



# IPUMS INTERNATIONAL

## Harmonizing Census Microdata: IPUMS International

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## HARMONIZED INTERNATIONAL CENSUS DATA FOR SOCIAL SCIENCE AND HEALTH RESEARCH

IPUMS-International is dedicated to collecting and distributing census data from around the world. The project goals are to collect and preserve data and documentation, harmonize data, and disseminate the harmonized data free of charge.

**98 COUNTRIES – 443 CENSUSES AND SURVEYS – OVER 1 BILLION PERSON RECORDS**

***SOURCE DATA FOR IPUMS-INTERNATIONAL ARE GENEROUSLY PROVIDED BY PARTICIPATING  
NATIONAL STATISTICAL OFFICES***

CREATE AN EXTRACT

[Browse Data](#)

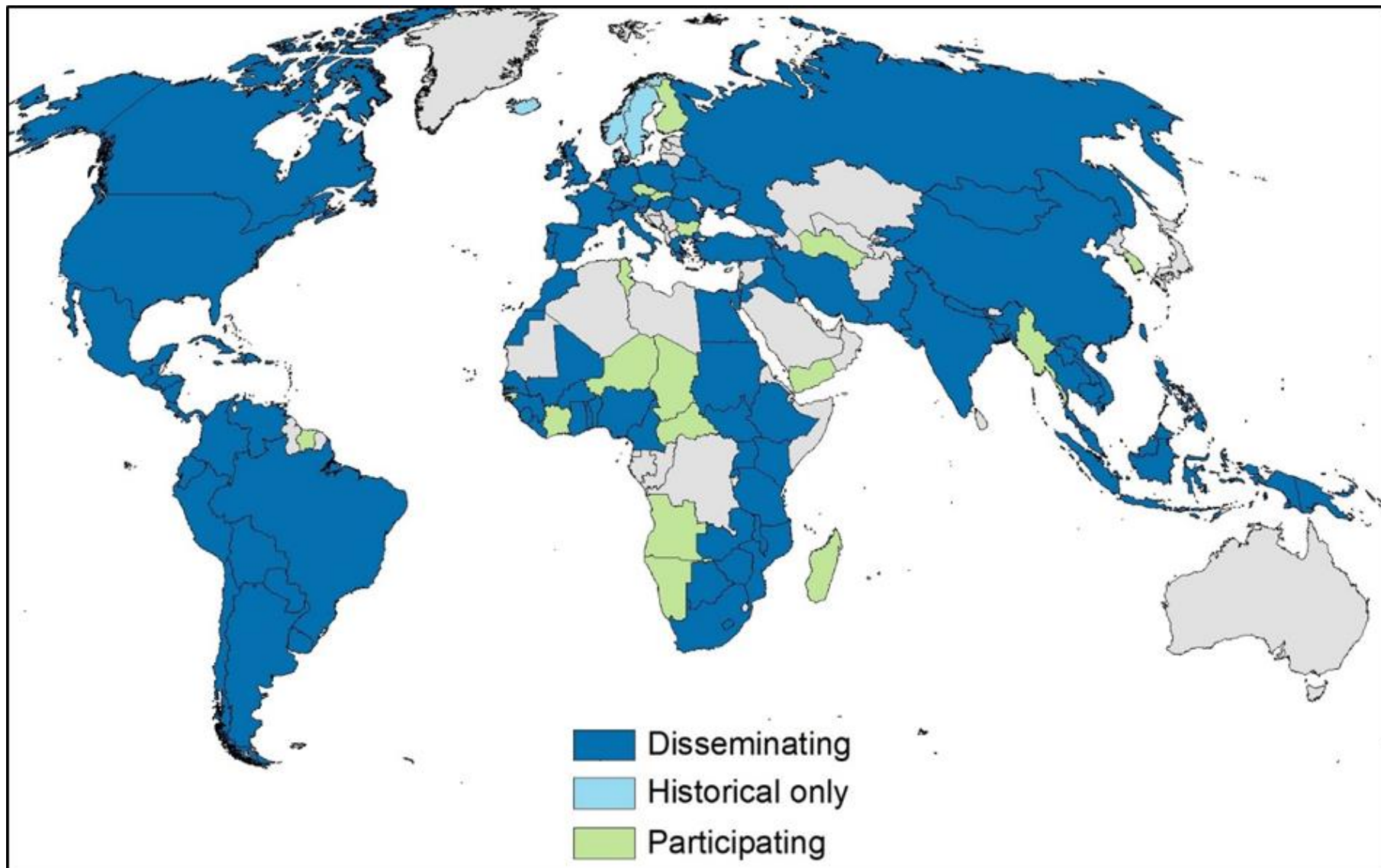
CREATE AN ACCOUNT

[Register](#)

# Features of IPUMS

- **Census microdata samples: 1 to 10%**
  - **Most countries have multiple samples**
- **Codes are harmonized**
  - **No loss of detail**
- **Web browsing and data extraction**

# Global Coverage



# Outline

- 1. Pre-processing**
- 2. Standardization**
- 3. Harmonization**
- 4. Data processing**
- 5. Dissemination**

# Pre-Processing



## Input Data

### Ukraine 2001 – SPSS transferred to flat ascii

```
110100000 1 100 1 1 11 02 171984 1 42 31 2 1 6 2 599140000000000000010990999144
110100000 1 100 1 1 11 12 401961 6 42 31 2 1 3 2 599 110000000000000000 11999144
110100000 1 100 1 2 11 22 781923 4 2 2 0 2 8 2 599 9000000001000000990999141
000 1199914111002990 01 10207308201
000990999 1 1002 11 00 10211208201
110100000 1 100 113 11131 211980 1 2 2 0 2 5 2 599140000000000000010990999 85 85002990 111 10209801101
110100000
110100000
```

loon.socsci.umn.edu - PuTTY

```
1 1
2 21 11SAN JOSE
3 3101 01 1SAN JOSE
4 410101 01 1EL CARMEN
5 51010100010001 1
6 6101010001001111 0 650222110 511 01133331 4 3 71243 91
7 710101000121 4910010021 1012 2031 98362 01611 163163633203323332 9 610 5
```

### Costa Rica 1973 – Redatam format

```
151125116611111112 15647804991331 188899991998889999111160-642705861 8C21
291213422311112111 15647804991333991911199059919111990121255-592705271 2Q11
331127116612112122 15647804 11331 188899991998889999145220-24170504399Y91
382114115611111112 29370433991321 688899992 68882007112255-594705261 2O42
432116116612112112 29370433991321 688899992 68882007146125-29170586599Y92
112113 33388454 32142 388899992 38882000111245-49270524299Y91
112122 33388454 32141 388899992 38882000121145-49270582299Y91
111112 388899994 48882010145220-24170504399Y91
741118113311112212 388899994 28882010145225-291705061 2P11
801212311211111112 388899991998889999111155-59270583499Y91
832115116611112122 38 6601 31322 288899994 28881980121260-64270524499Y91
871337533311111112 43392882 22141 288899991998889999111135-392705841 7C31
911221431211222123 43392882 22141 288899991998889999121235-392705241 2P41
962111112312112223 43392882 22141 28889999199888999914520-4 170598999Y91
991337113412112122 43392882 22141 28889999199888999914525-9 170598999Y91
1101117115612112122 47724608991321 588899991998889999111175-79270582499Y91
1161225522211112111 47724608 51322 588899992 58881960121270-74270522499Y91
1321116116611111112 513827851221311288899991998889999111155-592705831 3N21
1372213413311112121 513827851221321288899993128881980121255-592705221 9A21
1451213513411111111 513827851221311288899991998889999145130-341705841 7N21
1501216513411111112 72598956 81311 888899991998889999117260-64370524499Y91
1881115114612112122 74764386 21312 288899993 28881980117155-59370584499Y91
80368686 81311 888800001008880000117160 64470583400Y91
```

### Slovenia 2011 Households

### Slovenia 2011 Persons

# IPUMS Population Microdata

Fixed-column ASCII

Marital  
status

Education

Occupation

0000980001001002100000791	220	2208021	120	390099900	990	000000001
0000980001002001200000642	220	2208022	120	310099900	990	000000002
0000980001003000410000231	100	2208022	120	100083200	269	000001202
0000980001004000410000132	100	2208012	120	330099900	990	000000002
0000988001001002100000351	210	2208022	311	230072300	527	000000302
0000988001002001200000412	210	2208022	120	310099900	990	000000002
0000988001003000300000172	100	2208022	212	230099800	990	000000002
0000988001004000300000162	100	2208022	212	310099900	990	000000002
000098800100500649100192	210	2208022	212	310099900	990	000000002
000098800100600549100271	210	2208022	312	100012200	011	000009602
0000988001007000410000002	100	2208000	000	000099900	990	999999992
000098800100800049100221	100	2208022	311	100061100	011	000002801
0001005001001002100000451	210	2208012	212	100061100	011	000002002
0001005001002001200000342	210	2208012	221	310099900	990	000000002
0001005001003000300000122	100	2208012	212	330099900	990	000000002
0001013001001002100000651	220	2207022	120	343099900	990	000000002
0001013001002001200000652	220	2208022	120	310099900	990	000000002
0001013001003000300000332	350	2208022	221	310099900	990	000000002
0001013001004000410000152	100	2208012	221	330099900	990	000000002
0001013001005000410000132	100	2208012	212	330099900	990	000000002
0001013001006000410000021	100	2208000	000	000099900	990	999999992



# Researcher Data Tools

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# Sample and Confidentialize (1)

- **1-in-N systematic sample**
- **Suppress sensitive variables**
- **Swap households**

# Standardization

C006-EA-T	year: 1982, sample: 1%, record: individual, variable: age Length: 3 Age in years			
C007-HHOL	Romania 1992			
(record type)	Line No.	Item	Data type and Item Len.	Signification and values
age 2	1	MADA	N 6	010001 47XXXX number of the file, where:
Record Name	EAU	Point d'eau potable à l'intérieur du logement (DOM)		1 : Eau froide seulement 2 : Eau froide et chaude 3 : Aucun point d'eau à l'intérieur du logement X : Hors logement ordinaire (DOM et France métropolitaine) Z : Logement ordinaire France métropolitaine
Item (occurrence)	EGOUL	Mode d'évacuation des eaux usées (DOM)		1 : Raccordement au réseau d'égouts 2 : Raccordement à une fosse septique 3 : Raccordement à un puisard 4 : Evacuation des eaux usées à même le sol X : Hors logement ordinaire (DOM et France métropolitaine) Z : Logement ordinaire France métropolitaine
POP1	ELEC	Électricité dans le logement (DOM)		1 : Avec électricité 2 : Sans électricité X : Hors logement ordinaire (DOM et France métropolitaine) Z : Logement ordinaire France métropolitaine
P00-LIN	EMPL	Condition d'emploi		11 : En contrat d'apprentissage 12 : Placés par une agence d'intérim 13 : Emplois-jeunes, CES, contrats de qualification 14 : Stagiaires rémunérés en entreprise 15 : Autres emplois à durée limitée, CDD, contrat court, vacataire... 16 : Emplois sans limite de durée, CDI, titulaire de la fonction publique 21 : Non salariés : Indépendants 22 : Non salariés : Employeurs 23 : Non salariés : Aides familiaux ZZ : Sans objet
P10-REL				
P11-SEX				
P12-AGE				
	reg			. absent for a long time:
	4: Li			- for working 4
	5: U			- for studies 5
	reg			- other reason 6

# IPUMS Data Dictionary

[Translate](#)

## Dominican Republic 1970

Name	Column	Width	Variable Label	Code	Label
<b>SEX</b>	<b>40</b>	<b>1</b>	<b>Sex</b>		
				1	Varon
				2	Hembra
<b>RELATE</b>	<b>41</b>	<b>1</b>	<b>Relationship</b>		
				1	Jefe
				2	Conyuge (esposa)
				3	Companera
				4	Hijo
				5	Conyuge del hijo
				6	Companera del hijo
				7	Otro parentesco
				8	Domestica
				9	No pariente
<b>MARST</b>	<b>42</b>	<b>1</b>	<b>Marital status</b>		
				1	Soltero (nunca casado)
				2	Casado
				3	Viudo
				4	Divorciado
				5	Separado legalmente
				6	Anulado
<b>CONS</b>	<b>43</b>	<b>1</b>	<b>Consensual union</b>		
				1	Si
				2	No
				0	Menores de 15 anhos
<b>LIT</b>	<b>44</b>	<b>1</b>	<b>Literacy</b>		
				1	Si
				2	No
				3	No responde
				0	No aplica



# IPUMS Data Dictionary

## Dominican Republic 1970

Collect  
Freqs

Source Variables

Name	Column	Width	Variable Label	Code	Label	Translated Label
<b>SEX</b>	<b>40</b>	<b>1</b>	<b>Sex</b>			
				1	Varon	Male
				2	Hembra	Female
<b>RELATE</b>	<b>41</b>	<b>1</b>	<b>Relationship</b>			
				1	Jefe	Head of household
				2	Conyuge (esposa)	Spouse
				3	Companera	Partner
				4	Hijo	Child
				5	Conyuge del hijo	Spouse of child
				6	Companera del hijo	Partner of child
				7	Otro parentesco	Other relative
				8	Domestica	Servant
				9	No pariente	Not related
						[no label]
<b>MARST</b>	<b>42</b>	<b>1</b>	<b>Marital status</b>			
				1	Soltero (nunca casado)	Single, never married
				2	Casado	Married
				3	Viudo	Widowed
				4	Divorciado	Divorced
				5	Separado legalmente	Legally separated
				6	Anulado	Annulled
						[no label]
						[no label]
						[no label]
<b>CONS</b>	<b>43</b>	<b>1</b>	<b>Consensual union</b>			
				1	Si	Yes
				2	No	No
				0	Menores de 15 anhos	Under age 15
<b>LIT</b>	<b>44</b>	<b>1</b>	<b>Literacy</b>			
				1	Si	Yes
				2	No	No
				3	No responde	Undeclared
				0	No aplica	Not applicable

[no label]

[no label]

[no label]

[no label]



# Data Dictionary Tools

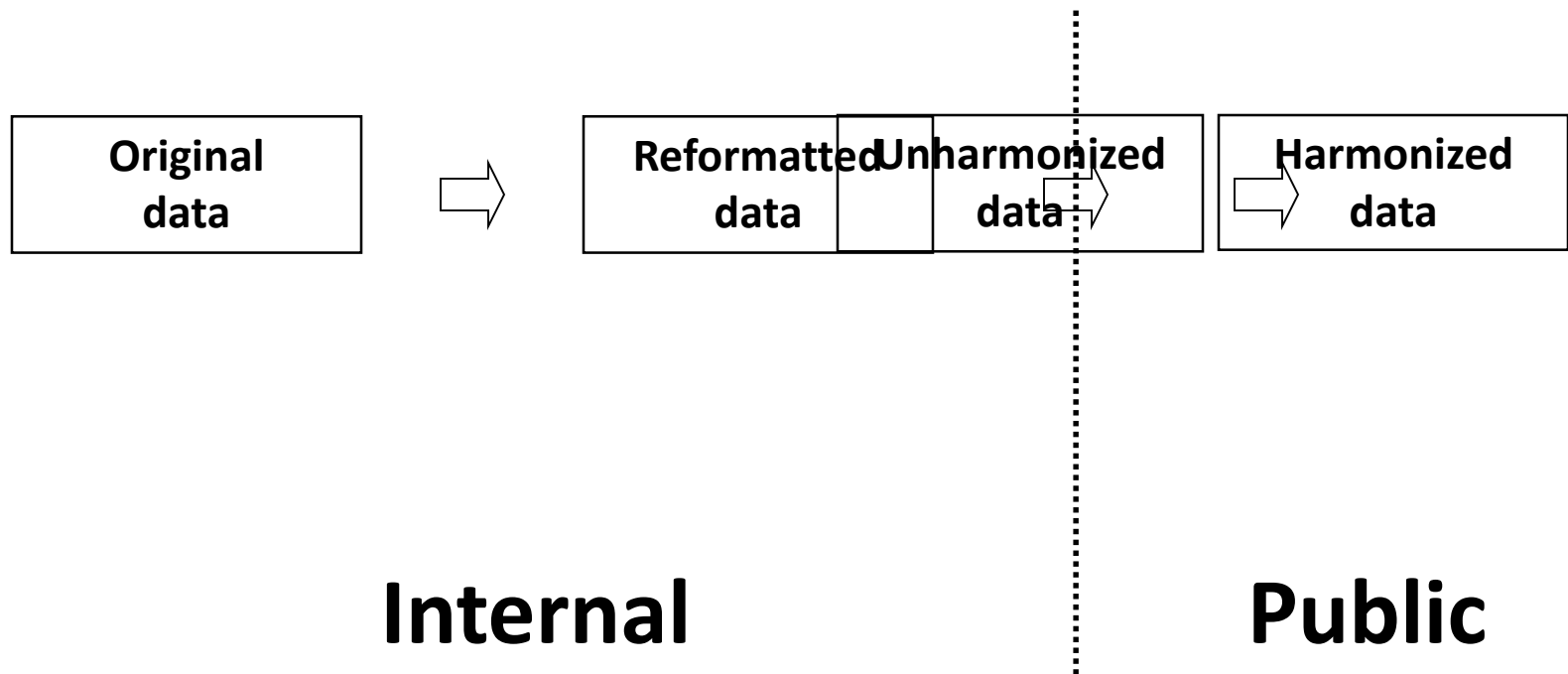
<u>D</u> ata dictionaries ▶	<u>S</u> how all rows or just variables
<u>S</u> ource and input variables ▶	<u>A</u> udit Metadata
<u>T</u> ranslation tables ▶	<u>N</u> ew workbook
C <u>o</u> ntrol files ▶	<u>F</u> ormat
U <u>t</u> ilities ▶	<u>F</u> ormat (svar style)
E <u>x</u> port for DCP (new workflow) ▶	S <u>o</u> rt this svar value rows
S <u>a</u> ve sample designs as text	S <u>o</u> rt all svar value rows
C <u>o</u> mpute percentage distribution	C <u>o</u> create OutputDataType Column
<u>I</u> ndent or outdent output labels	<u>T</u> agging view
<u>O</u> pen file	<u>I</u> mport Enumeration Tags
<u>C</u> ommand line	<u>A</u> utopopulate D Tags
<u>B</u> atch mode ▶	R <u>u</u> n all checks
<u>V</u> ersion	C <u>h</u> eck <u>c</u> olumn sequence
T <u>r</u> oubleshoot toolkit ▶	C <u>h</u> eck for <u>l</u> ong variable names
	C <u>h</u> eck <u>d</u> uplicate variable names
	C <u>h</u> eck <u>d</u> uplicate source variables
	C <u>h</u> eck for <u>m</u> issing info
	C <u>h</u> eck for <u>n</u> on-numeric input codes
	C <u>h</u> eck for <u>d</u> uplicate values
	C <u>h</u> eck for consistency of var <u>w</u> idth to column value
	C <u>o</u> create syntax file <u>Y</u> AML
	M <u>a</u> ke SPSS syntax for <u>u</u> niverse checking
	C <u>h</u> eck for <u>s</u> mall cells
	A <u>d</u> just <u>c</u> olumn locations
	M <u>a</u> ke metadata for <u>l</u> eftside-B cleaning
	G <u>e</u> t <u>f</u> requencies (recommended)
	G <u>e</u> t frequencies (old Perl method)
	I <u>P</u> UMSI: Update Labor Force DDs
	I <u>P</u> UMSI: Create New Labor Force DDs

## **Confidentialize (2)**

- **Combine small categories**
- **Top-code and bottom-code**
- **Combine areas < 20,000 population**

# Source Variable Evolution

Redesigned IPUMS Data  
Original IPUMS Data



# Documentation to Metadata



Person

1

You  
are  
Every  
Cer



11. NÚMERO DE HIJOS

PARA MUJERES  
DE 12 AÑOS O MÁS

¿Ha tenido alguna hija o hijo  
nacido vivo?

Marque con "X" en solo círculo

SI ☐ 1 NO ☐ 2

Si CONTESTA QUE "SI"  
PREGUNTE:

En total, ¿cuántas hijas e  
hijos que nacieron vivos ha  
tenido?

\_\_\_\_\_  
Anote con número

¿Cuántos de éstos viven  
actualmente?

\_\_\_\_\_  
Anote con número

## 11. NÚMERO DE HIJOS

Esta es una pregunta que sólo harás a las mujeres que tienen 12 años cumplidos o más.

Si el informante te contesta que la mujer no ha tenido ningún hijo o hija nacido vivo, **anota la respuesta en el cuestionario** y pasa a la pregunta 12. ESTADO CIVIL.

Si la respuesta es que sí ha tenido alguna hija o hijo nacido vivo, pregunta por el total de hijos nacidos vivos y el total de hijos vivos actualmente.

Recuerda que se trata de todos los hijos e hijas nacidos vivos, sin importar si viven con la madre o no. **Asegúrate que el total de hijas e hijos que ha tenido la mujer empadronada, sea igual o mayor que el de los hijos e hijas vivos actualmente.** De ser mayor el número de hijos e hijas vivos actualmente, acláralo con el informante y corrige.



# Convert Questionnaires to Metadata

## (Mexico 2000)

### I. Características de la vivienda

1. PAREDES	2. TECHOS	3. PISOS
¿De qué material es la mayor parte de las paredes o muros de esta vivienda?	¿De qué material es la mayor parte del techo de esta vivienda?	¿De qué material es la mayor parte del piso de esta vivienda?
CIRCULE UN SOLO CÓDIGO	CIRCULE UN SOLO CÓDIGO	CIRCULE UN SOLO CÓDIGO
Material de desecho ..... 1	Material de desecho ..... 1	Tierra ..... 1
Lámina de cartón ..... 2	Lámina de cartón ..... 2	Cemento o firme ..... 2
Lámina de asbesto o metálica ..... 3	Lámina de asbesto o metálica ..... 3	Madera, n ..... 3
Carrizo, bambú o palma ..... 4	Palma, tejamanil o madera ..... 4	otros recu ..... 3
Embarro o bajareque ..... 5	Teja ..... 5	
Madera ..... 6	Losa de ladrillo o terrazo con vigueta ..... 6	
Adobe ..... 7		
Tabique, ladrillo, block, piedra, cantera, cemento o concreto ..... 8		

4. COCINA	5. NÚMERO DE CUARTOS	6. DISPONIBILIDAD DE AGUA
¿Esta vivienda tiene un cuarto para cocinar?	¿Cuántos cuartos se usan para dormir sin contar pasillos?	¿En esta vivienda tienen:
CIRCULE UN SOLO CÓDIGO	ANOTE CON NUMERO	LEA LAS OPCIONES HASTA OBTENER UNA RESPUESTA AFIRMATIVA Y CIRCULE UN SOLO CÓDIGO
Sí ..... 1		agua entubada dentro de la vivienda? ..... 1
No ..... 2		agua entubada fuera de la vivienda, pero dentro del terreno? ..... 2
		agua entubada de llave pública (o hidrante)? ..... 3
En el cuarto donde cocinan, ¿también duermen?	Sin contar pasillos ni baños, ¿cuántos cuartos tiene en total esta vivienda? Cuente la cocina.	agua entubada que acarrean de otra vivienda? .. 4
CIRCULE UN SOLO CÓDIGO	ANOTE CON NUMERO	agua de pipa? ..... 5
Sí ..... 3		agua de un pozo, río, lago, arroyo u otra? ..... 6
No ..... 4		

Number  
of Rooms

Water  
Access

# Questionnaire Metadata: XML

Block tag

```
<text id="14">  
5. Number of Rooms  
</text>
```

```
<text id="15">  
How many rooms are used for sleeping without counting hallways?  
  <i1>  
    _____ Write the number  
  </i1>  
</text>
```

Format tag: web display

```
<text id="16">  
Without counting the hallways or bathrooms how many total rooms are in  
this dwelling? Count the kitchen  
  <i1>  
    _____ Write the number  
  </i1>  
</text>
```

```
<text id="17">  
6. Access to water  
  
Read all of the options until you get an affirmative answer.  
Circle only one answer.  
  <i1>  
    1 Running water inside the dwelling  
    2 Running water outside the dwelling but on the land  
    3 Running water from a public faucet or hydrant  
    4 Running water that is carried from another dwelling  
    5 Tanked in by truck  
    6 Water from a well, river, lake, stream or other  
  </i1>  
  
Answers 3, 4, 5, 6 continue with number 8  
</text>
```

# Connect Data Dictionary to Questionnaire

Var	Col	Wid	Value	ValueLabel	Freq	Svar	Universe	Tag
<b>bedrms</b>	<b>69</b>	<b>2</b>		<b>Number of bedrooms</b>		<b>MX2000_0023</b>	<b>All households</b>	<b>15</b>
			1	1	915,989			
			2	2	833,221			
			3	3	408,373			
			4	4	106,946			
			5	5	24,801			
			6	6	7,237			
			7	7	1,987			
			8	8	877			
			9	9 or more	368			
			99	Missing	11,613			
<b>rooms</b>	<b>71</b>	<b>2</b>		<b>Total number of rooms</b>		<b>MX2000_0024</b>	<b>All households</b>	<b>16</b>
			1	1	238,473			
			2	2	508,621			
			3	3	548,521			
			4	4	468,404			
			5	5	282,985			
			6	6	130,773			
			7	7	58,002			
			8	8	30,649			
			9	9 or more	13,218			
			99	Missing	17,280			
<b>water</b>	<b>73</b>	<b>1</b>		<b>Availability of water</b>		<b>MX2000_0025</b>	<b>All households</b>	<b>17</b>
			1	Piped water inside the dwelling	1,138,262			
			2	Piped water outside of the dwelling, but wit	697,912			
			3	Piped water from a public tap (or hydrant)	68,212			
			4	Piped water brought in from another dwellin	52,041			
			5	Tanked in by truck	46,147			
			6	Water from a well, river, lake, stream or oth	287,654			
			9	Not specified	21,807			

# Harmonization



# Data: Variable Harmonization

## Marital Status: IPUMS-International

### Bangladesh 2011

- 1 = Unmarried
- 2 = Married
- 3 = Widowed
- 4 = Divorced/separated

### Mexico 1970

- 1 = Married, civil & relig
- 2 = Married, civil
- 3 = Married, religious
- 4 = Consensual union
- 5 = Widowed
- 6 = Divorced
- 7 = Separated
- 8 = Single

### Kenya 1999

- 1 = Never married
- 2 = Monogamous
- 3 = Polygamous
- 4 = Widowed
- 5 = Divorced
- 6 = Separated

# Translation Table

## Input

**Bangladesh  
2011**

**Mexico  
1970**

**Kenya  
1999**

1 = Unmarried	1 = Married, civil & relig	1 = Never married
2 = Married	2 = Married, civil	2 = Monogamous
3 = Widowed	3 = Married, religious	3 = Polygamous
4 = Divrc or separated	4 = Consensual union	4 = Widowed
	5 = Widowed	5 = Divorced
	6 = Divorced	6 = Separated
	7 = Separated	
	8 = Single	

# Translation Table

## Harmonized

Code              Label

1		Single
2		Married or in union
2		▶
2		▶
2		▶
2		▶
2		▶
2		▶
2		▶
3		Divorced or separated
3		
3		
4		Widowed

# Translation Table

## Harmonized

## Input

Code	Label	Bangladesh 2011	Mexico 1970	Kenya 1999
1 0 0	Single	1 = Unmarried	8 = Single	1 = Never married
2 0 0	Married or in union	2 = Married		
2 1 0	Married, formally			
2 1 1	Civil		2 = Married, civil	
2 1 2	Religious		3 = Married, religious	
2 1 3	Civil and religious		1 = Married, civil & relig	
2 1 4	Monogamous			2 = Monogamous
2 1 5	Polygamous			3 = Polygamous
2 2 0	Consensual union		4 = Consensual union	
3 0 0	Divorced or separated	4 = Divrc or separated		
3 1 0	Separated		7 = Separated	6 = Separated
3 2 0	Divorced		6 = Divorced	5 = Divorced
4 0 0	Widowed	3 = Widowed	5 = Widowed	4 = Widowed

# Variable-level Programming

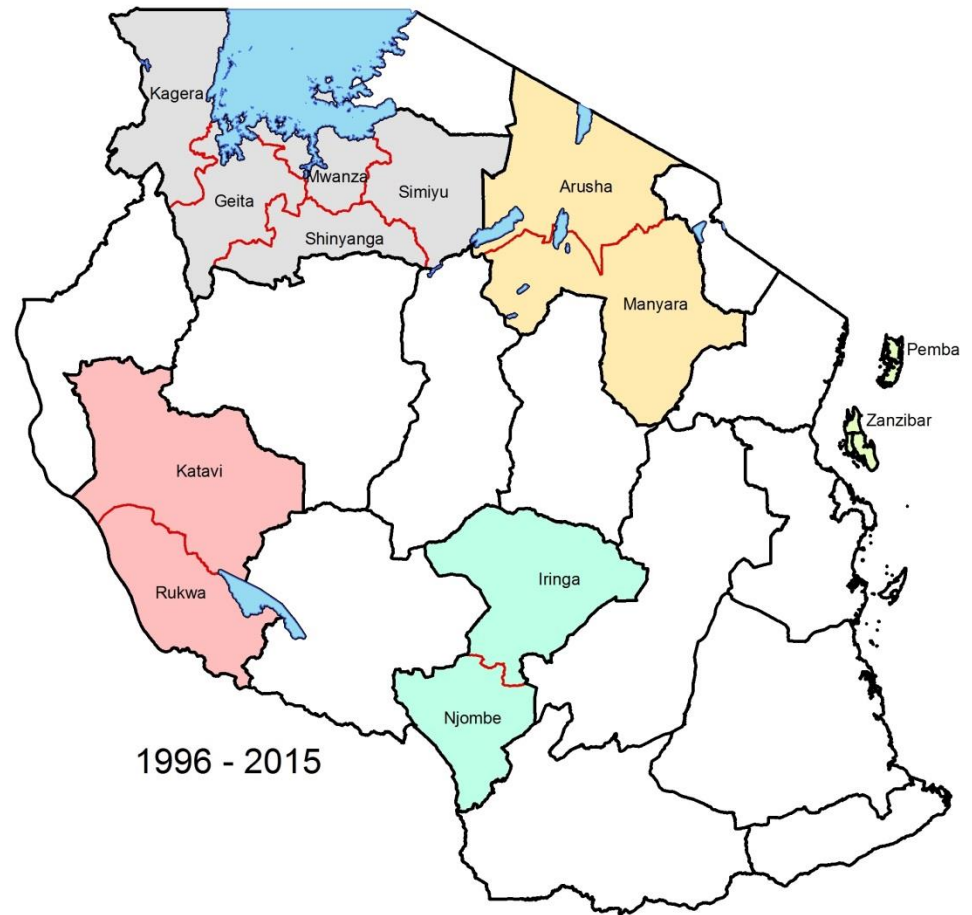
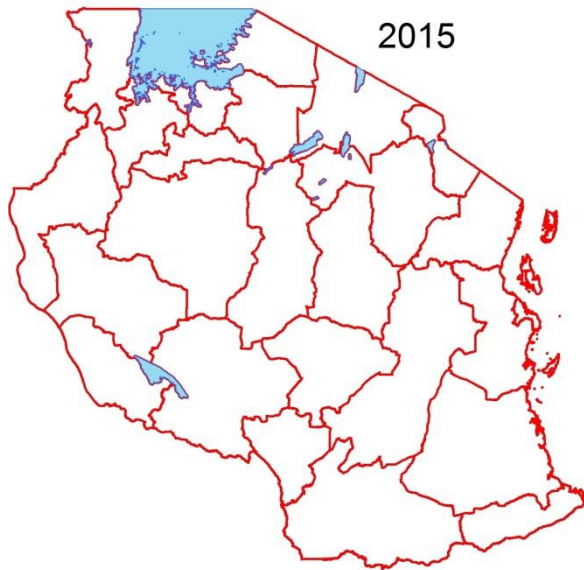
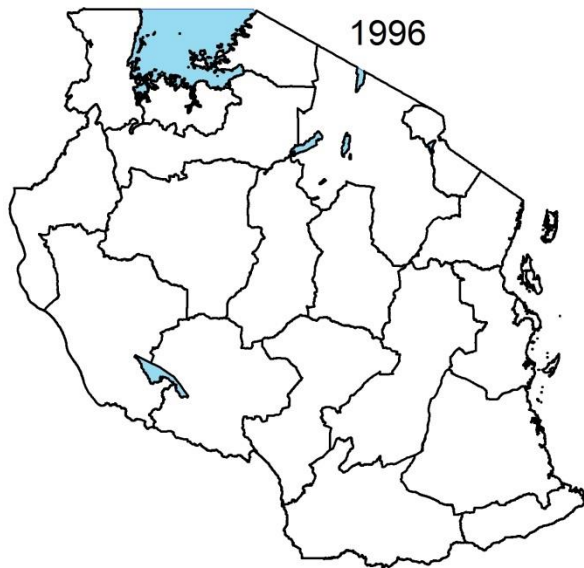
## Age at First Marriage

```
long long International_Conversion_Rules::agemarr(int ln) {
    if (calculated[ln][ipumsi_agemarr]) return result[ln][ipumsi_agemarr];
    long long a=rc(ipumsi_agemarr,ln);
    switch(dataSet){
        case es1981a:{
            a = es1981a_0430(ln) - (1981 - es1981a_0424(ln));
            if (a < 10 || a > 98) a = 99;
            if (es1981a_0424(ln) == 9999)
                a = 0;
            }break;
        case gr2001a:{
            int z = gr2001a_0438(ln);
            if (gr2001a_0438(ln) == 1921) z = originalValue(ipumsi_gr2001a_0438,ln);
            a = originalValue(ipumsi_gr2001a_0450,ln) - (2001 - z);
            if (a < 10 || a > 98) a = 99;
            if (gr2001a_0438(ln) == 9999) a = 0;
            if (a > 56 && a != 99) a = 56; // top code

            }break;
        case ro1992a:{
            a = ro1992a_0434(ln) - (1992 - ro1992a_0426(ln));
            if (a < 10 || a > 98) a = 99;
            if (ro1992a_0426(ln) == 9999)
                a = 0;
            }break;
    }
```

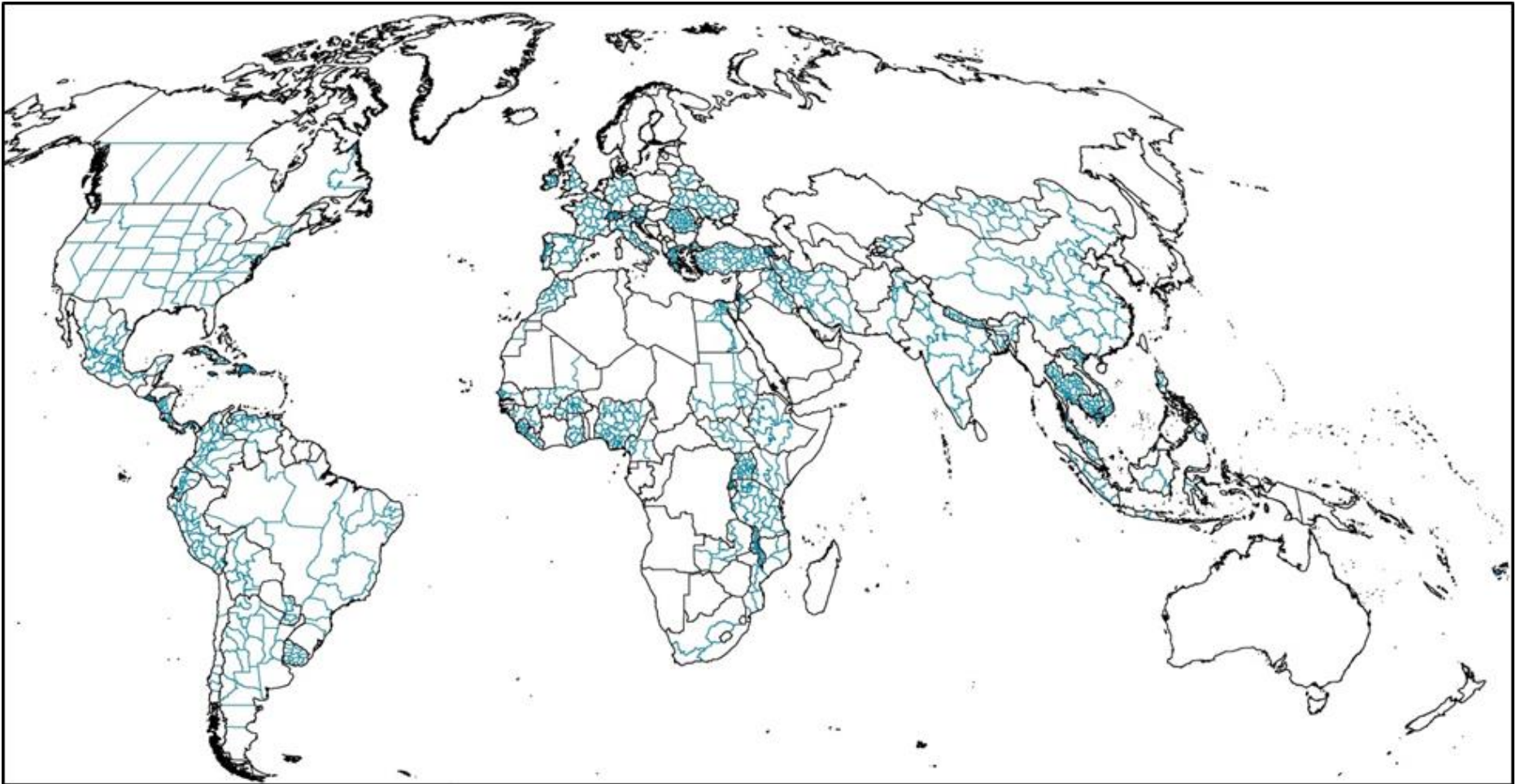


# Geographic Harmonization



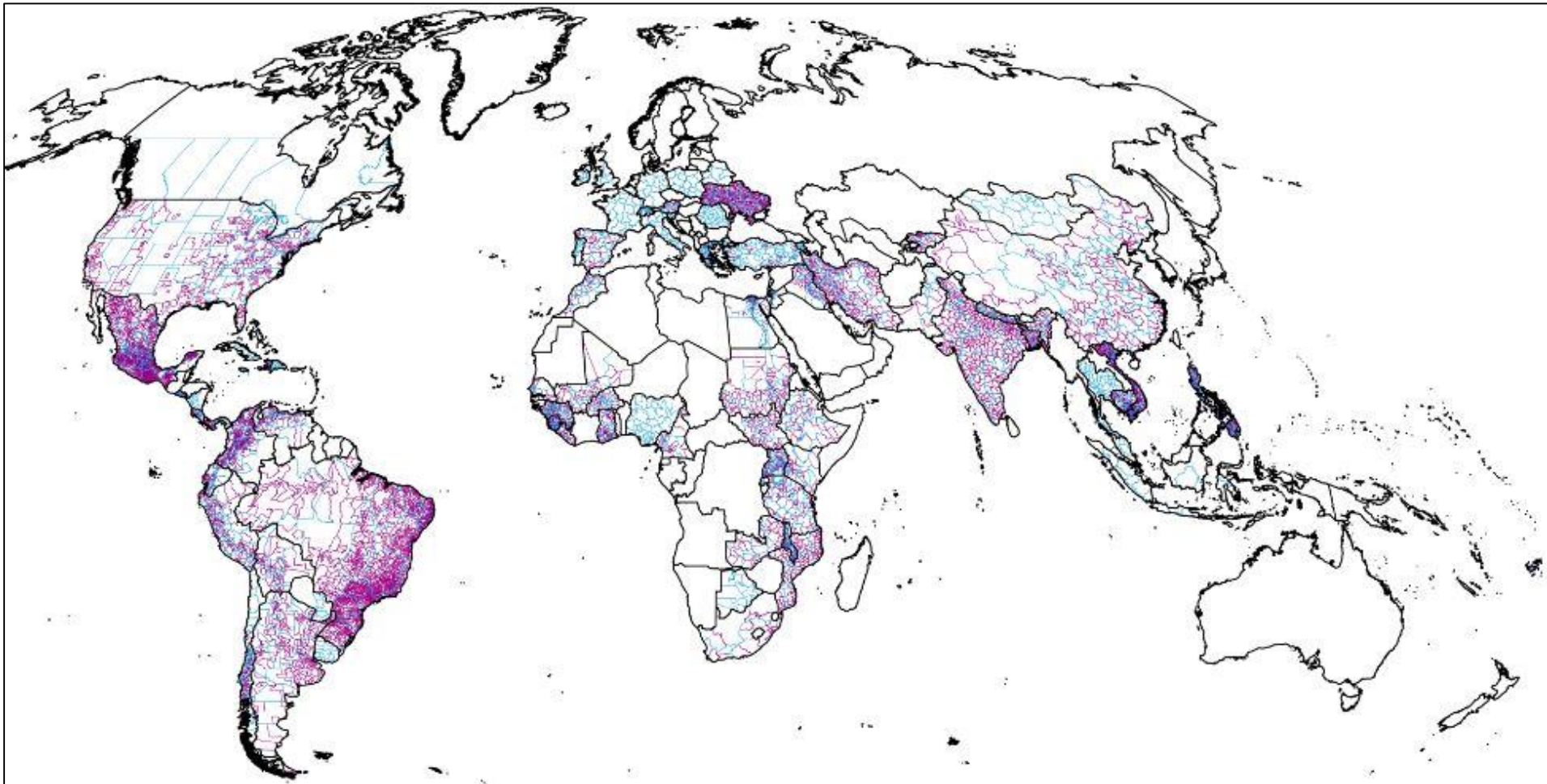
# Global Harmonized Geography

## 1st Level



# Global Harmonized Geography











































## 2nd Level



**1,632 1st-level units**  
**12,789 2nd-level units**

# Data Processing






























































































































# Data Conversion Program

 bin	 read_parquet
 build	 rules
 change_output_data	 scored_imputation
 cmake	 settings
 conversion	 submit_work_request
 convert_output_data	 test
 data	 test_runner
 data_generator	 utils
 db	 version
 editing_api	 add_variable_to_edit
 imputation	 build.txt
 io	 CMakeLists.txt
 libs	 code_generator.rb
 lookup_tables	 dataset_code_generator.rb
 make_parquet	 Dockerfile
 metadata	 doctest.h
 missing_data_server	 generate_includes.rb
 msi	 github.key
 offline_metadata	 github.key.pub
 output_data_tools	 last_build_flags.txt
 parsing	 Rakefile.rb

**Custom C++  
Application**



# Batch Data Run

 ls1996a_ipumsi.dat.gz	 mz1997a_ipumsi.dat.gz	 pa2000a_ipumsi.dat.gz	 ps1997a_ipumsi.dat.gz	 si2002a_ipumsi.dat.gz
 ls2006a_ipumsi.dat.gz	 mz2007a_ipumsi.dat.gz	 pa2010a_ipumsi.dat.gz	 ps2007a_ipumsi.dat.gz	 sl2004a_ipumsi.dat.gz
 ma1982a_ipumsi.dat.gz	 ng2006a_ipumsi.dat.gz	 pe1993a_ipumsi.dat.gz	 pt1981a_ipumsi.dat.gz	 sn1988a_ipumsi.dat.gz
 ma1994a_ipumsi.dat.gz	 ng2007a_ipumsi.dat.gz	 pe2007a_ipumsi.dat.gz	 pt1991a_ipumsi.dat.gz	 sn2002a_ipumsi.dat.gz
 ma2004a_ipumsi.dat.gz	 ng2008a_ipumsi.dat.gz	 pg1980a_ipumsi.dat.gz	 pt2001a_ipumsi.dat.gz	 ss2008a_ipumsi.dat.gz
 ml1987a_ipumsi.dat.gz	 ng2009a_ipumsi.dat.gz	 pg1990a_ipumsi.dat.gz	 pt2011a_ipumsi.dat.gz	 sv1992a_ipumsi.dat.gz
 ml1998a_ipumsi.dat.gz	 ng2010a_ipumsi.dat.gz	 pg2000a_ipumsi.dat.gz	 py1962a_ipumsi.dat.gz	 sv2007a_ipumsi.dat.gz
 ml2009a_ipumsi.dat.gz	 ni1971a_ipumsi.dat.gz	 pg2011a_ipumsi.dat.gz	 py1972a_ipumsi.dat.gz	 tg1960a_ipumsi.dat.gz
 mn1989a_ipumsi.dat.gz	 ni1995a_ipumsi.dat.gz	 ph1990a_ipumsi.dat.gz	 py1982a_ipumsi.dat.gz	 tg1970a_ipumsi.dat.gz
 mn2000a_ipumsi.dat.gz	 ni2005a_ipumsi.dat.gz	 ph1995a_ipumsi.dat.gz	 py1992a_ipumsi.dat.gz	 tg2010a_ipumsi.dat.gz
 mw1987a_ipumsi.dat.gz	 nl1960a_ipumsi.dat.gz	 ph2000a_ipumsi.dat.gz	 py2002a_ipumsi.dat.gz	 th1970a_ipumsi.dat.gz
 mw1998a_ipumsi.dat.gz	 nl1971a_ipumsi.dat.gz	 ph2010a_ipumsi.dat.gz	 ro1977a_ipumsi.dat.gz	 th1980a_ipumsi.dat.gz
 mw2008a_ipumsi.dat.gz	 nl2001a_ipumsi.dat.gz	 pk1973a_ipumsi.dat.gz	 ro1992a_ipumsi.dat.gz	 th1990a_ipumsi.dat.gz
 mx1960a_ipumsi.dat.gz	 nl2011a_ipumsi.dat.gz	 pk1981a_ipumsi.dat.gz	 ro2002a_ipumsi.dat.gz	 th2000a_ipumsi.dat.gz
 mx1970a_ipumsi.dat.gz	 no1801a_ipumsi.dat.gz	 pk1998a_ipumsi.dat.gz	 ro2011a_ipumsi.dat.gz	 tr1985a_ipumsi.dat.gz
 mx1990a_ipumsi.dat.gz	 no1865a_ipumsi.dat.gz	 pl1978a_ipumsi.dat.gz	 ru2002a_ipumsi.dat.gz	 tr1990a_ipumsi.dat.gz
 mx1995a_ipumsi.dat.gz	 no1875a_ipumsi.dat.gz	 pl1988a_ipumsi.dat.gz	 ru2010a_ipumsi.dat.gz	 tr2000a_ipumsi.dat.gz
 mx2000a_ipumsi.dat.gz	 no1900a_ipumsi.dat.gz	 pl2002a_ipumsi.dat.gz	 rw1991a_ipumsi.dat.gz	 tt1970a_ipumsi.dat.gz
 mx2005a_ipumsi.dat.gz	 no1910a_ipumsi.dat.gz	 pl2011a_ipumsi.dat.gz	 rw2002a_ipumsi.dat.gz	 tt1980a_ipumsi.dat.gz
 mx2010a_ipumsi.dat.gz	 np2001a_ipumsi.dat.gz	 pr1970a_ipumsi.dat.gz	 rw2012a_ipumsi.dat.gz	 tt1990a_ipumsi.dat.gz
 mx2015a_ipumsi.dat.gz	 np2011a_ipumsi.dat.gz	 pr1980a_ipumsi.dat.gz	 sd2008a_ipumsi.dat.gz	 tt2000a_ipumsi.dat.gz
 my1970a_ipumsi.dat.gz	 pa1960a_ipumsi.dat.gz	 pr1990a_ipumsi.dat.gz	 se1880a_ipumsi.dat.gz	 tt2011a_ipumsi.dat.gz
 my1980a_ipumsi.dat.gz	 pa1970a_ipumsi.dat.gz	 pr2000a_ipumsi.dat.gz	 se1890a_ipumsi.dat.gz	 tz1988a_ipumsi.dat.gz
 my1991a_ipumsi.dat.gz	 pa1980a_ipumsi.dat.gz	 pr2005a_ipumsi.dat.gz	 se1900a_ipumsi.dat.gz	 tz2002a_ipumsi.dat.gz
 my2000a_ipumsi.dat.gz	 pa1990a_ipumsi.dat.gz	 pr2010a_ipumsi.dat.gz	 se1910a_ipumsi.dat.gz	 tz2012a_ipumsi.dat.gz

# Dissemination


# Data Discovery: Variable Availability

(Number of samples)

Relationship to head	430	Religion	174
Age	443	Language	136
Sex	443	Ethnicity	103
Marital status	435	Race	51
Age at first marriage	42	School attendance	279
Children ever born	241	Literacy	235
Children surviving	184	Educational attainment	389
Mother's mortality status	76	Years of schooling	204
Country of birth	320	Employment status	362
Place of birth	316	Class of worker	370
Citizenship	243	Occupation	386
Year of immigration	125	Industry	354
Migration, international	201	Hours worked weekly	137
Migration, internal	276	Total income	41
Disability	152	Wage income	46



# Dissemination System



# IPUMS INTERNATIONAL

HOME | SELECT DATA | MY DATA | FAQ | HELP



## PROJECT

ABOUT IPUMS-I  
PEOPLE  
HOW TO CITE IPUMS-I  
USER REGISTRATION AND LOGIN

## DATA

BROWSE AND SELECT DATA  
DOWNLOAD YOUR DATA EXTRACT  
GEOGRAPHY AND GIS  
SUPPLEMENTAL DATA FILES  
RESEARCH DATA ENCLAVE  
ANALYZE DATA ONLINE

## SAMPLES

SAMPLE DESCRIPTIONS  
QUESTIONNAIRES  
VARIANCE ESTIMATION

## HARMONIZED INTERNATIONAL CENSUS DATA FOR SOCIAL SCIENCE AND HEALTH RESEARCH

IPUMS-International is dedicated to collecting and distributing census data from around the world. The project goals are to collect and preserve data and documentation, harmonize data, and disseminate the harmonized data free of charge.

**98 COUNTRIES – 443 CENSUSES AND SURVEYS – OVER 1 BILLION PERSON RECORDS**

***SOURCE DATA FOR IPUMS-INTERNATIONAL ARE GENEROUSLY PROVIDED BY PARTICIPATING NATIONAL STATISTICAL OFFICES***


CREATE AN EXTRACT

Browse Data

CREATE AN ACCOUNT

Register

# Data Browsing and Extraction

**IPUMS**  
INTERNATIONAL

HOME | SELECT DATA | MY DATA | FAQ | HELP

**DATA CART**  
YOUR DATA EXTRACT  
0 VARIABLES  
0 SAMPLES

SELECT HARMONIZED VARIABLES

HOUSEHOLD ▾ PERSON ▾ A-Z ▾ SEARCH

SELECT SAMPLES

☒ HARMONIZED VARIABLES  
☐ SOURCE VARIABLES

[HELP](#)  
[DISPLAY OPTIONS](#)  
[COUNTRY ABBREVIATIONS](#)

# Select Samples

SUBMIT SAMPLE SELECTIONS

<input type="checkbox"/> Argentina	<input checked="" type="checkbox"/> <a href="#">2010</a>	<input type="checkbox"/> <a href="#">2001</a>	<input type="checkbox"/> <a href="#">1991</a> ⓘ	<input type="checkbox"/> <a href="#">1980</a>	<input type="checkbox"/> <a href="#">1970</a>
<input type="checkbox"/> Armenia	<input checked="" type="checkbox"/> <a href="#">2011</a>	<input type="checkbox"/> <a href="#">2001</a>			
<input type="checkbox"/> Austria	<input checked="" type="checkbox"/> <a href="#">2011</a>	<input type="checkbox"/> <a href="#">2001</a>	<input type="checkbox"/> <a href="#">1991</a>	<input type="checkbox"/> <a href="#">1981</a>	<input type="checkbox"/> <a href="#">1971</a>
<input type="checkbox"/> Bangladesh	<input checked="" type="checkbox"/> <a href="#">2011</a>	<input type="checkbox"/> <a href="#">2001</a>	<input type="checkbox"/> <a href="#">1991</a>		
<input type="checkbox"/> Belarus		<input type="checkbox"/> <a href="#">2009</a>	<input type="checkbox"/> <a href="#">1999</a>		
<input type="checkbox"/> Bolivia		<input type="checkbox"/> <a href="#">2001</a>	<input type="checkbox"/> <a href="#">1992</a>		<input type="checkbox"/> <a href="#">1976</a>
<input type="checkbox"/> Botswana	<input checked="" type="checkbox"/> <a href="#">2011</a>	<input type="checkbox"/> <a href="#">2001</a>	<input type="checkbox"/> <a href="#">1991</a>	<input type="checkbox"/> <a href="#">1981</a>	
<input type="checkbox"/> Brazil	<input checked="" type="checkbox"/> <a href="#">2010</a>	<input type="checkbox"/> <a href="#">2000</a>	<input type="checkbox"/> <a href="#">1991</a>	<input type="checkbox"/> <a href="#">1980</a>	<input type="checkbox"/> <a href="#">1970</a>
<input type="checkbox"/> Burkina Faso		<input type="checkbox"/> <a href="#">2006</a>	<input type="checkbox"/> <a href="#">1996</a>	<input type="checkbox"/> <a href="#">1985</a>	
<input type="checkbox"/> Cambodia		<input type="checkbox"/> <a href="#">2008</a>	<input type="checkbox"/> <a href="#">1998</a>		
<input type="checkbox"/> Cameroon		<input type="checkbox"/> <a href="#">2005</a>		<input type="checkbox"/> <a href="#">1987</a>	<input type="checkbox"/> <a href="#">1976</a>
<input type="checkbox"/> Canada	<input checked="" type="checkbox"/> <a href="#">2011</a>	<input type="checkbox"/> <a href="#">2001</a> ⓘ	<input type="checkbox"/> <a href="#">1991</a> ⓘ	<input type="checkbox"/> <a href="#">1981</a> ⓘ	<input type="checkbox"/> <a href="#">1971</a> ⓘ
<input type="checkbox"/> Chile		<input checked="" type="checkbox"/> <a href="#">2002</a>	<input type="checkbox"/> <a href="#">1992</a>	<input type="checkbox"/> <a href="#">1982</a>	<input type="checkbox"/> <a href="#">1970</a>
<input type="checkbox"/> China		<input checked="" type="checkbox"/> <a href="#">2000</a>	<input type="checkbox"/> <a href="#">1990</a>	<input type="checkbox"/> <a href="#">1982</a>	

# Variable Browsing

SELECT HARMONIZED VARIABLES	
HOUSEHOLD ▾	PERSON ▾
A-Z ▾	
SEARCH	
TECHNICAL PERSON	
GROUP QUALITY	CONSTRUCTED FAMILY INTERRELATIONSHIP
GEOGRAPHY	DEMOGRAPHIC
GEOGRAPHY	FERTILITY AND MORTALITY
GEOGRAPHY	NATIVITY AND BIRTHPLACE
HOUSEHOLD	ETHNICITY AND LANGUAGE
UTILITIES	EDUCATION
APPLIANCES	WORK
DWELLING CONDITIONS	INCOME
OTHER HOUSEHOLD	MIGRATION
CONSTRUCTED	DISABILITY

CHANGE  
SAMPLES

- ☒ HARMONIZED VARIABLES
- ☐ SOURCE VARIABLES

# Select Variables

## DATA CART

YOUR DATA EXTRACT

3 VARIABLES  
9 SAMPLES

[VIEW CART](#)

### SELECT HARMONIZED VARIABLES

HOUSEHOLD ▾

PERSON ▾

A-Z ▾

SEARCH

CHANGE  
SAMPLES

☒ HARMONIZED VARIABLES

☐ SOURCE VARIABLES

### + DEMOGRAPHIC VARIABLES -- PERSON [TOP]

Add to cart	Variable	Variable Label	argent 2010	armen 2011	austria 2011	bangl 2011	botsw 2011	brazil 2010	canada 2011	chile 2002	china 2000
<input type="checkbox"/>	<u>RELATE</u>	Relationship to household head	X	X	.	X	X	X	X	X	X
<input checked="" type="checkbox"/>	<u>AGE</u>	Age	X	X	X	X	X	X	X	X	X
<input checked="" type="checkbox"/>	<u>AGE2</u>	Age, grouped into intervals	X	X	X	X	X	X	X	X	X
<input checked="" type="checkbox"/>	<u>SEX</u>	Sex	X	X	X	X	X	X	X	X	X
<input checked="" type="checkbox"/>	<u>MARST</u>	Marital status	.	X	X	X	X	X	X	X	X
<input type="checkbox"/>	<u>EMARST</u>	Marital status, Europe	.	.	X	.	.	.	.	.	.
<input type="checkbox"/>	<u>CONSENS</u>	Consensual union	.	X	.	.	X	X	X	X	.
<input type="checkbox"/>	<u>AGEMARR</u>	Age at first marriage or union	.	.	.	.	.	.	.	.	X
<input type="checkbox"/>	<u>MARRYR</u>	Year of first marriage	.	.	.	.	.	.	.	.	X
<input type="checkbox"/>	<u>BIRTHYR</u>	Year of birth	X	X	.	.	.	.	.	.	X
<input type="checkbox"/>	<u>BIRTHMO</u>	Month of birth	X	X	.	.	.	.	.	.	X

← 443 Samples →

# Variable Page: Marital Status

MARST

REMOVE FROM CART

CHANGE SAMPLES

Marital status

Group: [Demographic — PERSON](#)

CODES	DESCRIPTION	COMPARABILITY	UNIVERSE	AVAILABILITY	QUESTIONNAIRE TEXT	SOURCE VARIABLES
-------	-------------	---------------	----------	--------------	--------------------	------------------

☐ Category availability view

☒ Case-count view

☐ General codes (6 categories)

☒ Detailed codes (33 categories)

Code	Label	armen 2011	austria 2011	bangl 2011	botsw 2011	brazil 2010	canada 2011
000	NIU (not in universe)	.	.	.	341	.	.
100	SINGLE/NEVER MARRIED	126,363	362,592	3,436,322	136,055	.	370,202
110	Engaged	.	.	.	.	.	.
111	Never married and never cohabited	.	.	.	.	4,359,886	.
200	MARRIED/IN UNION	.	.	3,499,333	.	17,654	.
210	Married, formally	140,281	354,741	.	27,101	.	366,534
211	Civil	.	.	.	.	683,460	.
212	Religious	558	.	.	.	177,448	.
213	Civil and religious	.	.	.	.	1,820,016	.
214	Civil or religious	.	.	.	.	.	.
215	Traditional or customary	.	.	.	.	.	.
216	Monogamous	.	.	.	.	.	.
217	Polygamous	.	.	.	.	.	.
219	Married, spouse absent (historical samples)	.	.	.	.	.	.
220	Consensual union	6,571	.	.	30,482	1,480,065	88,381
300	SEPARATED, DIVORCED, OR SPOUSE ABSENT	.	.	.	.	.	.
310	Separated or divorced	.	.	26,406	.	.	.

# Variable Page: Marital Status

MARST

REMOVE FROM CART

CHANGE SAMPLES

Marital status

Group: [Demographic — PERSON](#)

CODES					
	DESCRIPTION	COMPARABILITY	UNIVERSE	AVAILABILITY	QUESTIONNAIRE TEXT
	<a href="#">Armenia 2001</a>	<a href="#">India 1987</a>	<a href="#">Iraq 1997</a>	<a href="#">Palestine 1997</a>	
	<a href="#">Armenia 2011</a>	<a href="#">India 1993</a>	<a href="#">Israel 1972</a>	<a href="#">Palestine 2007</a>	
	<a href="#">Bangladesh 1991</a>	<a href="#">India 1999</a>	<a href="#">Israel 1983</a>	<a href="#">Philippines 1990</a>	
	<a href="#">Bangladesh 2001</a>	<a href="#">India 2004</a>	<a href="#">Israel 1995</a>	<a href="#">Philippines 1995</a>	
	<a href="#">Bangladesh 2011</a>	<a href="#">India 2009</a>	<a href="#">Jordan 2004</a>	<a href="#">Philippines 2000</a>	
	<a href="#">Cambodia 1998</a>	<a href="#">Indonesia 1971</a>	<a href="#">Kyrgyz Republic 1999</a>	<a href="#">Thailand 1970</a>	
	<a href="#">Cambodia 2008</a>	<a href="#">Indonesia 1976</a>	<a href="#">Kyrgyz Republic 2009</a>	<a href="#">Thailand 1980</a>	
	<a href="#">China 1982</a>	<a href="#">Indonesia 1980</a>	<a href="#">Malaysia 1970</a>	<a href="#">Thailand 1990</a>	
	<a href="#">China 1990</a>	<a href="#">Indonesia 1985</a>	<a href="#">Malaysia 1980</a>	<a href="#">Thailand 2000</a>	
	<a href="#">China 2000</a>	<a href="#">Indonesia 1990</a>	<a href="#">Malaysia 1991</a>	<a href="#">Turkey 1985</a>	
	<a href="#">Fiji 1966</a>	<a href="#">Indonesia 1995</a>	<a href="#">Malaysia 2000</a>	<a href="#">Turkey 1990</a>	
	<a href="#">Fiji 1976</a>	<a href="#">Indonesia 2000</a>	<a href="#">Mongolia 1989</a>	<a href="#">Turkey 2000</a>	
	<a href="#">Fiji 1986</a>	<a href="#">Indonesia 2005</a>	<a href="#">Mongolia 2000</a>	<a href="#">Vietnam 1989</a>	
	<a href="#">Fiji 1996</a>	<a href="#">Indonesia 2010</a>	<a href="#">Pakistan 1973</a>	<a href="#">Vietnam 1999</a>	
	<a href="#">Fiji 2007</a>	<a href="#">Iran 2006</a>	<a href="#">Pakistan 1981</a>	<a href="#">Vietnam 2009</a>	
	<a href="#">India 1983</a>	<a href="#">Iran 2011</a>	<a href="#">Pakistan 1998</a>		



# Variable Page: Marital Status

MARST

REMOVE FROM CART

SELECT SAMPLES

Marital status

Group: [Demographic — PERSON](#)

CODES

DESCRIPTION

COMPARABILITY

UNIVERSE

AVAILABILITY

QUESTIONNAIRE TEXT

SOURCE VARIABLES

China 1990 — source variable [CN1990A\\_0415](#) — Marital status

[top](#)

## Questionnaire form

view entire document: [text](#) [image](#)

13. Marital status:

☐ 1 Never married

☐ 2 Married

☐ 3 Widowed

☐ 4 Divorced

## Questionnaire instructions

view entire document: [text](#) [image](#)

13. **Marital Status** --- Those **aged 15 and above**. At the time of Census, for those never-married people, circle "1" (Never-Married). At the time of Census, for those who have spouses (including those who are re-married after being widowed or divorced), circle "2" (Married). For those whose spouse is deceased but who are not married at the time of Census, circle "3" (Widowed). For those who is divorced but are not married at the time of Census, circle "4" (Divorced).

The answer to the marital status **should reflect the actual situation, rather than only the legal marriages.**



# Extract Summary

## Extract Request ([help](#))

Samples:	10	<a href="#">(show)</a>	<a href="#">Change</a>
Variables:	15	<a href="#">(show)</a>	<a href="#">Change</a>
Data format:	Default (fixed-width text)		<a href="#">Change</a>
Structure:	Rectangular		<a href="#">Change</a>
Estimated size:	1938.8 MB		<a href="#">How to reduce extract size</a>

**SPSS**  
**SAS**  
**STATA**  
**R**

### Options

Customize sample sizes

Specify the number of cases to include from each sample in your extract.

Select cases

Include only specified cases (for example, persons age 60 and older).

Attach characteristics

Attach data from mother, father, spouse or household head as a new variable (for example, education of mother).

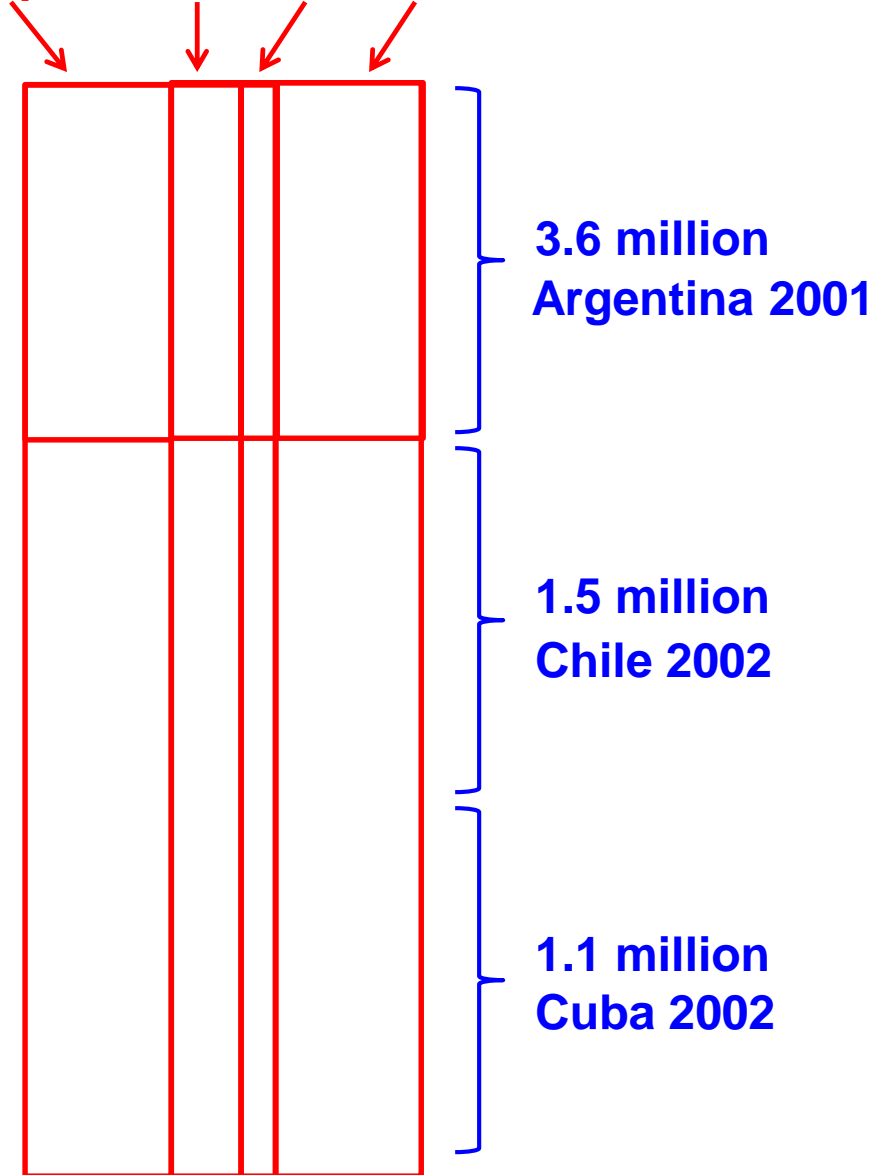
Describe your extract

Submit extract

# Pooled Data Extracts

**1 dataset**  
**3 censuses**  
**4 variables**  
**6.2 million records**  
**Harmonized codes**

**sample water sex education**



# Online Analysis

# France 1962-2011 Education

SDA [Help](#) ☐ Accessibility mode **Study: France 1962-2011**

**Analysis** [Create Variables](#) [Codebook](#)

## Variable Selection

Selected:  [View](#)

Copy to: [Row](#) [Col](#) [Ctrl](#) [Filter](#)

Mode

☐ Append ☒ Replace

- Household variables
  - Technical Household
  - Group Quarters
  - Geography: Global
  - Geography: F-N
  - Household Economic
  - Utilities
  - Appliances, Mechanicals, Other Amenities
  - Dwelling Characteristics
  - Constructed Household
- Person variables
  - Technical Person
  - Constructed Family Interrelationship
  - Demographic
  - Nativity and Birthplace
  - Education
  - Work
  - Migration: Global
  - Migration: F-N
  - Migration: Retiring
  - Disability

[Tables](#)

[Means](#)

[Correl. matrix](#)

[Comp. correl.](#)

[Regression](#)

[Logit/Probit](#)

[List values](#)

## SDA Frequencies/Crosstabulation Program

Help: [General](#) / [Recoding Variables](#)

Row:  (Required)

Column:

Control:

Selection Filter(s):

Weight:

[Output Options](#)

[Chart Options](#)

[Decimal Options](#)

[Run the Table](#)

[Clear Fields](#)

# France 1962-2011 Education

Frequency Distribution										
Cells contain: -Column percent		year								ROW TOTAL
		1962 1962	1968 1968	1975 1975	1982 1982	1990 1990	1999 1999	2006 2006	2011 2011	
edattain	0: NIU (not in universe)	28.4	27.0	25.9	23.9	21.8	17.9	17.3	17.3	22.0
	1: Less than primary completed	39.6	34.9	28.7	29.3	22.2	16.6	12.8	11.4	23.4
	2: Primary completed	22.8	24.9	25.2	21.8	22.6	21.9	20.6	18.8	22.1
	3: Secondary completed	7.6	10.9	15.6	19.5	24.6	29.8	31.5	32.4	22.4
	4: University completed	1.7	2.3	4.7	5.5	8.7	13.9	17.8	20.2	10.1
	COL TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

56 million cases in 10 seconds



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VISIT SITE



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Health survey data for Africa and Asia, including harmonized data collections for [DHS](#) and [PMA](#). [Learn More](#)

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VISIT SITE



Historical and contemporary U.S. health survey data from [NHIS](#) (1963-present) and [MEPS](#) (1996-present). [Learn More](#)

VISIT SITE



Survey data on the science and engineering workforce in the U.S. from 1993 to the present. [Learn More](#)

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