



In the Name of Allah



REGIONAL WORKSHOP ON THE 2020 WORLD
PROGRAMME ON POPULATION AND HOUSING
CENSUSES: INTERNATIONAL STANDARDS AND
CONTEMPORARY TECHNOLOGIES

Statistical Centre of Iran

Islamic Republic of Iran's Population and Housing Census-2016

Use of Handheld Electronic Devices for Census Data Collection

12-15 March 2019

Ankara



Statistical Centre of Iran

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Labour Force Statistics & Census

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System Analyst & Project Manager

Quick facts about I.R.Iran, 2016 Census



Annual
Growth Rate
1.24 %

Male
40498442



Female
39427828



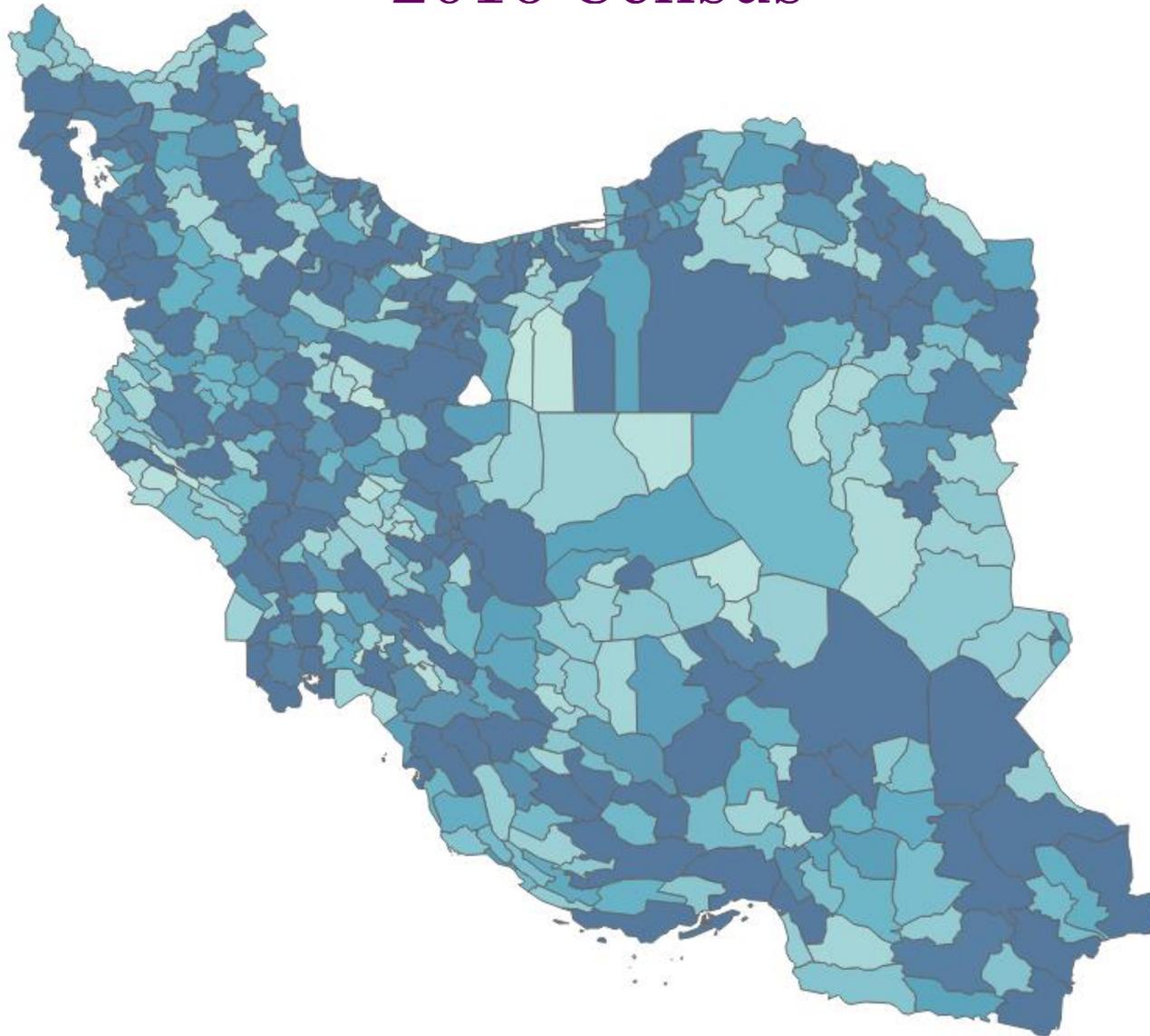
Population
79926270

Mean Size
of
Household
3.3

Percentage
of Urban
Population
%74

Literacy
Rate
Male
% 91
Female
% 84.2

Iran Population Distribution 2016 Census



SCI Experiences on Using Electronic Devices in Statistical Surveys

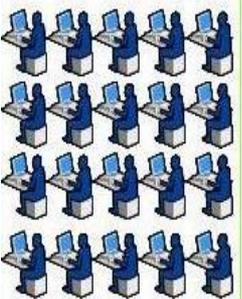
Electronic Device	Survey	Year
PDA (Personal Digital Assistant)	Survey of Consumption Goods and Services Price of Urban/Rural Households	2010
Tablet		Since 2011
Tablet	Labour Force Survey (LFS)	Since 2013
Tablet	Construction Materials Price Survey	Since 2013
Tablet	National Census of Agriculture	2014
Tablet	Population and Housing Census	2016

History of the National Population and Housing Census in Iran

According to the Law, the Statistical Centre of Iran was bound to carry out the national population and housing census once each decade. So far, six censuses have been implemented in a **10- year** interval, during the years 1956, 1966, 1976, 1986, 1996 and 2006.

With respect to the changes occurred in age structure and increasing youth population in the country; in 2007, Council of Ministers approved the census to be implemented in a **five- year** interval in the next stage, accordingly, the seventh and eighth Iranian national census of population and housing were implemented in 2011 and 2016.

Questionnaire completion and data processing in the censuses

Data Processing	Method	Year	
-		1867*	
-		1941**	
		1956	
		1966	
		1976	
		1986	
<u>OMR</u>			1996
<u>OCR</u>			2006
<u>ICR</u>		2011	
	  	2016	

* Coverage of Census was only consist Tehran (Capital)

**It was incomplete because of the World War II .

CONDITIONS AND CHALLENGES FOR THE IMPLEMENTATION OF the 2016 POPULATION AND HOUSING CENSUS

Social conditions

- Tendency for keeping individual privacy
- Lack of collaboration in data provision
- Increase in the number of absent households

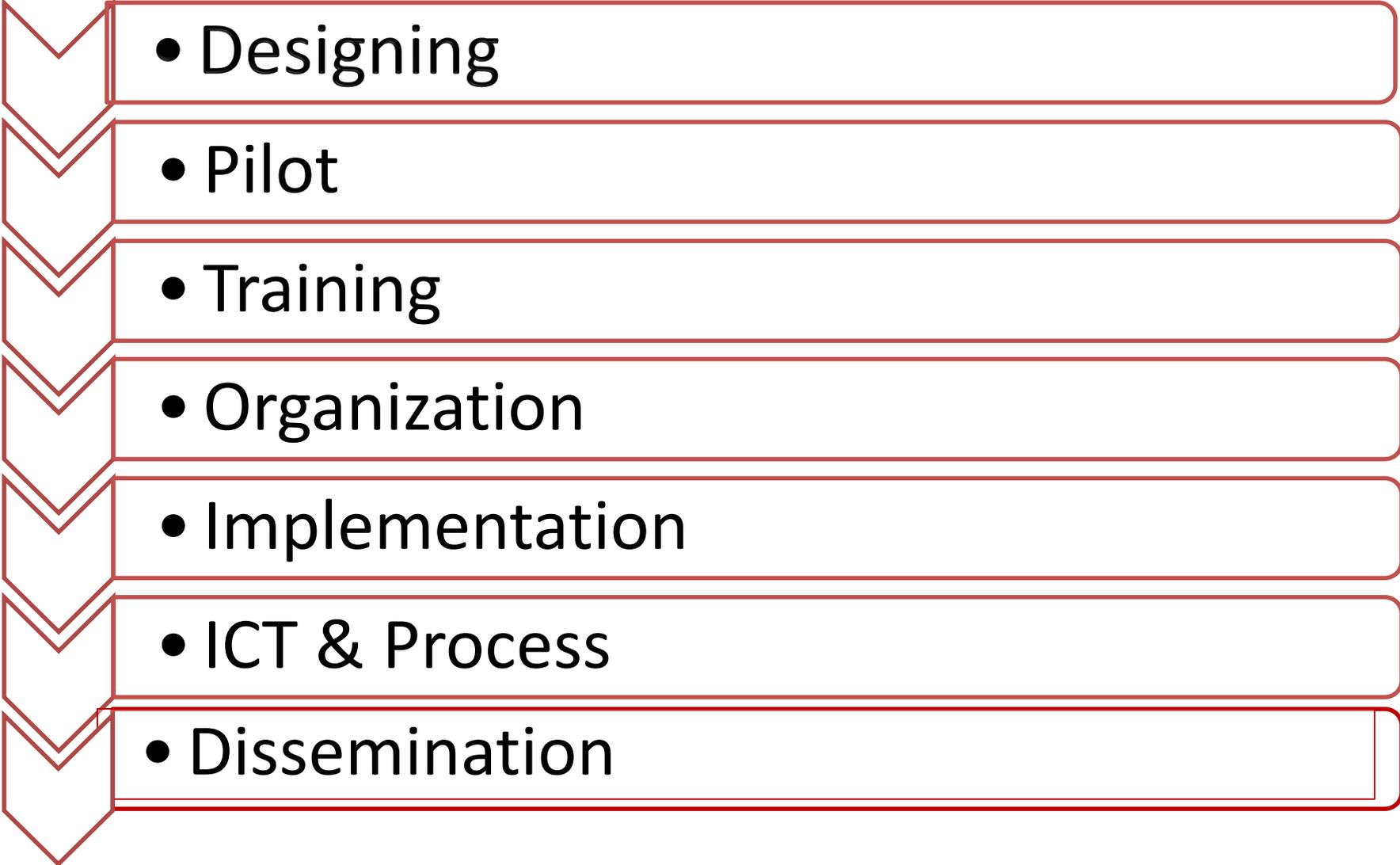
Financial conditions

-Increase in the census costs due to population growth

Statistical conditions

- Successful experience of using tablets in surveys and agriculture census
- Possibility of using administrative data in censuses with regard to using electronic registration of data in recent years
- Increase in the literacy level of the population and penetration rate of the Internet accelerated the Internet method.

I.R. Iran Population and Housing Census-2016



- Designing

- Pilot

- Training

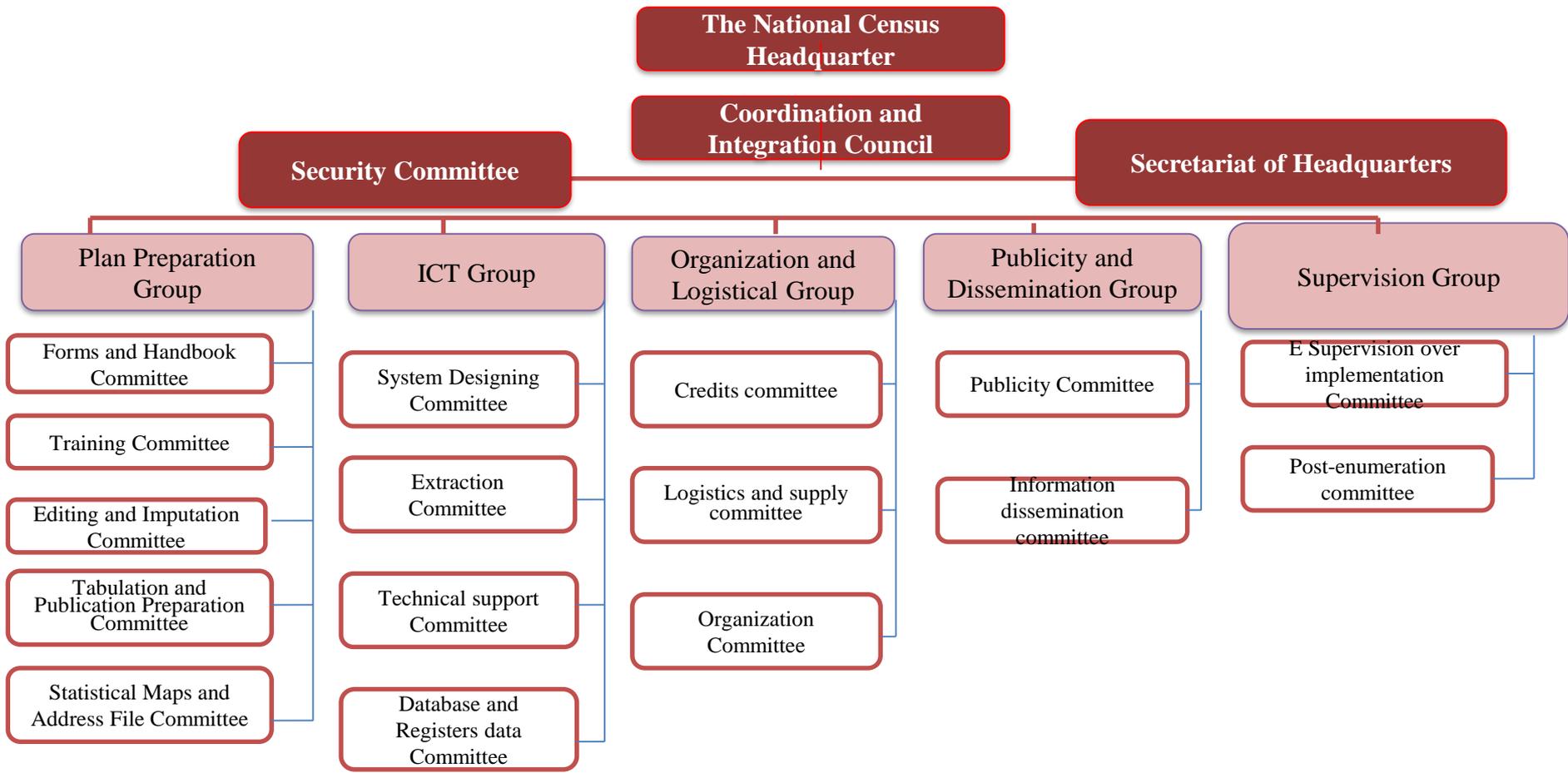
- Organization

- Implementation

- ICT & Process

- Dissemination

Organizational Structure of Population and Housing 2016 Census



Phases of Census

Phase 1: Internet Census
24 September to 21 October

Phase 2: Face to Face Interview
22 October to 20 November

Visiting the census' web site
and completing questionnaire



Receiving internet code

Taking statistical
code form the
visited household
provided by the
Internet

Visiting all Places by
Enumerators



Face to Face
interview

Sticking "Absent
Household Notice
Card"

or

or



Visiting the census' web site
and completing questionnaire

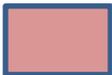
or

Calling to Call Centers

By household:



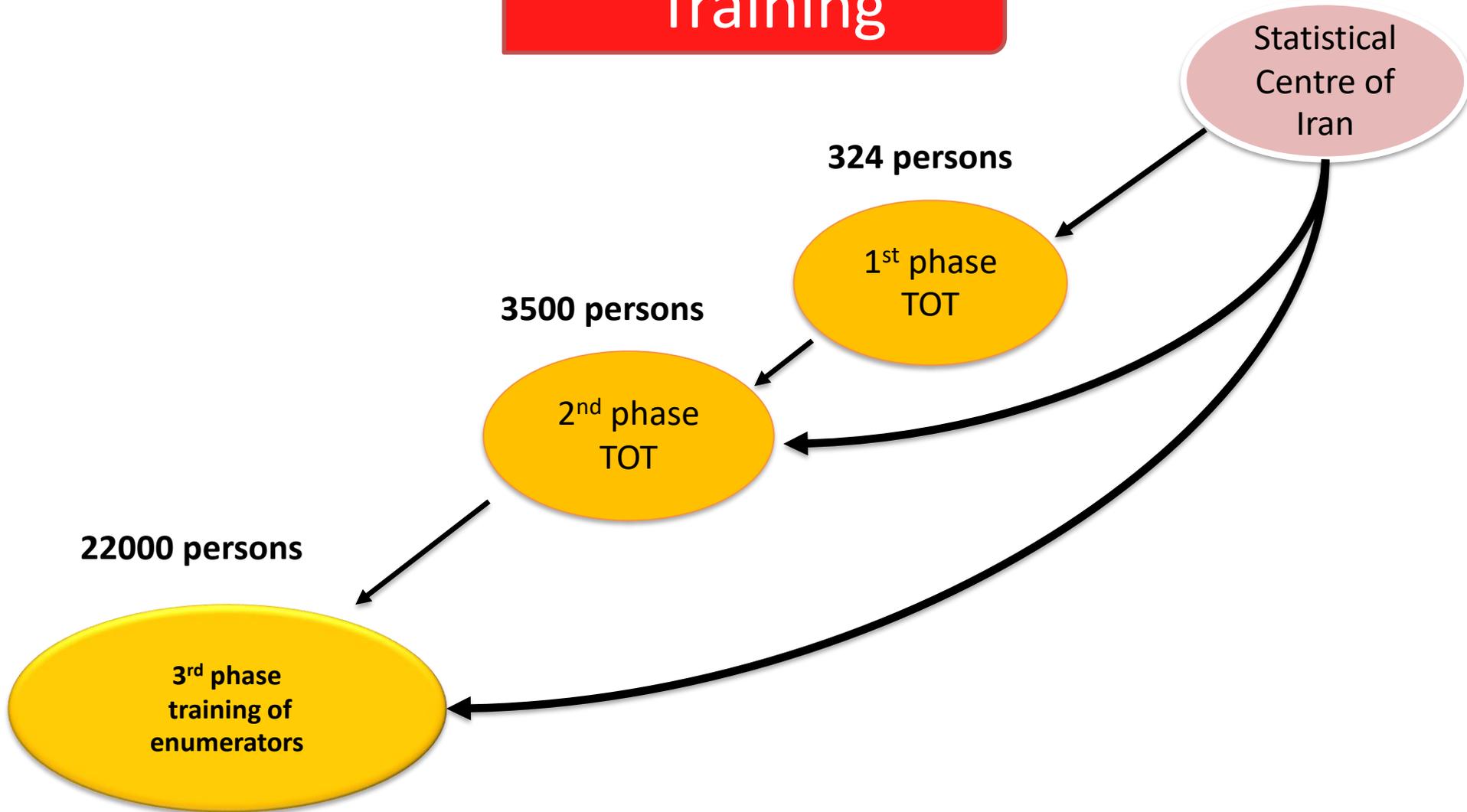
By Enumerator:



Developing 32 Software for the Census. for example:

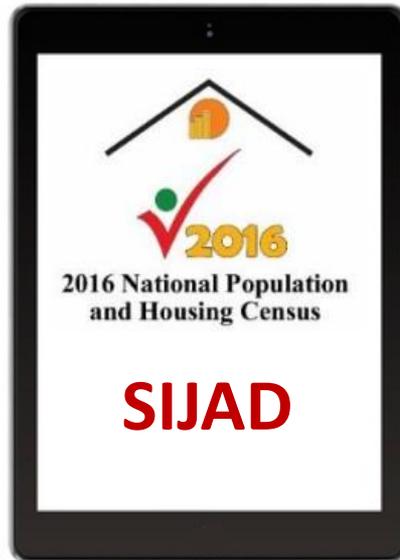
- internet and phone census
- Face to Face interview with Tablet
- Map Module
- Supervising the field operation
- Post-enumeration
- Workforce Recruitment Portal and CRM (Customer Relationship Management)
- Virtual training
- Editing and imputation
- Monitoring the Census infrastructures

Training



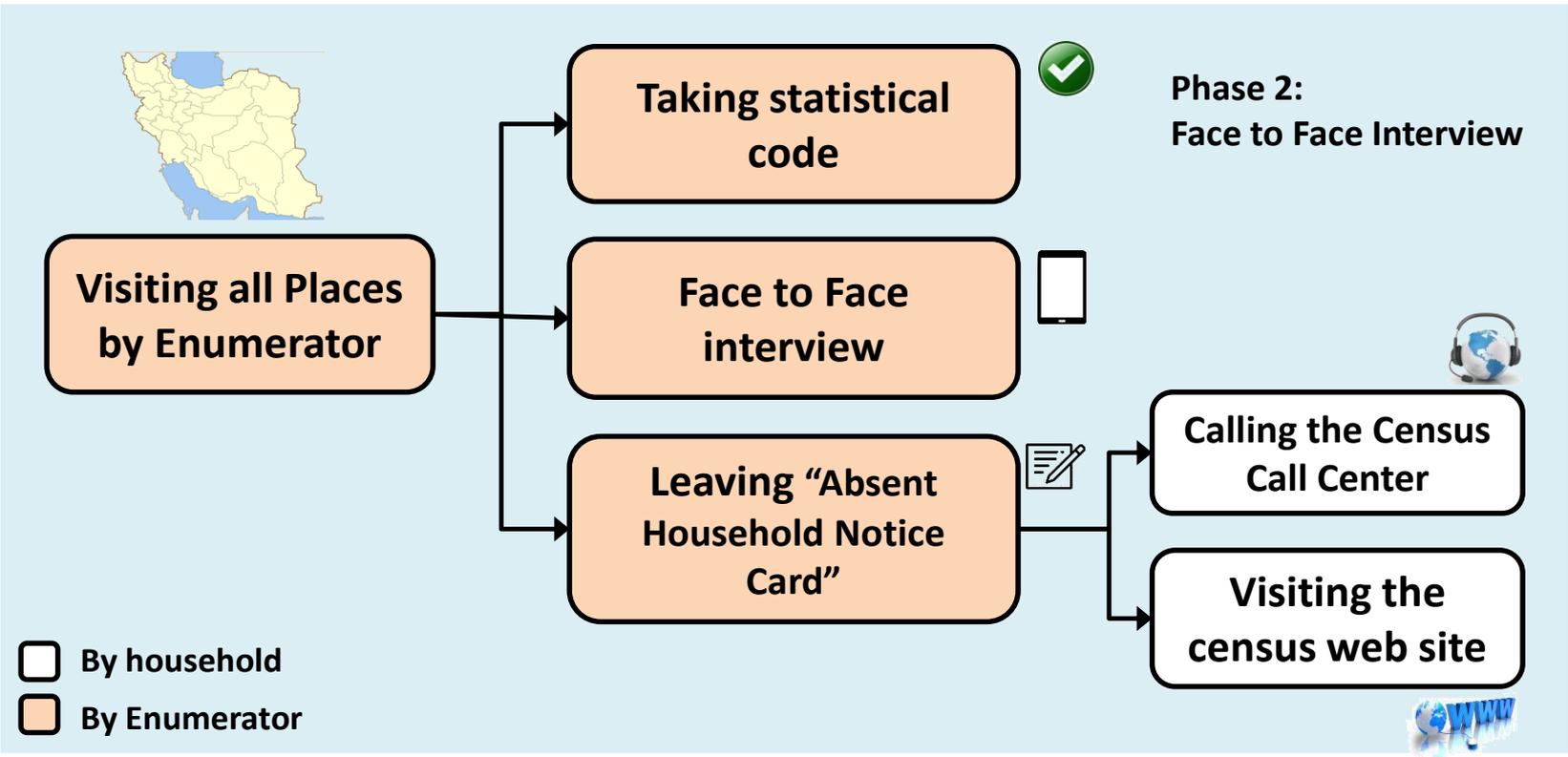
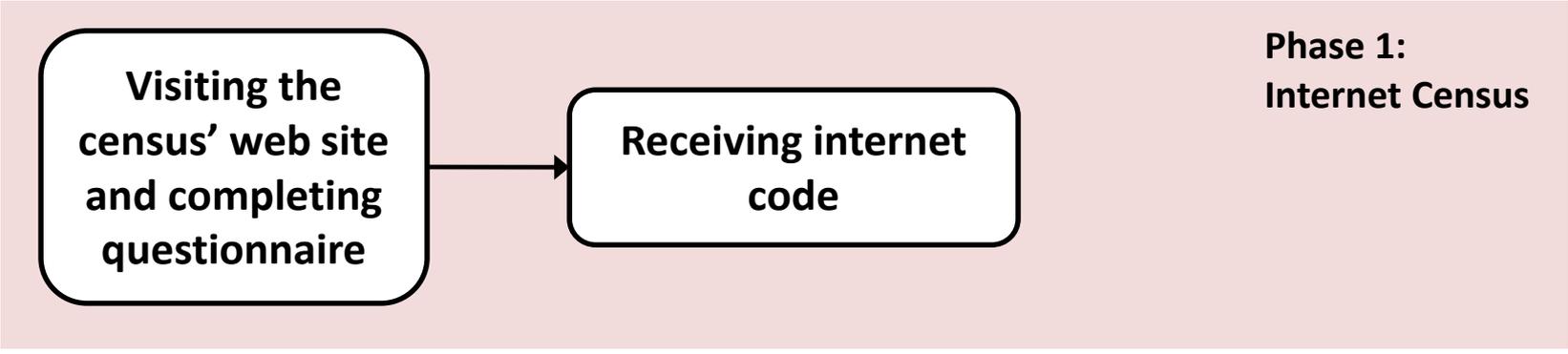
In person training: Centralized and Decentralized Distance
Distance training: In addition to in person training, distance training was also used during 2nd and 3rd phase of training.

Census Data Collection by Using Tablet

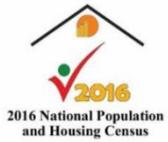


From 22 October to 30 November 2016

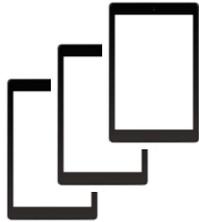
Collecting data by enumerator



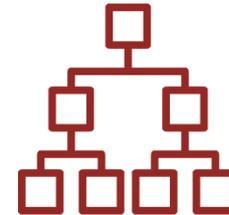
General Processes of E-Census by use of Tablet



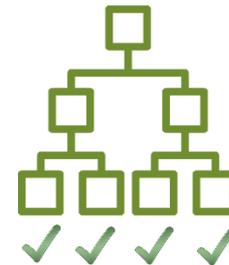
**Preparing
tablets**



**Formation of
administrative
organization**

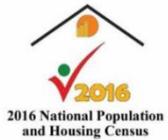


**Taking the
working unit**



**Allocation of
working unit**

General Processes of E-Census by use of Tablet



Installation of data collection software on tablet devices



Transferring working unit to the tablet



Uploading working unit to the tablet



Collecting data by enumerator

Supplementary and control data base

Tablet-questionnaire

فهرست خانوارهای نمونه

پاراگراف

سال: ۱۳۹۶ فصل: زمستان خوشه: ۲۵۱۹ منطقه: ۱

ردیف	نام بخش	نام شهر/دهستان	حوزه	شماره پلوی	نام آبادی	ردیف خانوار	خطا	هشدار	وضعیت	عملیات
۱	مرکزی	تهران ۱۱	۰۵۳	۰۰۰۰۰۳	۵۸				تایید شده	فرم ۲ تایید
۲	مرکزی	تهران ۱۱	۰۵۳	۰۰۰۰۰۳	۵۹				تایید شده	فرم ۲ تایید
۳	مرکزی	تهران ۱۱	۰۵۳	۰۰۰۰۰۳	۶۰				تایید شده	فرم ۳ تایید
۴	مرکزی	تهران ۱۱	۰۵۳	۰۰۰۰۰۳	۶۱				تایید شده	فرم ۲ تایید
۵	مرکزی	تهران ۱۱	۰۵۳	۰۰۰۰۰۳	۶۲					
۶	مرکزی	تهران ۱۱	۰۵۳	۰۰۰۰۰۳	۶۳					

آدرس خانوار (کامل)

پاراگراف

سال: ۱۳۹۶ فصل: زمستان خوشه: ۲۵۱۹ منطقه: ۱ خانوار: ۵۸ سال فهرست برداری: ۹۳ ردیف خانوار در فرم ۱ فهرست برداری: ۰۰۱۹ نوبت آمارگیری: ۳

فرم اعضای خانوار
 فرم وضعیت تکمیل پرسشنامه
 تایید

خطا هشدار وضعیت

تایید شده

هفته مرجع: شنبه ۱۳ تا جمعه ۲۰

نام و نام خانوادگی سرپرست خانوار

آدرس محل سکونت خانوار

شماره پلاک 3

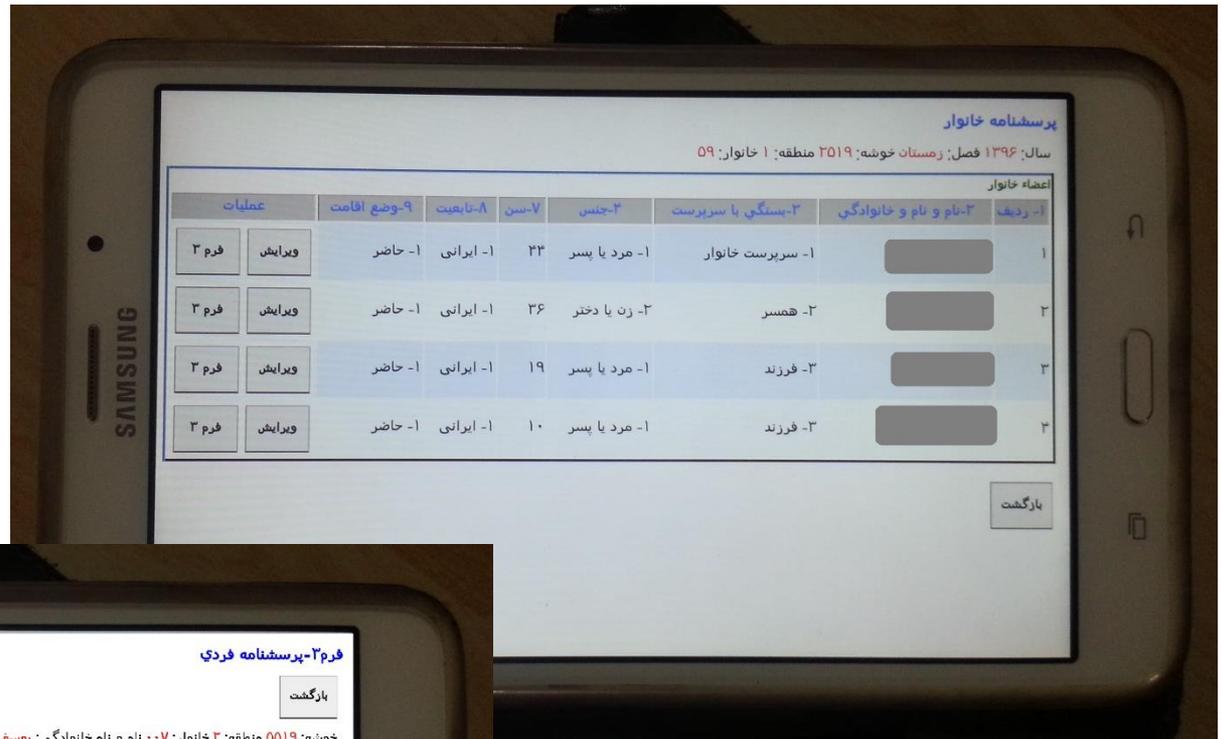
شماره مکان اصلی ۹۰/۹۱/۹۲/۹۳ 5

شماره مکان فرعی 7

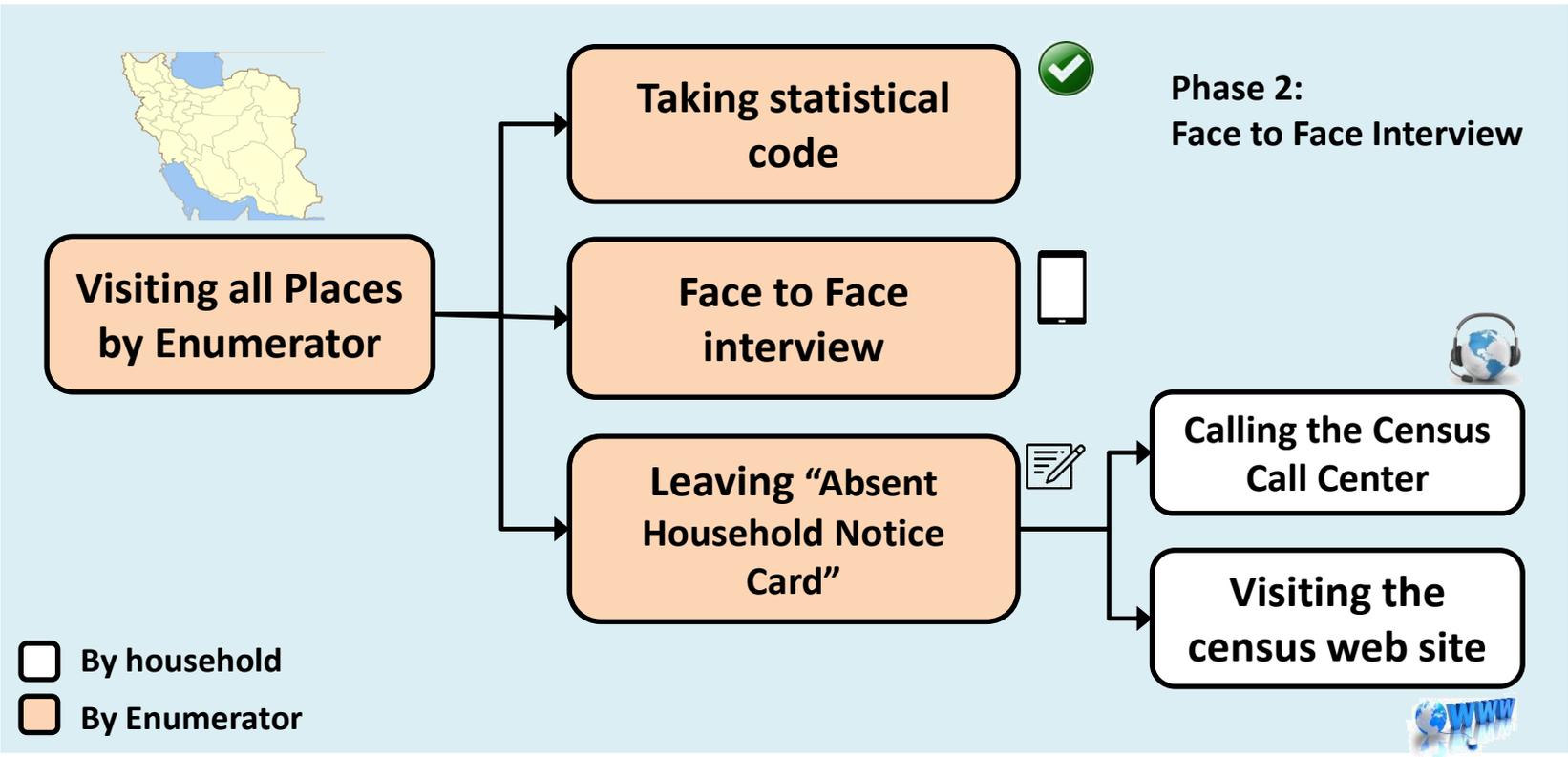
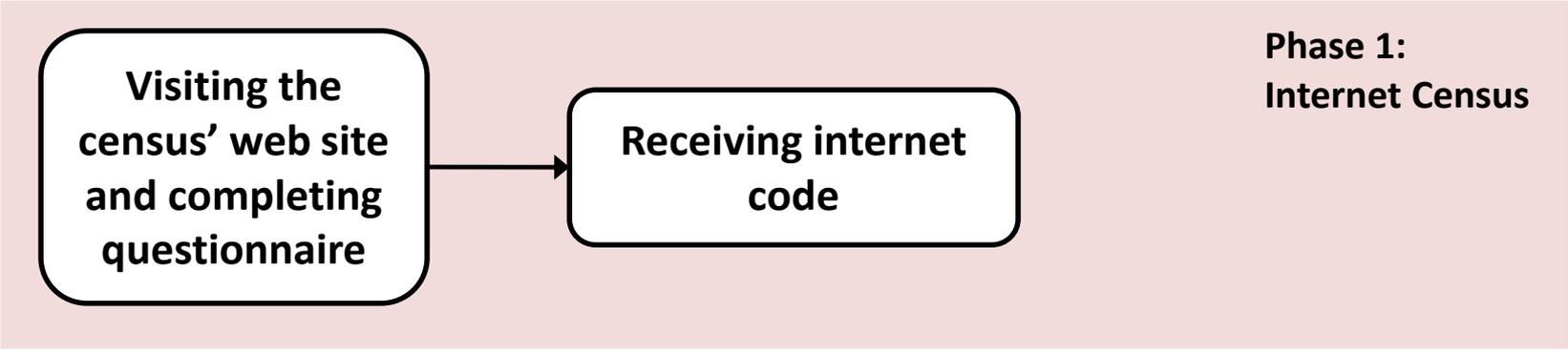
شماره طبقه 4

شماره واحد یا سمت در طبقه هفتم چپ

Tablet-questionnaire



Collecting data by enumerator



General Processes of E-Census by use of Tablet

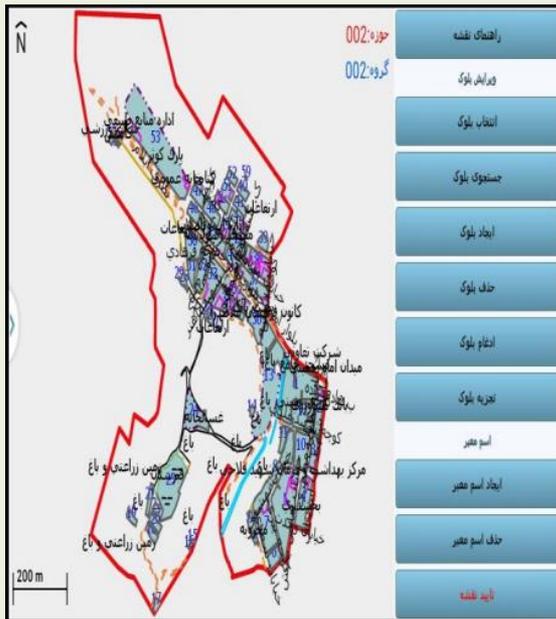
Sending Collected data



Upload working unit to the server



Map display and correction tools in SIJAD map module



- ✓ Creating blocks
- ✓ Deleting blocks
- ✓ Integrating blocks
- ✓ Disintegrating blocks
- ✓ Searching the blocks
- ✓ Selecting the blocks
- ✓ Map legend & guide

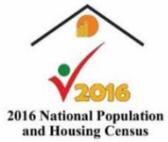


Reviewing map change by map expert



Reviewing work unit information by technical and executive senior expert

General Processes of E-Census by use of Tablet

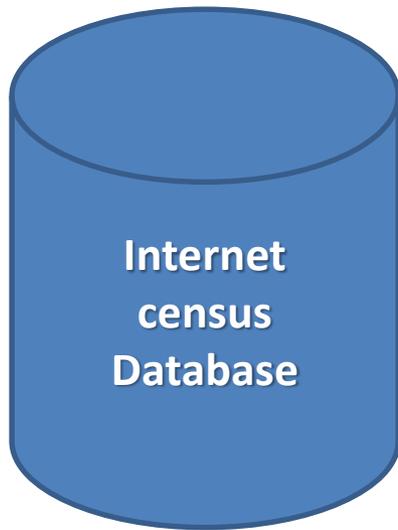


**Correcting work unit based on
the feedbacks received**

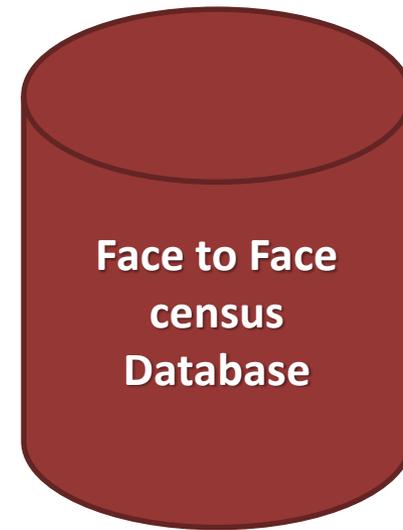


**Re-taking work unit
with returned
questionnaire**

Synchronization



Synchronization



□ Data collection software (SIJAD)

- ✔ Create a questionnaire module
- ✔ Formation of administrative organization module
- ✔ Map module
- ✔ Implement Rules module
- ✔ Implement Work flow module
- ✔ Creating Work units module (for enumerators)

☐ Data collection software (SIJAD)

- ✔ Download and Upload Working units module (Data transfer)
- ✔ Create Apk for Install on tablets
- ✔ Encryption of data
- ✔ Work progress reports module (Monitoring)
- ✔ Web module
- ✔ Supervisor module

❑ Notes on the tablet

- ✔ **Features** such as Screen, Processor performance, Storage capacity, Operating system, Ruggedness, Portability, Connectivity options, Battery, GPS ...
- ✔ **Peripherals** such as Power bank, ...
- ✔ **Acquiring the device**
- ✔ **Reusing**

☐ Hardware infrastructure

- ✔ Infrastructure Architecture
- ✔ Servers
- ✔ Network and Bandwidth
- ✔ Backup
- ✔ Monitoring
- ✔ Local Hardwares
- ✔ ...

❑ Design and Implement Test Scenarios and Monitoring

- ✔ **Functionality**
- ✔ **Map**
- ✔ **Stress**
- ✔ **Security**
- ✔ **Resource usage**
- ✔ **...**

Manpower Saving - Environment Saving

Number of Executive Categories in the 2016 Census was 40300 people.

We would need more than **65000** people for carrying out the National Population and Housing Census if we applied the methods used for the 2011 population census

The First **"No Paper"** Census in Iran



Green Census !

Per capita cost of the Censuses in 2010 round

Region	Per capita cost (US\$)
Africa	2.0
North America	33.1
South America	2.7
Asia	1
Europe	7.8
Oceania	15.9

I.R. Iran - 2016	Less than 0.5
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Thank you



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