of members of a compound is checked ("Are there new persons in the compound since the last visit?"). Some immigrants are villagers who left the area several years before and were excluded from the study population. Information is collected to determine in which compound they were previously registered, to match the new and old information.

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REGULAR UPDATE ROUNDS - The Mlomp DSS is a multiround demographic surveillance, with annual rounds. Once each year, in February and March, all compounds are visited, and information on events occurring since the last visit is collected. This is done in three steps. First, the list of people present in each compound at the preceding visit is checked, and information is obtained on new births, marriages, migrations, deaths, and current pregnancies. Information is provided by the head of the compound or key informants in the village or hamlet. The information on events is recorded directly on the nominative list.

CONTINUOUS SURVEILLANCE - Information provided by local registers is matched with that collected independently during the surveillance. Information from registers with fair quality is used to systematically correct errors and complete the information collected at the yearly rounds. These are maternity-clinic registers (for prenatal visits and deliveries), civil and parish registers (for births), and dispensary or hospital registers (for death, growth monitoring, and vaccinations). The local dispensary collaborates with the research project, and one completes several registers, in particular a death register. Although the local registers rarely cover the entire population and are sometimes subject to errors, using them improves the quality and the precision of data. Verbal autopsies (VAs) have been performed for all deaths since the beginning of the study. For each death identified in the first step of the annual surveillance, information on its cause is obtained from a close relative of the dead person, usually the mother in the case of a child's death, using a VA questionnaire.

Data management and analysis

Information collected during the baseline and follow-up surveys has been coded and stored in databases designed in 1980s, with some adaptations since then. The information collected during each annual surveillance is processed in two steps: in the villages, it is entered into laptops, with state-of-the-art software, during the surveillance; thereafter, the information is verified and added to the database, using PostgreSQL software.

Data Collectors

Name	Abbreviation	Affiliation
MLOMP HDSS	SN012	

SUPERVISION

There are five fieldworkers supervised by two supervisors alternate days. One of this supervisors is the data manager (O. Ndiaye)

Data Processing

Data Editing

On data entry data consistency and plausibility were checked by 455 data validation rules at database level. If data validation failure was due to a data collection error, the questionnaire was referred back to the field for revisit and correction. If the error was due to data inconsistencies that could not be directly traced to a data collection error, the record was referred to the data quality team under the supervision of the senior database scientist. This could request further field level investigation by a team of trackers or could correct the inconsistency directly at database level.

No imputations were done on the resulting micro data set, except for:

- a. If an out-migration (OMG) event is followed by a homestead entry event (ENT) and the gap between OMG event and ENT event is greater than 180 days, the ENT event was changed to an in-migration event (IMG).
- b. If an out-migration (OMG) event is followed by a homestead entry event (ENT) and the gap between OMG event and ENT event is less than 180 days, the OMG event was changed to an homestead exit event (EXT) and the ENT event date changed to the day following the original OMG event.
- c. If a homestead exit event (EXT) is followed by an in-migration event (IMG) and the gap between the EXT event and the IMG event is greater than 180 days, the EXT event was changed to an out-migration event (OMG).
- d. If a homestead exit event (EXT) is followed by an in-migration event (IMG) and the gap between the EXT event and the IMG event is less than 180 days, the IMG event was changed to an homestead entry event (ENT) with a date equal to the day following the EXT event.
- e. If the last recorded event for an individual is homestead exit (EXT) and this event is more than 180 days prior to the end of the surveillance period, then the EXT event is changed to an out-migration event (OMG)

In the case of the village that was added (enumerated) in 2006, some individuals may have outmigrated from the original surveillance area and settled in the the new village prior to the first enumeration. Where the records of such individuals have been linked, and individual can legitimately have and outmigration event (OMG) followed by and enumeration event (ENU). In a few cases a homestead exit event (EXT) was followed by an enumeration event in these cases. In these instances the EXT events were changed to an out-migration event (OMG).

Data Appraisal

Estimates of Sampling Error

Not applicable

Other forms of Data Appraisal

CenterId	Metric	Table	QMetric	Illegal	Legal	Total	Metric	Rundate
SN011	MicroDataCleaned	Starts	26293	2017-05-20	00:00			
SN011	MicroDataCleaned	Transitions	0	85058	85058	0	2017-05-20	00:00
SN011	MicroDataCleaned	Ends	26293	2017-05-20	00:00			
SN011	MicroDataCleaned	SexValues	50	85008	85058	0	2017-05-20	00:00
SN011	MicroDataCleaned	DoBValues	85058	2017-05-20	00:00			

File Description

Variable List

SN011.CMD2014.v1

Content	vent history Micro Data Set of Bandafassi HDSS
Cases	95783
Variable(s)	14
Structure	Type: Keys: ()
Version	CMD2014.v1
Producer	Bandafassi HDSS
Missing Data	

Variables

ID	Name	Label	Type	Format	Question
V1	RecNr	RecNr	contin	numeric	
V2	CountryId	CountryId	discrete	numeric	
V3	CentreId	CentreId	discrete	character	
V4	IndividualId	IndividualId	contin	numeric	
V5	Sex	Sex	discrete	numeric	
V6	DoB	DoB	discrete	character	
V7	EventCount	EventCount	discrete	numeric	
V8	EventNr	EventNr	discrete	numeric	
V9	EventCode	EventCode	discrete	character	
V10	EventDate	EventDate	discrete	character	
V11	ObservationDate	ObservationDate	discrete	character	
V12	LocationId	LocationId	contin	numeric	
V13	MotherId	MotherId	contin	numeric	
V14	DeliveryId	DeliveryId	discrete	numeric	

RecNr (RecNr)

File: SN011.CMD2014.v1

Overview

Type: Continuous	Valid cases: 95783
Format: numeric	Invalid: 0
Decimals: 0	Minimum: 1
Range: 1-21650	Maximum: 95783
	Mean: 47892
	Standard deviation: 27650.3

Description

A sequential number identifying each record in the data file

CountryId (CountryId)

File: SN011.CMD2014.v1

Overview

Type: Discrete	Valid cases: 95783
Format: numeric	Invalid: 0
Decimals: 0	
Range: 686-686	

Description

ISO 3166-1 numeric code of the country in which the surveillance site is situated

CentreId (CentreId)

File: SN011.CMD2014.v1

Overview

Type: Discrete	Valid cases: 95783
Format: character	Invalid: 0
Width: 5	

Description

An identifier issued by INDEPTH to each member centre of the format CCCSS, where CCC is a sequential centre identifier and SS is a sequential identifier of the site with the centre in the case of multiple sites.

IndividualId (IndividualId)

File: SN011.CMD2014.v1

Overview

Type: Continuous	Valid cases: 95783
Format: numeric	Invalid: 0
Decimals: 0	Minimum: 1
Range: 1-13309	Maximum: 27023
	Mean: 13415
	Standard deviation: 7753.6

Description

A number uniquely identifying all the records belonging to a specific individual in the data file. This number is not the same as the identifier used by a contributing centre to identify the individual.

Sex (Sex)

File: SN011.CMD2014.v1

Sex (Sex)

File: SN011.CMD2014.v1

Overview

Type: Discrete	Valid cases: 95783
Format: numeric	Invalid: 0
Decimals: 0	
Range: 0-9	

Description

Sex of the individual.

DoB (DoB)

File: SN011.CMD2014.v1

Overview

Type: Discrete	Valid cases: 95783
Format: character	Minimum: NaN
	Maximum: NaN

Description

The date of birth of the individual. Format : YYYY/MM/DD

EventCount (EventCount)

File: SN011.CMD2014.v1

Overview

Type: Discrete	Valid cases: 95783
Format: numeric	Invalid: 0
Decimals: 0	
Range: 2-8	

Description

THE TOTAL NUMBER OF EVENTS ASSOCIATED WITH THIS INDIVIDUAL IN THIS DATA

EventNr (EventNr)

File: SN011.CMD2014.v1

Overview

Type: Discrete	Valid cases: 95783
Format: numeric	Invalid: 0
Decimals: 0	
Range: 1-8	

Description

A number increasing from 1 to EventCount for each event record in order of event occurrence.

EventCode (EventCode)

File: SN011.CMD2014.v1

Overview

Type: Discrete	Valid cases: 95783
Format: character	Invalid: 0
Width: 3	

Description

A code identifying the type of event that has occurred.

EventDate (EventDate)

File: SN011.CMD2014.v1

Overview

Type: Discrete	Valid cases: 95783
Format: character	Minimum: NaN
	Maximum: NaN

Description

The date on which the event occurred. Format : YYYY/MM/DD

ObservationDate (ObservationDate)

File: SN011.CMD2014.v1

Overview

Type: Discrete	Valid cases: 0
Format: character	

Description

Date on which the event was observed (recorded), also known as surveillance visit date. Format YYYY/MM/DD

LocationId (LocationId)

File: SN011.CMD2014.v1

Overview

Type: Continuous	Valid cases: 95783
Format: numeric	Invalid: 0
Decimals: 0	Minimum: 1
Range: 1-1731	Maximum: 101
	Mean: 25.6
	Standard deviation: 15.1

Description

Unique identifier associated with a residential unit the site and is the location where the individual was or became resident when the event occurred. This identifier is not be the same as the identifier used internally by the contributing centre.

MotherId (MotherId)

File: SN011.CMD2014.v1

Overview

Type: Continuous	Valid cases: 16191
Format: numeric	Invalid: 79592
Decimals: 0	Minimum: 1
Range: 4-13307	Maximum: 27021
	Mean: 13438.9
	Standard deviation: 7815.1

Description

The individualId of the mother. only provided for BTH events

DeliveryId (DeliveryId)

File: SN011.CMD2014.v1

Overview

DeliveryId (DeliveryId)

File: SN011.CMD2014.v1

Type: Discrete
Format: numeric
Decimals: 0
Range: 1-1

Valid cases: 16191
Invalid: 79592

Description

The RecNr of the delivery event associated with birth.

