

Challenges to move to an administrative census in Israel: current situation and future plans



הלשכה המרכזית לסטטיסטיקה
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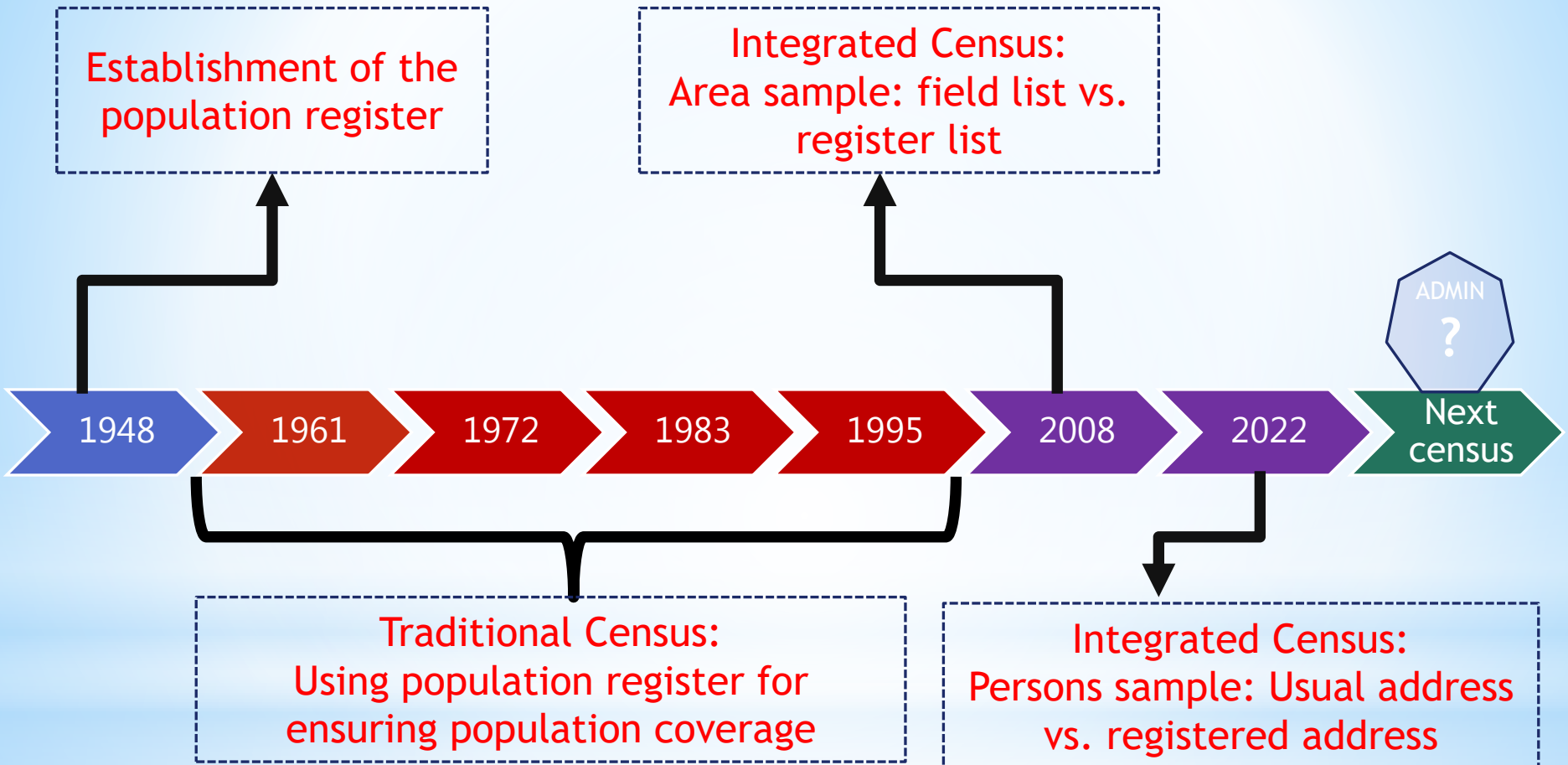
Ahmad Hleihel*

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*Senior Director Demography and Census Department
Central Bureau Of Statistics, Israel
ahmad@cbs.gov.il

בהכרעה נמרצת!

Censuses in Israel: Evolution to Admin. census



- The population count in the census in Israel is the baseline for the yearly population count until the next census.
- Israel is divided into 3300 statistical areas (with about 2,900 residents in each statistical area on average).
- A population count is conducted in each of the statistical areas.

- Civil registration (births, deaths, marital status, address moves, migration, departure and arrivals in Israel) used to update the population count since the last census count.
- Since 2008 census the population count are in the individual level (a pilot was conducted after 1995 census to track in the individual level).
- Usage of unique IDs is widespread in both the public and private sectors.

Why not move to an administrative census?

WHAT CHALLENGES DO WE FACE AS WE GO FROM A TRADITIONAL OR INTEGRATED CENSUS TO AN ADMINISTRATIVE ONE?

- Emigration Stock
- Accuracy of the usual address
- Bedouin community in the Negev desert
- Foreigners
- Household composition and definition
- Socio-Economic Data

- Using effective border control registration in a country with closed borders.
- With the use of this registration, it is feasible to track every Israeli's arrivals and departures, as well as estimate their length of stay abroad.
- Every evaluation done so far has demonstrated extremely strong coverage of the estimations.

- According to the 2008 Census evaluations, the stock leads to a net coverage of 0.31% of the national population.
- About 3.5% of the Israelis found in the emigrant stock underwent coronavirus testing in 2020, compared to 40% of those who are Israeli citizens.
- **Conclusion**: at the national level, we were successful in obtaining a very accurate population count including demographic data (age, sex, marital status, country of birth, year of immigration, etc.).

- Approximately 20% of the population resides in a statistical area that is different from the one on the registration (13% in the same locality and 7% in another locality).
- We can predict the usual place of residence using a sign of life approach and machine learning tools (ML).

- **Address registrations in other administrative sources:**
 - **Municipal TAX payment (ARNONA);**
 - **Electricity payment;**
 - **Student Registration;**
 - **Employed registration (Tax authority)**

- for 30% of the population there is at least one additional address than that of the population registry.
- For about 3% of the population, none of the proposed addresses correspond to the actual ones (including the population register one). Therefore, we have a 97% chance of improving the situation.
- the ML tools predict 92.5% of the actual address.

- **conclusion**: Compared to the current situation, there has been significant progress, yet there is still need for improvement in:
 - more sign of life sources (address sources).
 - improving the ML models.

- The absence of an address showing a geographic location. The registration is done according to the name of the tribe regardless of the place of residence.
- We will be able to predict the location of the population using the most recent traditional census data from 1995, indicators of life in the area of residence, family changes and cultural assumptions.
- A 2018 pilot project that used a sample of 100 people whose location was predicted found that 80% of the predictions were accurate. The prediction model will be validated using the census results from 2022.

- People who are not included in the resident registry in Israel. They are listed in numerous databases, such as those used for employee monitoring and border control registration.
- Challenges:
 - Resident location at Israel.
 - Change of status during their stay in Israel (no clear linkage between the databases).
 - The administrative sources don't contain any socioeconomic data (except for the visa data).
- **Conclusion:** Creating a database of all foreigners from various sources and keeping track of any changes to their status, including locating an address in the administrative source and filling it up with an imputable address for individuals who don't have a registered address,

- Modifying the household definition (from “housekeeping concept” to “household-dwelling concept”)
- Identifying the residents of the same dwelling.
- Identifying the family relationship and the type of household amongst the residents of the apartment.
- **Conclusion:** In the administrative census, we will no longer be able to classify households if the relationships between the residents at the same dwelling are not listed in the population registry. like same-sex couples, polygamy and cohabitation.

- Modifying the definitions of some of the topics and making adjustments to the administrative data.
 - Occupation
 - Commuting characteristic
 - Part of housing characteristics

- According to the Core Topics, we will lose:
 - Occupation
 - Commuting characteristic
 - Part of housing characteristics

- Significant improvement relative to the initial conditions.
- Addition of additional administrative sources that include a different address than that of the Population Registry.
- Addition of Additional administrative sources that include socio-economic features.
- The use of the 2022 Census data to evaluate the models and improve them.

Thank you for
your attention