
French census reengineering

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Insee

19th august 2003



ISI 2003

The context

- Increasing periods between censuses : 7, 8, 9 years
- Insufficient legal basis :
 - périodicity
 - Insee and the municipalities' function
- Increasing demand for information :
 - At a local scale : décentralization, more responsibility for municipalities, regions
 - Fresher data
- No population register
- Progress in :
 - Sampling techniques
 - Geographic information systems (GIS)

The project of reengineering the census

- L. Kish ideas :
building estimations from regular surveys
- Deville-Jacod report (1995)
- Law « Démocratie de proximité » voted : 27th february 2002

The methodology

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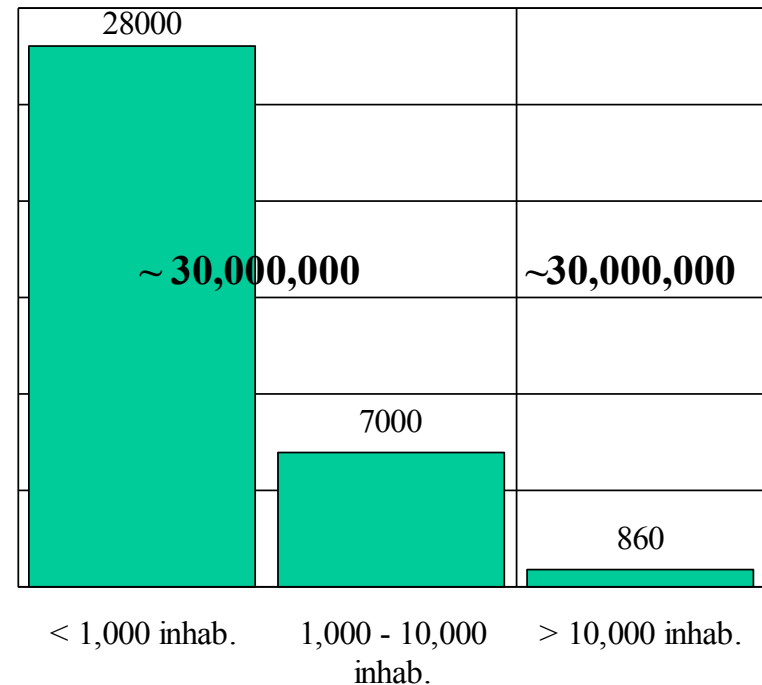


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- constraint :
 - Limited budget
 - Every year : 1/7th of the general census budget
 - 5 years cycle :
 - Produce 3 years old data
- sampling : survey 5/7 (70%) of population over 5 years

Sample level

- Communes < 10,000 inhab. :
 - ~ 30 M hab. x 1/5 x 100 % = 6 M
- Communes > 10,000 inhab. :
 - ~ 30 M hab. x 1/5 x 40 % = 2,4 M
- Total : 8,4 M ~ 60 M / 7



Communes under 10,000 inhab.

- Five groups :
 - Regional representativity (population and dwellings)
- Each year :
full enumeration in the communes of the group
- Including institutions

Balanced samples (Deville-Tillé)

- Number of dwellings
- Number of dwellings in collective buildings
- Age groups and sex distribution
 - *Less than 20 years old*
 - *20-39*
 - *40-59*
 - *60-74*
 - *> 75*
 - *female*
 - *men*
- Population of départements

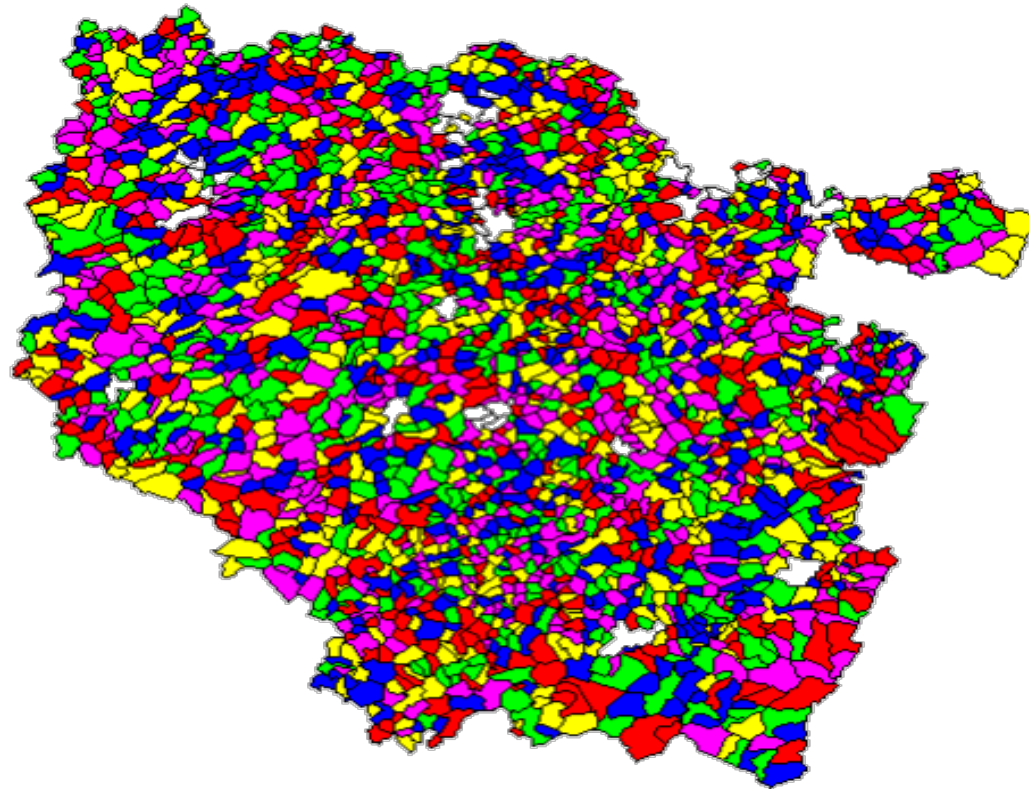
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Rotation groups

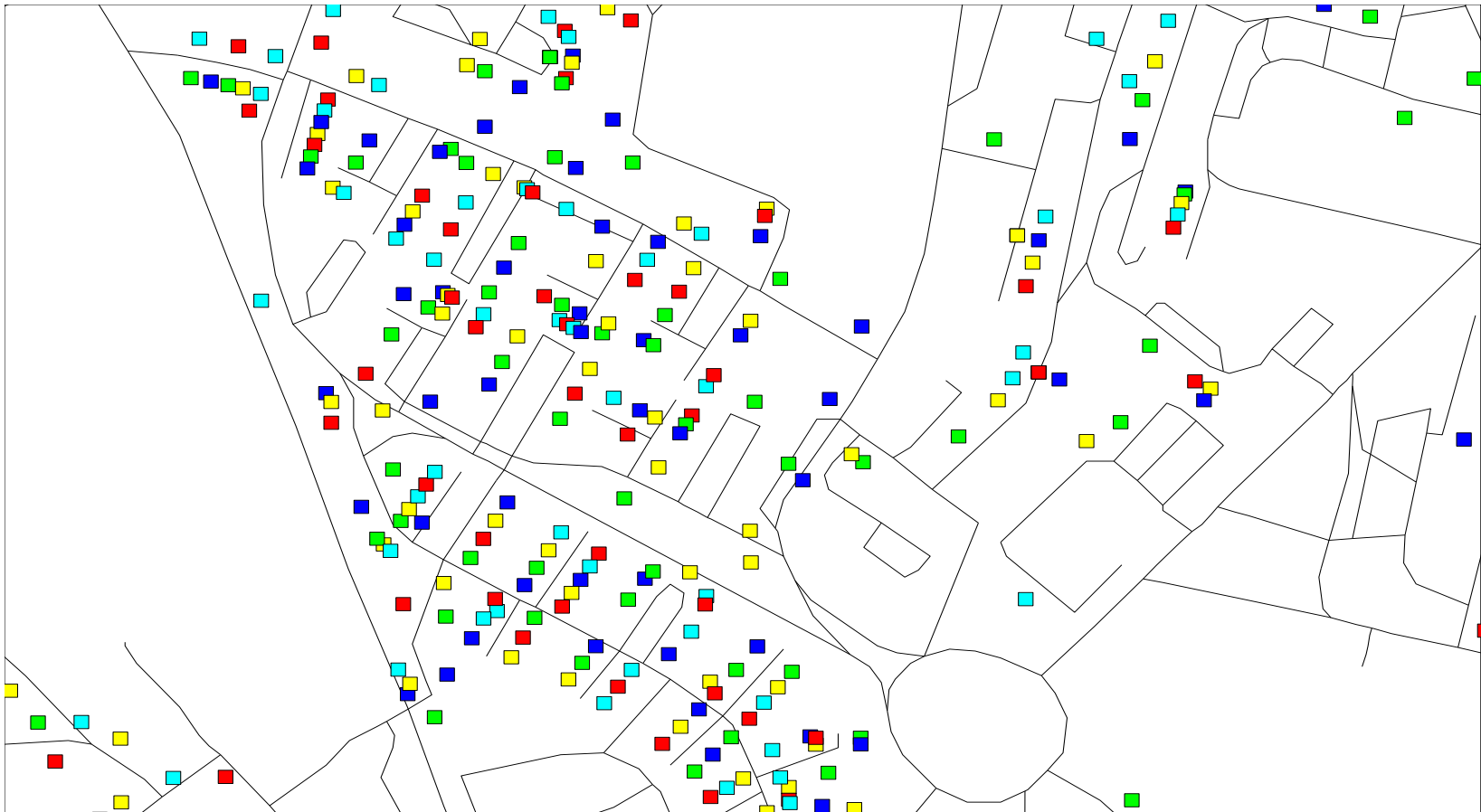
Lorraine, Groupes de rotation des petites communes, 1999



Large communes (> 10,000 inhab.)

- Dispatching buildings in 5 balanced groups from the inventory of located buildings (RIL)
- Each year, sampling addresses in the year-group to obtain 8 % of the whole commune's dwellings
- Every dwelling of the sampled buildings are enumerated
- 40 % enumerated in 5 years

RIL (inventory of addresses)



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Large buildings

- Some buildings contain many dwellings : « cluster effect »
- solution : building stratification based on the number of dwellings to reduce variance
- 2 strata = «large buildings» and « others »
- «large buildings» : 5 rotation groups, same number of dwellings, full enumeration of a group each year.
- « others » : 5 rotation groups, sample in one group each year

Each year

- Destroyed buildings are removed from the RIL
- New buildings are dispatched (*number of dwellings*)
- Large buildings : fully enumerated
- New buildings : fully enumerated
- Other buildings : sampling based on
 - *Number of dwellings*
 - *Collective/individual buildings*
 - *Representativity of the number of dwellings by IRIS (town districts)*

New census products

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Every year :

- *De jure* population for every commune and administrative district
- Detailed statistical results :
 - At every geographical level
(*micro data file for tabulation*)
 - Combining data collected during the 5 last years
 - Relevant for the médium year (Y-2)
- Overall estimations at national and regional level : based on data collected the last year

Communes < 10,000 inh.

- Enumerated one of the two years before Y-2 :
 - Use of evolution observed in local tax file
- Enumerated on year Y-2 :
 - Use of the census
- Enumerated one of the two years after Y-2 :
 - Linear interpolation between two censuses

Communes < 10,000 inh.

	A-5	A-4	A-3	A-2	A-1	A
I		R_I^{A-4}		\tilde{R}_I^{A-2}		
II			R_{II}^{A-3}	\tilde{R}_{II}^{A-2}		
III				R_{III}^{A-2}		
IV				\tilde{R}_{IV}^{A-2}	R_{IV}^{A-1}	
V	R_V^{A-5}			\tilde{R}_V^{A-2}		R_V^A
				Détail ^{A-2}		

Communes > 10,000 inh.

- 8% sample every year
- Mobile sum of the data collected 5 latest years
- Weighted according to the number of dwellings in the Y-2 RIL

Utilisation of the new census data

- General census : a photography every 9 years
- New census : not a movie, rather a slideshow
 - communes < 10,000 inhab. :
more frequent full enumeration
 - communes > 10,000 inhab. :
sample survey, but annual update :
 - Suburban districts evolution
- Any level :
annual update

Agenda

- 2004 : beginning of the new census
- 2005 :
 - 1st overall estimations (France-regions) : some criteria
- 2006-2007 :
 - Overall estimations (France- regions) : all criteria
- End of 2008 : first *de jure* populations
- 2009 : « cruising speed » dissemination