DEMOGRAPHY ASSIGNMENT

Sample Registration System (SRS) in India

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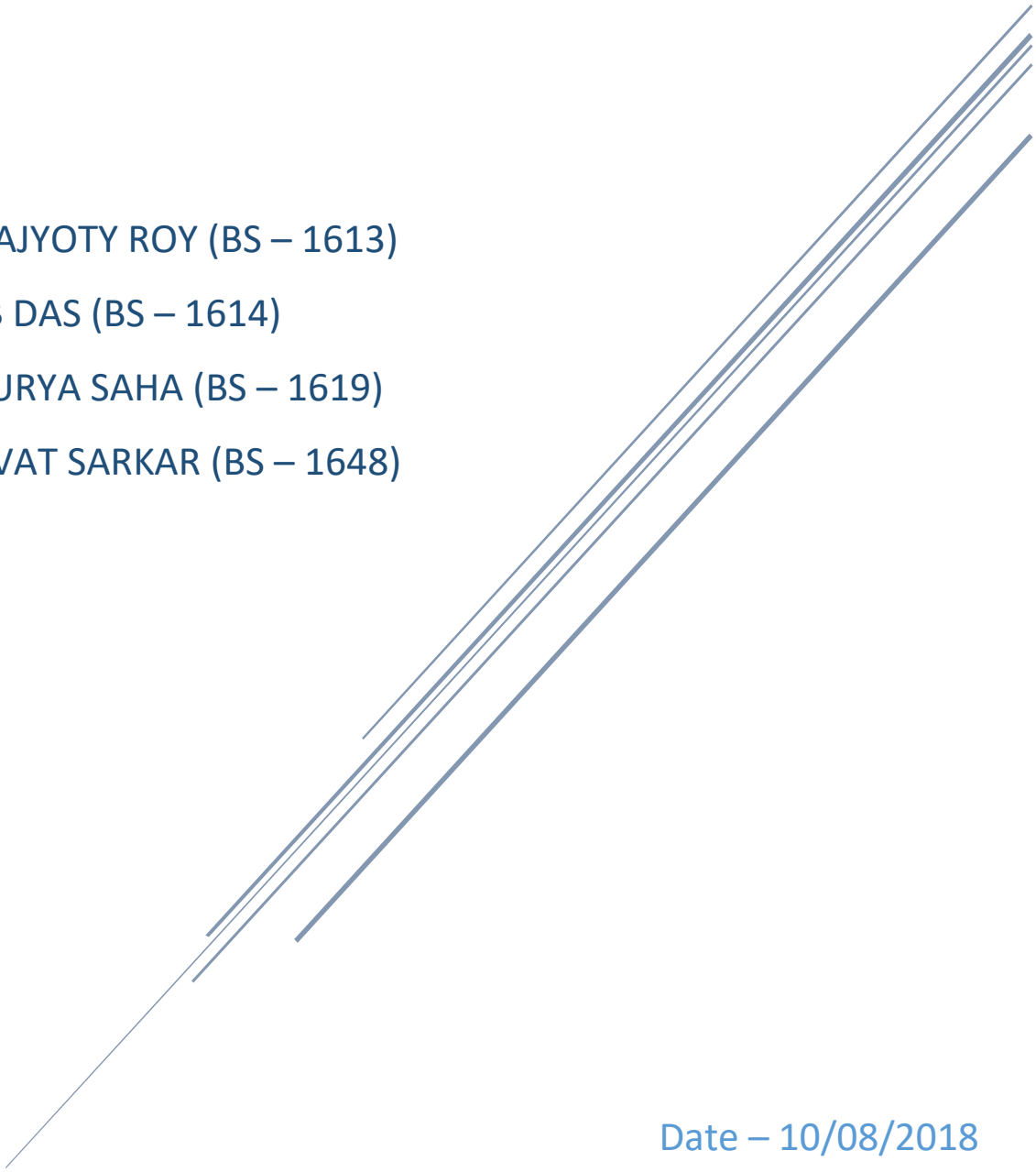

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❑ Introduction

There are four major sources of vital statistics in India, namely;

a) The Sample Registration System (SRS)
b) The Civil Registration System (CRS)
c) Indirect estimates from the decennial census.
d) Indirect estimates from the National Family Health Surveys (NFHS).

The Sample Registration System or SRS is the most regular source of demographic statistics in India. It is operated by the Registrar General India (RGI) working under the Ministry of Home Affairs. It is based on a system of dual recording of births and deaths in fairly representative sample units spread all over the country. The SRS provides the estimates of the following:

- Population Composition
- Mortality
- Fertility
- Medical Attention at the time of birth or death, which provides an idea of ease of access to medical care to the population communities.

❑ Description of the System

Average time to publication of SRS annual reports is about two years. SRS estimates are generally valid and reliable for the country as a whole and for bigger states with more than 10 million population. Recently the sample size of SRS has been increased to allow for estimates by natural divisions within the bigger states. Also, the population composition from SRS coupled with the decennial census counts, enables fairly reliable estimate of population in the intercensal periods.

The SRS was conceived during the 1960s, as an interim measure to generate vital statistics until full-fledged development of the CRS. The primary objective of the system is to provide reliable annual estimates of vital rates for the states and the country on the basis of a probability sample (RGI, 1971). Pilot studies were taken up in various states from 1964, onwards. By the middle of 1971, the system had established throughout India. The SRS is based on a system of dual recording of births and deaths in fairly representative sample units spread all over the country. Sampling design, registration and validation methodology of the SRS has been published (RGI, 1972; RGI 1993). The sampling frame is revised every ten years and old sample clusters are replaced by new ones. Replacement of existing sample clusters with newly identified clusters usually takes place gradually over a period of 2-3 years. Recently, after the 2001 census, the RGI has replaced old clusters with new ones in one go. The sample size of SRS has also increased over time.

Registration work in new sample clusters is preceded by a base-line survey to obtain usual resident population of the sample area. Then, a resident part time enumerator continuously enumerates births and deaths in each of the sample village or urban block. An independent six monthly retrospective survey is done by a full time supervisor. Unmatched and partially matched events are re-verified in the field. Monthly reports are held at the state level for six months for incorporation of results from the retrospective surveys. These reports are then sent to the RGI office in Delhi, for tabulation, analysis and publication at the national level. The annual report is broadly consists of a summary chapters, describing the main results and the conclusion derived and some detailed tables, filled up with the current data.

The Assessment framework for vital statistics developed by the Monitoring of Vital Events (MoVE) writing group of the Health Metrics Network (HMN) in the World Health Organization (WHO)

includes many aspects affecting usefulness of vital statistics, in addition to completeness of registration. We examine characteristics of the Indian SRS along these dimensions.

❑ Overall Quality of the Data

Coverage, completeness and incidence of missing data are three key contributors to accuracy of estimates produced by any statistical system. Although, the SRS covers about 0.6% of India's population, its representative character allows for estimation of vital statistics for the country and major states. Completeness of registration of events has been, by and large, around 90% or more upto 1980s. Interstate differences also narrowed down by mid 1980s. However, completeness appears to have worsened during the 1990s and after. Interstate differences in completeness appear to have widened also. The annual reports describe system of gathering and reporting of data. But no specific information is reported about missing data. It is generally believed that missing data in SRS is rare. However, it will be useful to start documentation of missing data elements, such as age, sex of vital events. The annual reports should include a table showing the number of births and deaths for which age or sex information was not available, and how the events were treated through the tabulation process. In case there is no missing data, the report should make a positive mention of the fact.

❑ Relevance

Routine tabulations by the SRS are adequate. Population composition and age specific death rates are available in five year age groups. Distribution of live births, by mothers' age, birth order and interval, are provided in a consistent format over the years. However, the SRS cannot provide small area statistics at the district and sub-district level. State level estimates are available only for major states. Recently, SRS sample size has been increased to allow for IMR estimates by NSSO natural divisions, which are usually a group of districts within a state. But the sample size will have to increase enormously, if district level estimates are to be produced.

❑ Comparability

Definition of terms, administrative guidelines and data collection methods of the SRS are consistent over time, allowing for comparability of over time. Similarly, uniform definition of terms, administrative guidelines and data collection methods across the country, makes the SRS statistics comparable across space.

❑ Timeliness

Timeliness has two important sub-dimensions, namely,

(a) Promptness (production time), and

(b) Regularity.

The SRS Annual Reports do not show their publication date, to allow for direct computation of production time. However, publication date can be inferred from the date shown in the preface written by the Registrar General, India for each report. Regularity in publication can be measured by the standard deviation of production time. If the production is very regular the standard deviation of production time would tend to be zero. On the other hand, if publication is irregular, the variance of the production time will increase.

❑ Accessibility

Accessibility of SRS reports can be characterized by its performance in terms of (a) the media of publication, (b) availability of metadata, and (c) the quality of user service. Annual reports are available in print form only. The half yearly bulletins are available in print as well as portable document format (pdf) files through the Internet since April 1999. But SRS data sets are not released.

❑ Summary

Overall the Indian SRS has been a reliable and trusted source of fertility and mortality statistics for the whole country and major states. After initial difficulties during the 1970s, the SRS achieved 90% and better completeness of registration during the 1980s. Both direct and indirect evaluations during this period contributed to consolidation of the system. These old evaluations continue to be cited as evidence of completeness of registration of vital events by the SRS. There is evidence to suggest that completeness of registration might have deteriorated during the 1990s and after. Significant interstate differences appear to have emerged. Hence, evaluation studies at regular intervals should be built into the system. Both direct and indirect estimation of completeness should be taken up. A pluralistic evaluation framework consisting of in-house evaluations by the RGI and studies by independent researchers is very much required. There is also scope to improve the metadata content of SRS annual reports by expanding the statement of populations to include details by sex, reporting of the population figures to the last digit, and incorporating standard tables on incidence of missing data. There is further scope to improve accessibility of SRS by publication of the annual reports in portable document format, and eventual publication of the SRS data sets in appropriate electronic database formats. User service may be improved by outsourcing the publication and distribution functions and identifying a network of libraries to act as vital statistics document repositories.

❖THANK YOU❖