

NISR MATCHING MANUAL

A. Introduction

National institute of Statistics of Rwanda conducted the Post Enumeration Survey (PES) in September 2012-October 3 to evaluate the coverage and content errors of 2012 population and housing census. PES is the most ideal method of census evaluation. A total of 120 enumeration areas were selected.

Post Enumeration Survey has objectives:

- To measure under-coverage and over-coverage of persons and in some cases
- Households/housing units
- Provide concrete statistical basis for adjustment of the census data
- Quantitatively evaluate accuracy of the census in terms of coverage and content
Error

PES is an independent survey that replicates a census in sampled areas. The PES and Census records are then matched (compared item by item) in terms of households, individuals in the households and characteristics. The results of the comparison are used to measure the coverage and content errors.

B. The Matching Exercise

1. Matching of Households

Matching is implemented with the aim of determining whether a PES household/individual was enumerated in the census by comparing the individual PES characteristics and census characteristics. The matching clerks will be divided into teams of 2 each, one of them will be responsible for allocation of work; each team member first match households and then match individuals within the matched households. Matching of households involve comparing the names of Administrative units, census household numbers and the names of household members therein. In matching households, members will be responsible for PES questionnaire booklets. Starting from the first listed PES household, one member read loudly the census number and names of household members, the other one check for the census number and similar names in the census household questionnaire booklet. The households are judged as matching if name(s)

in the census questionnaire is similar to the name(s) in the PES questionnaire with minor spelling differences. The household head name and/or spouse are adequate for deciding whether the household matched or not. The matching of PES household questionnaire will be removed from the PES questionnaire and clipped to the corresponding census questionnaire. Where more than one PES households will match one census household and vice versa, the matching households will be clipped together. Where names of household members somehow agree the cases are taken as possible matches. The matching clerks referred possible matches to supervisors to decide whether they are matches or non-matches. The following are the distinct categories in the matching of households:

- (a) Matched households
- (b) Non – matches households
- (c) Households created after the census (in-movers)

Note: Households identified as coming from abroad after the census will not be considered for matching (they are not in – movers and are out-of-the-scope)

2. Matching of Individuals

After matching households in a specified EA, each team member is assigned PES and census books to match individuals. The person's **name** and the 3 characteristics; **age, sex and marital status** will be used to determine whether the individual matched. Persons above 10 years and having at least three of the above characteristics similar are considered to match. For people below 11 years, age and sex are the variables considered in matching and if at least two of them are similar, the person is taken to be matching. The figure below shows the age tolerance limits used when matching individuals.

Age Tolerance limits used in matching individuals

Age	Tolerance (in years)
Under10 years	± 1
10-19 years	± 2
20 to 40 years	± 3
Over 40 years	± 4

C. Reconciliation interviews

It is advisable to carry out field reconciliation visits in sample EAs following the initial or preliminary matching phase. The follow-up is directed to non-matched persons and households. Such visits give an opportunity to identify erroneous census enumerations and the resolution of doubtful cases in order to achieve a realistic and definitive match.

For persons who may appear in the census records but not in the PES, reconciliation visits will permit:

- ✓ A determination of whether such persons were usual residents as of census date (i.e., correctly enumerated) or whether they were erroneously enumerated;
- ✓ Collection of additional information to help determine the final match status.

In the case of persons appearing on the PES list but not on the census record, reconciliation visits help in:

- ✓ Confirming whether such persons were usual residents as of the census date, in this case non-movers or out-movers. On the other hand whether they arrived or were born after the census (in-movers);
- ✓ Collecting additional information to determine the final match and to confirm whether such persons were residents of particular households as of the census date.

Field reconciliation visits should be treated as part and parcel of the PES Dual System estimation methodology. Such visits facilitate the follow-up of the sample and help to validate matching status cases which were doubtful during the initial matching exercise. In addition, the results help in making final decisions to eliminate cases with insufficient information for matching.