



The 2010 Brazilian Census: contemporary developments in census-taking and inputs for the revision of the P&R r.2

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- ICT model in the 2010 Census
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Introduction

IBGE (Brazilian Institute of Geography and Statistics)

Federal Government institution in Brazil responsible for producing, analyzing and disseminating statistical information (demographic, economic and social), as well as geodetic, cartographic, geographic information and that related to natural resources and to the environment

Coordinator of the Statistical System

Optimization of resources and maximization of quality in meeting the growing demand

Introduction

República Federativa do Brasil

Population in 2010: 190 million
Men: 93 million
Women: 97 million

Area: 8,5 million km²

Density of population: 22.48 inhab/km²

Forrest area: 61% of the territory



The 2010 Census in figures

UNIVERSE TO BE ENUMERATED: the whole Brazilian territory

MUNICIPALITIES: 5,565

HOUSING UNITS: 67,5 million

ENUMERATION AREAS: 314,018 enumeration areas

HIRED AND TRAINED PERSONNEL

- more than one million persons enrolled in the selective process
- about 230 thousand hired (for collection, supervision and administrative support)

TECHNOLOGY:

- 220 thousand handheld computers equipped with GPS receivers
- 8,700 laptops
- broadband communication system

CENSUS OPERATING UNITS:

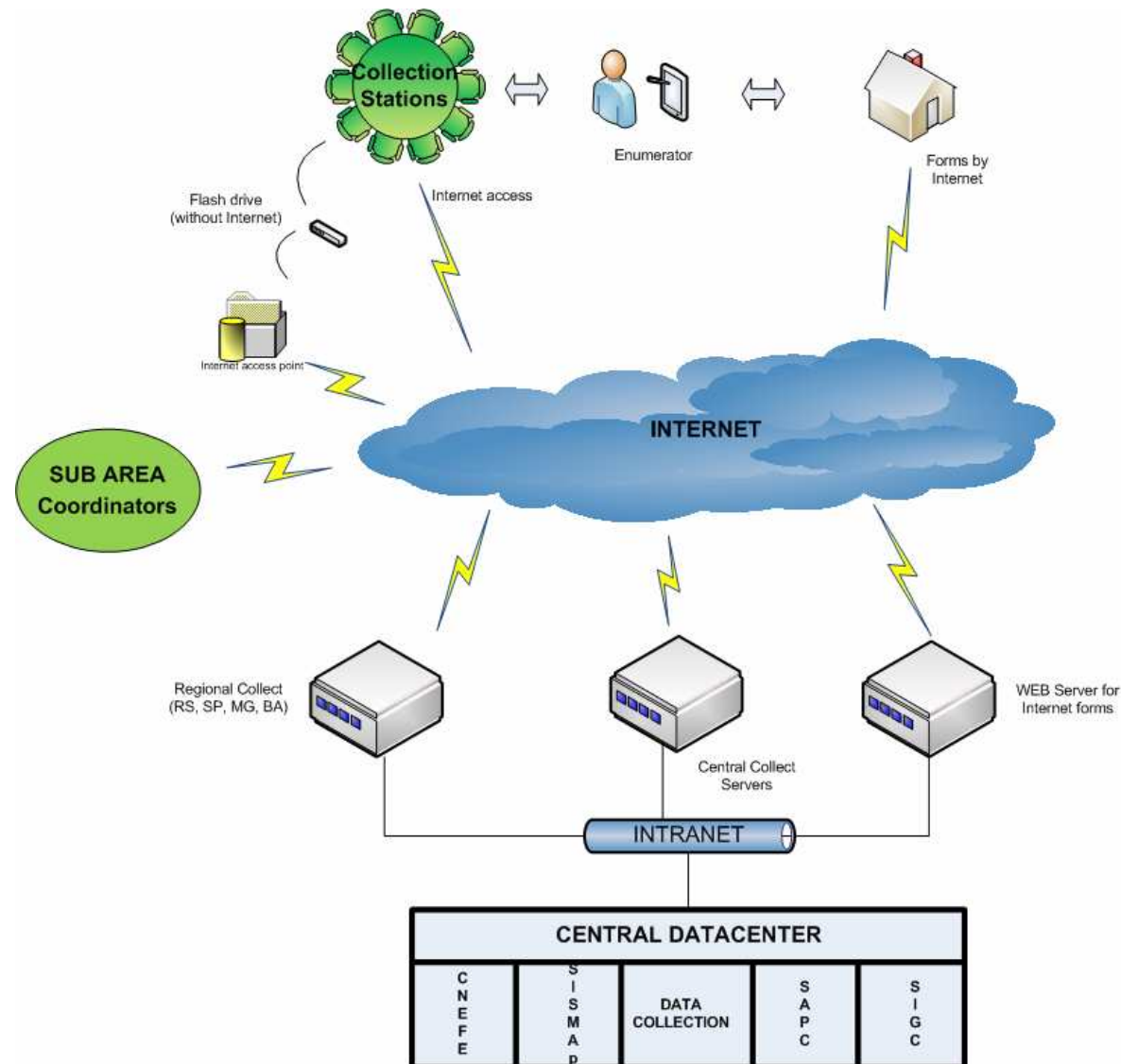
- 27 state units
- 222 Areas
- 1 281 Sub-area Coordinating Departments
- about 7 thousand digitized data collection units

Innovations

- Census mapping was changed from analog to digital.
- Use of GPS to reference buildings and other physical elements.
- National address file encompassing all Brazilian municipalities.
- Integration of cartography and address file.
- Handheld devices for data collection and supervision.
- Internet data collection.



ICT model in the 2010 Census



Handheld devices in data collection: advantages

- Immediate quality control at the moment of data entry.
- Filling in of all compulsory items.
- Control of data filling by automatic jumps.
- Direct data transfer to central system.
- Allow identifying the location of the units surveyed (GPS).
- Help automatic coding.
- Reduce burden in printing and transportation of questionnaires.
- Reduce cost of data capture.
- Controlling sample fraction

Over all improved quality



Handheld devices in data collection: challenges

- Increase need of qualified enumerators and change their profile.
- Add in the content of training.
- Dependent on internet connection.
- High cost to be used only in a census.
- Become obsolete rapidly.



Inputs for the revision of the P&R

1) Proposed content for new item (Part three, VIII, 5 - Use of technology in the enumeration):

"5. Use of technology in the enumeration

Types: internet, handheld devices, others (?)

Considerations on band, browser, size and weight of device etc.

Design of questionnaire (size and color of font, use of scrolls etc)

Use of "instructions" and "help"

Data entry rules

Coding

Controls and data integrity

Data transfer"

Inputs for the revision of the P&R (cont)

2) **Revise content in chapter III** to consider handheld device option in:

Leaving quarters and household listing: paragraph 1.176

Questionnaire preparation: paragraphs 1.181 - 1.182 - 1.189 - 1.191

Census tests: paragraph 1.196

Plans for data processing: paragraph 1.203

Staff recruitment and training: paragraphs 1.211 - 1.212

Data processing: paragraphs 1.293 – 1.297 – 1.298 – 1.303

3) **Consider revising other chapters**

Thank you!

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