

# **APPROACHING DATA SOURCES**

## **A Gender Lens**

**Centre for Women's Development Studies (CWDS), New Delhi**

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## List of Abbreviations

AHS	Annual Health Survey
AICTE	All India Council for Technical Education
AIDIS	All India Debt and Investment Survey
AISES	All India School Education Survey
AISHE	All India Survey on Higher Education
ANC	Ante-natal Care
ASER	Annual Status of Education Report
ASFR	Age Specific Fertility Rate
ASHAs	Accredited Social Health Activists
ASMFR	Age Specific Marital Fertility Rate
AWI	Agricultural Wages in India
BCG	<i>Bacille Calmette-Guérin</i>
BMI	Body Mass Index
BSR	Basic Statistical Returns
CBLY	Children Born Last Year
CDS	Current Daily Status
CEDAW	Convention for the Elimination of All Forms of Discrimination against Women
CGHS	Central Government Health Scheme
CMB	Conditional Maternity Benefit
CPF	Central Provident Fund
CPR	Contraceptive Prevalence Rate
CRS	Civil Registration System
CSO	Central Statistical Organization
CWDS	Centre for Women's Development Studies
CWS	Current Weekly Status
DGET	Directorate General of Employment and Training
DISE	District Information System for Education
DLHS	District Level Household and Facility Survey
DPEP	District Primary Education Programme
DPT	Diphtheria Pertussis Tetanus
EAG	Empowered Action Group
EC	Election Commission
EGS	Employment Guarantee Scheme
EMW	Ever Married Women
EPI	Expanded Program of Immunization
ESIS	Employee State Insurance Scheme
EUS	Employment Unemployment Survey
FIR	First Investigation Report
GDI	Gender-related Development Index
GEI	Gender Equality Indices
GEM	Gender Empowerment Measure
GER	Gross Enrolment Ratio
GPF	General Provident Fund
HBW	Home Based Work
HDI	Human Development Index
HH	Household
HIV/AIDS	Human Immunodeficiency Virus Infection and Acquired Immune Deficiency Syndrome
HPI	Human Poverty Index

ICDS	Integrated Child Development Services
IFA	Iron Folic Acid
IIPS	International Institute for Population Sciences
ILO	International Labour Organization
IMR	Infant Mortality Rate
INB	India Nutrition Profile
IPC	Indian Penal Code
IRD	Integrated Rural Development Programme
ITC	Industrial Training Centre
ITI	Industrial Training Institute
IUD	Intra Uterine Device
JLGs	Joint Liability Groups
JSY	Janani Suraksha Yojana
KHAS	Karnataka Household Asset Survey
LFPR	Labour Force Participation Rates
MCCD	Medical Certification of Cause of Death
MCH	Mother and Child Health
MCI	Medical Council of India
MCTS	Mother and Child Tracking System
MDGs	Millennium Development Goals
MHRD	Ministry of Human Resource Development
MM	Maternal Mortality Rate
MGNREGA	Mahatma Gandhi Rural Employment Guarantee Act
MPCE	Monthly Per Capita Expenditure
NACO	National AIDS Control Organization
NAR	Net Attendance Ratio
NAS	National Achievement Survey
NCERT	National Council of Educational Research and Training
NCEUS	National Commission for Enterprises in the Unorganized Sector
NCRB	National Crimes Record Bureau
NFE	Non-formal Education
NFHS	National Family Health Survey
NGO	Non Governmental Organization
NIC	National Informatics Centre
NNMB	National Nutrition Monitoring Bureau
NREP	National Rural Employment Programme
NRHM	National Rural Health Mission
NSS	National Sample Survey
NSSO	National Sample Survey Organization/Office
NUEPA	National University of Educational Planning and Administration
OBC	Other Backward Class
OPD	Out Patient Department
ORGI	Office of the Registrar General, India
PAP	Proportion of Ailing Persons
PhD	Doctor of Philosophy
PG	Post Graduate
PPF	Public Provident Fund
PPS	Probability Proportional to Size
PS	Principal Status
PSU	Primary Sampling Unit
PWPR	Paid Work Participation Rate

RBD Act, 1969	Registration of Births and Deaths Act, 1969
RBI	Reserve Bank of India
RGI	Registrar General of India
RLE	Rural Labour Enquiries
RSBY	Rashtriya Swasthya Bima Yojana
RTI	Reproductive Tract Infection
SBAs	Small Borrowal Account Surveys
SC	Scheduled Castes
SHG	Self Help Group
SLL	Special and Local Laws
SRB	Sex Ratio at Birth
SRS	Sample Registration System
ST	Scheduled Tribes
STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infections
TB	Tuberculosis
TFR	Total Fertility Rate
TRYSEM	Training Rural Youth for Self Employment
TT	Tetanus Toxoid
TUS	Time Use Survey
UA	Urban Agglomerations
U5MR	Under Five Mortality Rates
UDISE	Unified District Information System for Education
UG	Under Graduate
UGC	University Grants Commission
UIP	Universal Immunization Programme
UN	United Nations
UNDP	United Nations Development Programme
UNESCO	The United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UPR	Usual Place of Residence
UPS	Usual Principal Status
UTs	Union Territories
VIP	Ventilated Improved Pit
WHO	World Health Organization
WPR	Work Participation Rates

# **CHAPTER I**

## **INTRODUCTION**

### **OVERVIEW**

This document is the outcome of a desk review, carried out by the Centre for Women's Development Studies (CWDS) with support from UNFPA, of various macro level data sources on women on select themes.

The objective of this exercise is to document the availability of data on key indicators which can be used to analyse women's status in India. It makes available at one place detailed information on key indicators and related data sources alongside documenting the specificities and limitations of selected sources in terms of coverage, methods and concepts used, from a gendered perspective. The report also identifies a set of critical indicators for which either no reliable data exists or, if available, the data is inadequate or of poor quality.

The documentation provides guidelines and suggestions for improving the present status of statistics on women and on the possibilities of developing new data collection mechanisms and surveys. The selected themes for the study are Health Status, Educational Status, Economic Status, Violence against Women, and Demographic, Social and Political Status

### **1.1. THE BACKGROUND**

Ensuring gender equality has been a commitment and priority of various governments. Numerous efforts were initiated during the past decades towards attaining the objective. Goals of gender inequality have been defined and refined over time and there is now clarity on what has to be measured. Today, many data sources which provide information on diverse sets of variables that would enable measurement of various goals are available.

Gender equality in terms of equal opportunities in accessing health and education, participation in different walks of social, economic, and political life without discrimination has been the focus of many initiatives at the national and international level. India has been among the pioneering countries, which ratified the UN Conventions; the Convention for the Elimination of All Forms of Discrimination against Women (CEDAW) and the Beijing Platform for Action. In the last few years, as an outcome of affirmative policies and programmes, important changes have taken place, which bear crucial implications as far as status of women is concerned. Nevertheless, it is difficult to arrive at definite conclusions on the impact of these interventions towards the attainment of a gender-equitable social, economic, and political order as there are contradictory trends and patterns. While literacy among women has increased considerably adverse child sex ratio and increased violence against women continue. An observant review of women's status in India suggests that their contributions to families are overlooked and quite often they are viewed as economic burdens. These suggest that interventions made during these years could not bring in the needed social transformations.

The first challenge faced by many who want to highlight specific issues of women or to advocate for a gender sensitive policy is the lack and inadequacy of gender specific statistics. Gender statistics is essential to provide a base for research and policy development. It helps in analysing the relative positions of women and men at various contexts and understanding whether and how their condition is changing. Gender statistics raise awareness and provide the impetus for informed public debates. Further, gender-disaggregated statistics are also needed to monitor and evaluate the efficacy of various policy interventions/developments. Such statistics also help to foreground issues in areas where gender is not presently a primary concern. Furthermore, a gendered analysis of available statistics can play an important role in improving the comprehensiveness of the statistical system, by enhancing its scope to hitherto unaddressed gender dimensions in social development.

Despite the fact that the importance of gender statistics is now well-acknowledged, even the limited data available to study women's issues and gender dynamics is often overlooked and remain under-analysed. An important reason for the underutilization of available data is the poor knowledge of the data sets coupled with poor quality and unavailability of data on critical variables.

Mere knowledge of the sources of data would not help increasing its use or utility and appropriateness for deeper analysis. It is important to know the underlying definitions or concepts, methodology followed in data-collection, and more importantly, the limitations of data sets. All these aspects should be addressed, if any concrete insights are to emerge from the data analysis. Information on periodicity of data available is also important, as it allows one to look at the temporal dimensions of issues/variables under scrutiny. Further, such time series data sets (if available) are of immense help in analysing long-term trends and patterns.

Another issue with most data sets is that of revision in the methodology and concepts which are followed in different rounds. Unless one is clear on these, it will lead to wrong comparisons and faulty conclusions. It is also important to understand the sample size, the details of sampling methods used and the coverage of sample across various locations and categories (such as rural/urban, male/female, etc.). The utility of data sets can be enhanced by including additional information on related variables/dimensions. Similarly, provision of disaggregate data across sub-groups (such as sex, age cohorts, caste/religious categories, economic divisions, and so on) enables a more detailed understanding and analysis.

An overview of different data sources and an outline of the specificities of these are of utmost relevance. However, so far there have been virtually no efforts to collate and disseminate such information in the public domain in a systematic manner which would lead to better use of gender-informed statistics. Such information is vital to enable data collecting agencies, policy-making bodies and decision-makers, and also those working for the advancement of women towards taking steps to achieve gender equality. This would also facilitate further research on different aspects related to the life conditions and relative status of women in the society.

Inadequate availability (or near absence) of gender-specific statistics is another important issue which constraints research and policy debates in certain critical areas of women's status. Though this is an issue that has often been highlighted, in the context of systematically documenting the existing sources there exists ambiguities with regard to the areas/aspects of women's life that are

not captured. All these, *inter alia* suggest the need for strengthening the extant sources of data, along with generation of additional/complementary data/information. It is in this context, the present study on gender statistics is undertaken by the Centre of Women's Development Studies (CWDS) with the support of United Nations Population Fund (UNFPA).

## **1.2. OBJECTIVES**

At its core, the objective of the exercise is to undertake an overview and critical analysis of various macro sources of data on women through a set of gender indicators that represent various facets of women's lives and its changes over time.

More specifically, it is planned to:

- (a) Identify critical themes, various dimensions and indicators of gender equality and status across these themes.
- (b) Critically examine the availability of macro level statistics on measuring these indicators, possibilities of disaggregate analysis, and capturing the conceptual and methodological issues and limitations of each of these data sources.
- (c) Identify data gaps and inadequacies by pinpointing areas for which data is either unavailable or is of poor quality.

## **1.3. IDENTIFIED THEMES**

Right from conception and birth, girls are discriminated because of strong preference of parents for boys, which is accentuated as they grow into adolescence. The discrimination is often seen in terms of inequalities in nutrition, access to healthcare facilities, education, employment, and other opportunities for development. Women also lag behind in terms of decision making, both within households and in the public sphere.

Thus, the first step of the desk review was to identify some central themes to construct suitable indicators which adequately capture the various phases and facets of women's lives. As part of this exercise, existing literature on gender indicators and its measurement was reviewed alongside available statistical data from various sources (such as the Census of India, National Family Health Survey (NFHS), Sample Registration System (SRS), National Sample Survey Organization (NSSO), National Crime Records data, and so on) from a gender perspective. This process helped gaining an overview of critical dimensions of women's status and various sources of data on women.

The information and insights gained from the above exercise was discussed subsequently in a Brainstorming Workshop of experts held on 3 April 2014. On the basis of the suggestions in the workshop and the insights from the detailed literature review, the following five themes were identified for the detailed desk review:



- Health Status
- Education Status
- Economic Status
- Violence Against Women
- Demographic, Social, and Political Status

It is assumed that indicators concerning these areas broadly capture the comparative picture of disparity between men and women in the society, which is normally termed as 'gender gap' in development. Apart from the comparative status, many indicators also capture the specific issues and needs of women which differ from that of their counterparts. Considering the multiple dimensions within each of the above themes, several sub-themes are identified, and standard and monitorable gender sensitive indicators are used to critically examine the availability of statistics. Gender indicators on various issues could vary hugely across various sub-sets of the population, since multiple layers of identity exist within a broader gender identity. Considering this, due attempt is also made to disaggregate a given indicator in terms of region, religion, caste or class, or even age groups.

#### **1.4. METHODOLOGY**

Profiling of women's status through indicators has been a major method of understanding gender discriminatory practices and their impact. This method is followed in the present review of existing data sources. Many indicators on gender equality are standard and are based on outcomes. Within the outcome indicators also, which measure to select is clearly a matter of informed choice determined by the availability of data. The UN Human Development Report did not include any index of gender inequality. In order to fill this gap, though there have been many efforts to measure and capture women's status through construction of indices both at the international and national level, these were criticized for their limited scope<sup>1</sup>. Further, the United Nations Development Programme (UNDP) measures such as Gender-related Development Index (GDI) and Gender Empowerment Measures (GEM) was argued to have missed out the perspective of the South because of its orientation to the Northern perspectives of development and gender relations. To address the limitations of the UNDP measure, alternate GDI and GEMs were developed in the context of many countries. There have been attempts in India by the Planning Commission<sup>2</sup> and also the Ministry of Women and Child to recast GDI and GEM considering the specific context of the country. However, these attempts broadly followed the UNDP approach to facilitate international comparison<sup>3</sup>.

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<sup>1</sup> It has also been argued that Gender-related Development Index (GDI) or the Gender Empowerment Measure (GEM) are not measures of gender equality per se (Schüler, 2006). The GDI is only an index that measures the overall development levels in a given country corrected by the existing gender inequalities. On the other hand, GEM is a measure of the extent to which women have access to certain levels of power of which two indicators are highly related and the third is heavily biased by income levels (Dijkstra, 2002).

<sup>2</sup> In 2002, the Planning Commission prepared the first National Human Development Report for India (National Human Development Report 2001), in which it computed the Human Development Indices (HDI), Gender Equality Indices (GEI) and Human Poverty Indices (HPI).

<sup>3</sup> The 2009 exercise followed the same three dimensions that were used by UNDP to measure GDI and GEM with one marginal change.<sup>3</sup> The dimensions for GDI thus were (1) A Long and Healthy Life, (2) Knowledge and (3) A Decent Standard of Living and for GEM these were (1) Political Participation and Decision-making Power, (2)

All efforts to select or develop indicators of the status of women are confronted by problems. First, there is the problem of trying to reflect the many dimensions or aspects of living conditions by means of a limited number of objective measures. Besides, for a country as large as India, spatial diversity in physical, social, and economic dimensions is inevitable and this has been well recognized. Such diversity has obvious implications for the variation in demographic, social, and economic processes. Further, the data and measures should take into account diversities among women which would involve possibilities of disaggregation by broad age cohorts, by location and socio-economic groups. Such comparisons across social groups and class require measures that satisfy certain standards of comparability. By means of such disaggregations, the highly abstract and potentially misleading statistics that describe the 'average' characteristics of an entire population can be supplemented by more meaningful and analytically useful data.

The review uses individual indicator approach as against composite index, which allows for considering a number of indicators to study a particular dimension. Since an indicator reflects a particular aspect/issue of women's life, multiple dimensions needs to be considered as may be desirable to understand gender inequalities. In an individual indicator approach there is no upper limit on the number of variables used or indicators constructed while the number of indicators may need to be limited in the context of composition into indices, as a large number of indicators can make the index incomprehensible. It has often been argued that individual indicators serve as a far better method for both the identification and evolution of effective intervention strategies compared to composite index which hides many dimensions under a number. While it needs to be accepted that only few indicators can be used for computing an index, there is a need to track other gender-based indicators as well to get a comprehensive understanding of women's status. Further, there is a need to constantly revise some of the usual indicators to bring in newer dimensions and complexities which arise due to social and economic change.

The process of understanding, analysing, and monitoring of women's status needs the unpacking of different aspects of their lives. In the discussions on indicators a life cycle approach is followed as this would help in tracing inequalities at various stages of women's life. We understand that women's status is a complex and dynamic process and hence many indicators which may seem to represent a particular phase of women's life, may well influence other indicators which could be identified with that of an earlier or later stages of her life cycle. For example, nutritional intake during childhood could influence maternal mortality rates or girl's ability to perform in schools or higher education could explain labour market discriminations. Many indicators are thus linked to or are outcomes of a continuous, interlinked, entwined process. Hence, though each of these indicators may reveal specific realities at a given point of time, they are also part of a large dynamic process. While accepting that there cannot be a well defined common path, there are also merits in following a life cycle approach. This helps in underlining the criticality of certain periods in women's life which would thereby lead and guide interventions both in terms of policies as well as gender-sensitive programmes.

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Economic and Social Participation, and (3) Decision-making Power and Power over Economic Resources. Though a number of indicators were identified under each dimension, the final analysis used only a limited number of indicators. This was to maintain international comparability, manage data analysis and avoid issues of data reliability.

If the situation and status of women is to be evaluated, that evaluation must be based upon information that reflects their particular needs and conditions as well as those conditions they share with the opposite sex. Thus this exercise considers both attainment levels and gender gaps as they refer to different dimensions of gender inequality and biases against women. For instance, the low literacy or high mortality rate among females depicts a poor status whereas the gap between men and women in literacy levels or mortality rates signifies gender-based discrimination in society.

Yet another discussion in the context of indicators is with regard to its nature. Indicators are broadly classified into input and output (outcome) indicators (Rajivan, 1998). For example, under 5 mortality rates (U5MR) of girls could be seen as an outcome indicator of survival of girl children, while immunization or nutritional gap among boys and girls could be viewed as an input indicator. However, the relationships between the input and outcome indicators are complex and given the varied ways that each of these interact with other social, cultural, and economic variables such a classification of indicators sometimes becomes meaningless. Thus, in the framework of indicators that is used in this report no such distinctions are made.

## 1.5. FRAMEWORK OF THE REPORT

The five themes that are taken up in the study to review existing data sources are Health, Education, Economic Status, Violence against Women, and Demographic, Social, and Political Status. Since there are multiple dimensions under a theme, each is sub-divided into few core sub-themes for review. Within each sub-theme, discussion is organized under identified indicators. The various sub-themes and the related indicators across broad areas are given below:

Table 1.1: Selected indicators across sub-themes

<i><b>Sub-Theme</b></i>	<i><b>Indicators</b></i>
<b>Health Status</b>	
<i>Survival of the Girl</i> [Sec 2.1]	<ul style="list-style-type: none"> <li>• Infant Mortality Rate (IMR) [Sec 2.1.1]</li> <li>• Immunization Gap [Sec 2.1.2]</li> <li>• Under Five Mortality Rate (U5MR) [Sec 2.1.3]</li> <li>• Nutrition Gap [Sec 2.1.4]</li> </ul>
<i>Maternal Health</i> [Sec 2.2]	<ul style="list-style-type: none"> <li>• Maternal Mortality Ratio (MMR) [Sec 2.2.1]</li> <li>• Age Specific Fertility Rate (ASFR) [Sec 2.2.2]</li> <li>• Total Fertility Rate (TFR) [Sec 2.2.3]</li> <li>• Maternal Morbidity Rate [Sec 2.2.4]</li> <li>• Maternal Care Indicators: Ante-natal and Post-natal Care [Sec 2.2.5]</li> <li>• Proportion of Institutional Deliveries [Sec 2.2.6]</li> <li>• Access to Support/Beneficiary Schemes for Deliveries [Sec 2.2.7]</li> </ul>
<i>Sexual and Reproductive Health</i> [Sec 2.3]	<ul style="list-style-type: none"> <li>• Prevalence of Early Pregnancy and Motherhood [Sec 2.3.1]</li> <li>• Contraceptive Prevalence Rate [Sec 2.3.2]</li> <li>• Prevalence of Reproductive and Sexual Health Problems [Sec 2.3.3]</li> </ul>
<i>Women's General Health</i> [Sec 2.4]	<ul style="list-style-type: none"> <li>• Age Specific Mortality Rates [Sec 2.4.1]</li> <li>• Morbidity Rates of Women [Sec 2.4.2]</li> </ul>

	<ul style="list-style-type: none"> <li>• Women Affected with Life Threatening Diseases (TB, Cancer, and HIV) [Sec 2.4.3]</li> <li>• Proportion of Women Seeking and Receiving Healthcare [Sec 2.4.4]</li> <li>• Gender Gap in Hospitalization [Sec. 2.4.5]</li> <li>• Gender Gap in Out-of-pocket Healthcare Expenditure [Sec 2.4.6]</li> <li>• Reasons for Death among Women [Sec 2.4.7]</li> <li>• Prevalence of Surrogacy [Sec 2.4.8]</li> <li>• Access to Healthy Living Facilities [Sec 2.4.9]</li> </ul>
<i>Women's Access to Healthy Living Facilities</i> [Sec. 2.5]	<ul style="list-style-type: none"> <li>• Proportion Using Traditional Cooking and Lighting Methods [Sec. 2.5.1]</li> <li>• Availability, Time, and Distance Travelled for Drinking Water [Sec. 2.5.2]</li> <li>• Proportion of Women Having Access to Toilets [Sec. 2.5.3]</li> </ul>
<i>Women With Distinct Needs and Vulnerabilities</i> [Sec. 2.6]	<ul style="list-style-type: none"> <li>• Proportion of Disabled Women and Distribution across Nature of Disability [Sec. 2.6.1]</li> <li>• Disabled Women Covered by State Welfare Schemes or Provisions [Sec. 2.6.2]</li> <li>• Proportion of Women with Mental Health Issues [Sec. 2.6.3]</li> <li>• Proportion of Women with Mental Health Issues Seeking and Accessing Healthcare [Sec 2.6.4]</li> </ul>
<b>Education Status</b>	
<i>Gender Gaps and Biases in Schooling</i> [Sec 3.1]	<ul style="list-style-type: none"> <li>• Literacy Rates [Sec 3.1.1]</li> <li>• Adult Literacy Rate [Sec 3.1.2]</li> <li>• Gross Enrolment Ratio [Sec 3.1.3]</li> <li>• Net Attendance Ratios [Sec 3.1.4]</li> <li>• Drop-out Rates at Primary Level [Sec 3.1.5]</li> <li>• Primary Completion Rate [Sec 3.1.6]</li> <li>• Drop-out rates at Secondary Level [Sec 3.1.7]</li> <li>• Completion Rates of Secondary Education [Sec 3.1.8]</li> </ul>
<i>Enabling Factors</i> [Sec 3.2.]	<ul style="list-style-type: none"> <li>• Availability of Separate Toilets for Girls [Sec 3.2.1]</li> <li>• Usability of Girls' Toilets [Sec 3.2.2]</li> <li>• Distance Travelled to Schools [Sec 3.2.3]</li> <li>• Proportion of Female Teachers [Sec 3.2.4]</li> </ul>
<i>Gender Gaps and Biases in Higher Education</i> [Sec 3.3]	<ul style="list-style-type: none"> <li>• Level of Higher Education Completed [Sec 3.3.1]</li> <li>• Participation in General Stream of Higher Education [Sec 3.3.2]</li> <li>• Participation in Technical and Professional Courses [Sec 3.3.3]</li> <li>• Participation in Vocational Education [Sec 3.3.4]</li> </ul>
<b>Economic Status</b>	
<i>Economic Opportunities</i> [Sec 4.1]	<ul style="list-style-type: none"> <li>• Labour Force Participation Rates (LFPR) [Sec 4.1.1]</li> <li>• Gender Gap in Work Participation Rates (WPR) [Sec 4.1.2]</li> <li>• Women in Unpaid Economic Work or Paid Work Participation Rate (PWPR) [Sec 4.1.3]</li> </ul>

	<ul style="list-style-type: none"> <li>• Proportion of Women Workers with Higher Education/Skill Levels [Sec 4.1.4]</li> <li>• Proportion of Migrant Women in Employment [Sec 4.1.5]</li> <li>• Short-term/Temporary Migration among Women [Sec 4.1.6]</li> <li>• Gender Gap in Sharing Domestic Work Burden [Sec 4.1.7]</li> </ul>
<i>Quality of Work</i> [Sec 4.2]	<ul style="list-style-type: none"> <li>• Informality Ratio (Women in Informal Employment) [Sec 4.2.1]</li> <li>• Proportion of Women In Home-based Work [Sec 4.2.2]</li> <li>• Share of Women in Feminine Jobs [Sec 4.2.3]</li> <li>• Gender Wage Gap [Sec 4.2.4]</li> <li>• Distance Travelled To Workplace [Sec 4.2.5]</li> </ul>
<i>Support Services at Workplaces and Access to Social Security Schemes</i> [Sec 4.3]	<ul style="list-style-type: none"> <li>• Proportion of Women Having Access to Long-term Employment and Paid Leave [Sec 4.3.1]</li> <li>• Percentage of Women with Crèche Facilities at Work Places [Sec 4.3.2]</li> <li>• Percentage of Women with Social Security Benefits [Sec 4.3.3]</li> </ul>
<i>Financial and Other Forms of Economic Independence</i> [Sec 4.4]	<ul style="list-style-type: none"> <li>• Proportion of Women having Access to Bank Accounts[Sec 4.4.1]</li> <li>• Control over Own Income[Sec 4.4.2]</li> <li>• Control over Consumption Expenditure [Sec 4.4.3]</li> <li>• Proportion of Women Having Freedom to support Natal Family [Sec 4.4.4]</li> <li>• Ownership of Land/Agricultural and by Women [Sec 4.4.5]</li> <li>• Access to Property Other Than Land (House/Dwelling) [Sec 4.4.6]</li> </ul>
<b>Violence against Women</b>	
<i>Crime Against Women</i> [Sec 5.1]	<ul style="list-style-type: none"> <li>• Rate of Crimes against Women [Sec 5.1.1]</li> <li>• Nature of Crimes against Women [Sec 5.1.2]</li> <li>• Conviction Rates on Crime against Women [Sec 5.1.3]</li> <li>• Incidence of ‘Honour’ Crimes [Sec5.1.4]</li> <li>• Complaint Rates of Crime against Women [Sec 5.1.5]</li> <li>• Incidence of ‘Honour’ Crimes [Sec 5.1.6]</li> </ul>
<i>Domestic Violence</i> [Sec 5.2]	<ul style="list-style-type: none"> <li>• Rate of Domestic Violence against Women [Sec 5.2.1]</li> <li>• Nature of Domestic Violence [Sec 5.2.2]</li> <li>• Perpetrators of Domestic Violence[Sec 5.2.3]</li> <li>• Proportion of Women with Alcoholic Partners [Sec 5.2.4]</li> <li>• Sharing and Assistance Rates [Sec 5.2.5]</li> </ul>
<b>Critical Demographic, Social and Political Status</b>	
<i>Male Bias</i> [Sec 6.1]	<ul style="list-style-type: none"> <li>• Sex Ratio at Birth [Sec 6.1.1]</li> <li>• Child Sex Ratio [Sec 6.1.2]</li> <li>• Male Child Preference [Sec 6.1.3]</li> <li>• Adolescent Sex Ratio. [Sec 6.1.4]</li> </ul>
<i>Vulnerable Women</i> [Sec 6.2]	<ul style="list-style-type: none"> <li>• Proportion of Women in Houseless Households [Sec 6.2.1]</li> <li>• Proportion of Women in Old-age and Destitute Institutions [Sec 6.2.2]</li> <li>• Proportion of Women in Prisons [Sec 6.2.3]</li> <li>• Proportion of Women among Displaced Migrants [6.2.4]</li> <li>• Number of Women Trafficked [Sec 6.2.5]</li> </ul>

<i>Women with Special Needs</i> [Sec 6.3]	<ul style="list-style-type: none"> <li>• Proportion of Female Headed Households [Sec 6.3.1]</li> <li>• Percentage of Elderly Women Living Alone [Sec 6.3.2]</li> <li>• Proportion of Women Availing any Welfare Scheme [Sec 6.3.3]</li> </ul>
<i>Institution of Marriage and Family</i> [Sec 6.4]	<ul style="list-style-type: none"> <li>• Percentage of Women Married below the Legal Age of Marriage [Sec 6.4.1]</li> <li>• Age at Co-habitation [Sec 6.4.2]</li> <li>• Percentage of Divorced Women [Sec 6.4.3]</li> <li>• Proportion of Remarried Women to Total Married Women [Sec 6.4.4]</li> <li>• Proportion of Polygamous Marriages [Sec 6.4.5]</li> <li>• Proportion of Divorced/Separated or Widowed Women Married [Sec 6.4.6]</li> <li>• Proportion of Women Having Access to Modern Family Planning [Sec 6.4.7]</li> <li>• Proportion of Women Having Freedom to Visit Natal Family and Public Places [Sec 6.4.8]</li> </ul>
<i>Participation in Political and Collective Space</i> [Sec 6.5]	<ul style="list-style-type: none"> <li>• Participation in Women's Collective Institutions [Sec 6.5.1]</li> <li>• Proportion of Women in Total Voter Turn-out [Sec 6.5.2]</li> <li>• Participation as Candidates and Elected Representatives [Sec 6.5.3]</li> </ul>

*Note:* Section nos. which covers individual sub-themes and indicators are given above in brackets.

The availability and specificities of various data sources which permits estimation of a particular indicator is taken up under identified indicators. The specific aspects that are highlighted under each indicator apart from listing the existing possible data sources are periodicity of data availability, conceptual and methodological dimensions, its changes over time, possibilities of disaggregate analysis across age and socio-economic groups across each of the data sources identified. Discussion on the gaps and limitations of existing data sources from a gender perspective is attempted after the discussion on all the indicators under a sub-theme. This section also provides possibilities and suggestions for improving some of the existing data sources as well as for developing new data sources.

The report is organized under seven chapters including the introduction. Individual themes are taken up in the subsequent 5 chapters in the order of the themes discussed above. The last chapter summarizes the status of existing data sources across selected themes and highlights the possibilities for improving existing sources. Dimensions/issues of critical importance for which there is an apparent gap data is also identified with suggestions for developing newer sources of data.

## 1.6. CAVEATS

Generating indicators to cover various phases of women's lives is not an easy task given the complexity of our social and economic situation. Thus the range of possible gender equality related indicators are numerous, and the list presented in the report is based on the review of existing literature and the suggestions of experts in the brainstorming workshop around the

theme. In no case are we suggesting that the list of indicators covers all possible sets, and nor are we denying the possibility of developing new and innovative indicators. The feasibility of calculating or measuring some of the indicators quantitatively is limited by availability of data. Discussion in the report is strictly restricted to macro level official data sources<sup>4</sup> and here again data collected by different ministries and departments are not covered unless these are regularly published. Apart from the official data collecting agencies, there are individual agencies/organizations that collect data on various dimensions. Some of these data sources also give insights on women status. However, these sources are not covered in the present review.

Most of the data that are required or useful in understanding women's position are either not collected or are not made available at a gender disaggregate level. Not every aspect in women's lives can be captured purely in quantitative terms. There are also situations where quantifications are not easy, and attempts to do so may complicate the situation as some aspects of women's experiences are better captured qualitatively and are not amenable to quantification. Since we are looking at data sources and indicators where measurement is the key, qualitative variables are beyond the scope of this study.

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<sup>4</sup> Annual Status of Education Report (ASER) is the only non-official source which is discussed in the report as the data is collected regularly and is the only source of alternate data on schooling.

## **CHAPTER II**

### **HEALTH STATUS OF WOMEN**

In India, advancement or improvement in health status in general, has been slow over the last many decades, even during the periods of high economic growth. Gender differentials mark this poor overall status which is clearly evident from the prevalence of high maternal mortality rates which are much above that of countries in the South and East Asian region that have similar income levels and rates of economic growth (Baru et al., 2010).

Apart from the regional, class and caste dimensions of inequality in the health status of the female population, in the past two decades there have also been some quality shifts in the state policy regarding public health with far-reaching implications. Given the multi-layered inequality in our society, these changes undoubtedly would have had a differential impact on different categories of the population. This would have contributed to worsening of women's health status which may get reflected in some of the standard indicators. The fact that structural changes can create newer dimensions of gender-based inequality may demand going beyond standard indicators or looking at a composite set of indicators.

Under the theme of 'Health', five dimensions/sub-themes are identified which cover different phases and facets of women's life as well as women with special needs. These are:

- *Survival of the Girl*
- *Maternal Health*
- *Sexual and Reproductive Health*
- *Women's General Health*
- *Women with Distinct Needs and Vulnerabilities*

The details of each of the indicators (Table 1.1) under various sub-themes are explained with due attention to definitions, methodology of data collection, and estimation procedure; possibilities of disaggregate analysis, periodicity of the data, quality of data, limitations, and the possibilities for improvement, if any, are also discussed.

#### **DATA SOURCES**

In India, the data on vital indicators on health like fertility and mortality are regularly collected and disseminated at the national level by the Sample Registration System (SRS) and the Civil Registration System (CRS). These reports are published annually by the Office of the Registrar General of India (RGI). In addition, surveys like National Family Health Survey (NFHS), District Level Household and Facility Survey (DLHS), and Annual Health Survey (AHS) also provide reliable estimates on a number of variables. A brief comparison of these sources is illustrated in Appendix Table AI.



## 2.1. SURVIVAL OF THE GIRL

### 2.1.1 Indicator 1: Infant Mortality Rate

The ‘infant mortality rate’ is usually understood as the number of infant deaths during the year per 1000 live births. IMR comprises of two parts viz. ***Neo-natal mortality rate*** (Number of infant deaths of < 29 days) and ***Post neo-natal mortality rate*** (Number of infant deaths of 29 days to < 1 year). The neo-natal mortality rate also comprises of two parts: ‘**early neo-natal mortality rate**’ (Number of infant deaths of < 7 days) and ‘**late neo-natal mortality rate**’ (Number of infant deaths of < than 7 days to 29 days).

The macro data sets that gives information on IMR are *Sample Registration System (SRS)*, *Civil Registration System (CRS)*, *National Family Health Survey (NFHS)* and *Annual Health Survey (AHS)*.

The ***Sample Registration System (SRS)*** was initiated by the Office of the Registrar General, India in 1964–65 (on a pilot basis and on full scale from 1969–70), to generate reliable and continuous data on births and deaths. The SRS since then has been providing annual data on regular basis. The data is collected through surveys conducted at individual, household (and village) level. The field investigation under Sample Registration System consists of continuous enumeration of births and deaths in a sample of villages/urban blocks by a resident part-time enumerator, and an independent six monthly retrospective survey by a full time supervisor. The data obtained through these two sources are matched. The unmatched and partially matched events are re-verified in the field to get an unduplicated count of correct events. Sampling units are retained for about 10 years, making it a panel household survey. The sampling unit in rural areas is a village or a segment of it (if population is 2000 or more). In urban areas, the sampling unit is a Census enumeration block with population ranging from 750 to 1000. The SRS sample<sup>5</sup> is replaced every 10 years based on the latest Census frame. SRS provides us annual data on infant mortality rate for every calendar year<sup>6</sup> and for all states. IMR is also estimated by gender and rural/urban areas for bigger states (population of 10 million and above). But regular gender disaggregated data is available only from 1989 onwards.

The ***Civil Registration System (CRS)*** popularly known as birth and death registration system is the recording of vital events, i.e., live births, still births, and deaths under the statutory provisions (RBD Act, 1969) on a continuous, systematic, and permanent basis. It is not based on any sample as it captures registration of all births and deaths. The data is managed by the Office of Registrar General of India (RGI), Delhi, and various state-level bodies (Department of Public Health, Statistics, etc.). CRS gives data on registered births, deaths, and infant deaths based on civil registration records. It makes available data to the District or Taluk level, disaggregated by sex and region (rural/urban). Most of the states send the annual information on births and deaths to the Office of Registrar General of India. CRS data on births is available from 1958, but states have not been regular with reporting. Gender disaggregated data on a regular annual basis on IMR is available from CRS only since 2000.

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<sup>5</sup> At present, SRS is operational in 7,597 sample units (4,433 rural and 3,164 urban) spread across all states and Union Territories and covers about 1.5 million households and 7.44 million population.

<sup>6</sup> The national figures exclude Jammu & Kashmir from 1991 to 1997

The *National Family Health Survey (NFHS)* has completed three survey rounds till now and has covered all existing states at the time of the survey. It recorded IMR for the five-year period (0–4 years) preceding the survey in all the survey rounds. The NFHS records infant mortality rates both in rural and urban areas across all states surveyed along with background characteristics like education of mother (no education, <5 years complete, 5–7 years, 8–9 years, 10–11 years, and 12 or more years complete), religion (Hindu, Muslim, Christian, Sikh, Buddhist, other), caste/tribe (SC, ST, OBC, Others), wealth index (lowest, second, middle, fourth, highest). It also gives IMR by selected demographic characteristics like sex of the child, mothers' age at birth (<20, 20–29, 30–39, 40–49), birth order (1,2,3,4,5,6,7+), and birth interval (<24 months, 24–47 and above 48 months), etc.

In NFHS-1 (1992–93) interviews were conducted with a nationally representative sample of 88,562 households and 89,777 ever-married women in the age group 13–49, from 24 states and the then National Capital Territory of Delhi using a uniform questionnaire, sample design and field procedures. In the second survey, NFHS-2, carried out in 1998–99, interviews were conducted with a representative sample of around 91,000 ever-married women aged 15–49 from 26 states. NFHS-3 interviewed all women aged 15–49 (not just the married ones as was the case in NFHS-1 and 2).<sup>7</sup> Data is published at state level (with rural/urban differentials) and raw data of all rounds are available for further analysis and research.

The *Annual Health Survey (AHS)* gives infant mortality rate and various related mortality rates (neo-natal and post neo-natal mortality rates) across all districts surveyed in the eight Empowered Action Group (EAG) states and Assam for both male and female children.

The AHS was conceived during a meeting of the National Commission of Population held in 2005 where it was decided that 'there should be an Annual Health Survey of all districts which could be published/monitored and compared against benchmarks.' The objective was to monitor the performance and outcome of various health interventions of the Government including those under the National Rural Health Mission (NRHM) at closer intervals through these benchmark indicators. The Annual Health Survey (AHS) has been implemented by the Office of Registrar General, India in all the 284 districts (as per 2001 Census) of the selected states. It is stated to be the largest demographic survey in the world and is two-and-half times that of the SRS. It has completed three rounds including a base line survey till now. The base line survey was conducted in 2010–11, first updation round in 2011–12 and second in 2012–13. Four Schedules were administered in all the rounds: (i) House-listing Schedule, (ii) Household Schedule, (iii) Woman Schedule, and (iv) Mortality Schedule.<sup>8</sup>

### 2.1.2 Indicator 2: Immunization Gap

*Immunization Gap* refers to the difference between immunization rates between males and females where *immunization rate* is defined as the number of children immunized per 1000 children of age (0–4) years. There are many micro level studies which establish the existence of

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<sup>7</sup> In the individual survey apart from women it also covered men in 15–54 age categories.

<sup>8</sup> AHS also provides the confidence interval for some of the indicators like IMR and U5MR across all districts and for the state as a whole.

considerable degree of immunization gap in India, due to the general neglect of girl children in the society (Borooah, 2004; Kishore, 2007). It is possible to work out the immunization gap from secondary data sources like NSSO, NFHS, and AHS.

**National Sample Survey** considers a child to have received immunization if he/she had received any of the vaccinations (that is even one among these) viz. BCG, Measles, DPT (any of the 3 doses), Polio (excluding Polio 0 which is given at the time of birth), Hepatitis vaccine (A or B), MMR, Pneumovax (for Pneumonia), and Oral Typhoid.

NSSO has collected information related to immunization in its 60th (2004–05) round on ‘morbidity and healthcare’. NSSO has recorded the number per 1000 children (0–4 years) receiving any type of immunization in the last 365 days and average expenditure incurred by sex for each monthly per-capita expenditure (MPCE)/expenditure class (a proxy for economic status) and social group in rural and urban areas of all major states surveyed. Since raw data is available, disaggregate analysis across a number of household characteristics are possible.

As per **National Family Health Survey**, children who have received one dose each of the BCG and measles vaccines and three doses each of the DPT and polio vaccines are considered fully vaccinated or immunized.

The NFHS records the percentage of children aged between 12–23 months who have been vaccinated at the time of the survey (according to vaccination card or as reported by the mother). The reports publish limited disaggregation across socio-economic characteristics but analysis across a number of background characteristics and mother’s personal information is possible as the raw data is available for analysis. The NFHS also gives trends in vaccination in both rural and urban areas.

**Annual Health Survey (AHS)** gives district-wise immunization information separately for children receiving polio dose at birth (%), children aged 12–23 months who have received three doses of DPT vaccine (%), measles vaccine (%) and those fully immunized (%). Fully immunized children (referred as full vaccination) are those children who received complete vaccination (BCG + 3 doses of polio + 3 injections of DPT + measles). The data is collected through the woman schedule which is administered to all Ever Married Women (EMW) aged 15–49 years. Though it collects background information, related data is not available in the public domain.

**District Level Household and Facility Survey (DLHS):** DLHS was initiated for the assessment of district level reproductive and child health (RCH) indicators, as well as perception of quality of health services by the Government of India. Four rounds of survey has been carried out since 1998–99 (DLHS-1) and 2002–04 (DLHS-2), 2007–08 (DLHS-3) and 2011–12 (DLHS-4). The first round of the survey was conducted in 1998 in 252 districts from 25 states and five union territories (excluding Dadra & Nagar Haveli and Lakshdweep Islands). The second phase of the first round was conducted in 1999 in all the remaining 255 districts from 25 states and 5 union territories (excluding Delhi and Chandigarh). There were 593 districts during the 2001 Census which were covered in the second round. DLHS-3 covered 601 districts in 28 states and six union territories of India using the Census sampling frame. Unlike the other two rounds in which currently married women aged 15–44 years were interviewed, DLHS-3 interviewed EMWs (aged 15–49) and unmarried women (aged 15–24). DLHS-4 (2011–12) did not include the EAG

states and Assam (since they were covered in the AHS) -but the survey report is yet to be published. The reference periods for DLHS 2, 3, and 4 are periods after the previous survey until the current survey date. The number of households covered in various rounds of the survey varied. Data is published at the state level (with rural/urban differentials) and raw data is available for further analysis and research.

In DLHS, there is information on immunization of children between 12–23 months: fully immunized (%); children who received complete vaccination (BCG + 3 doses of polio + 3 injections of DPT + measles); who did not receive any vaccination (%); who have received BCG vaccine (%); who have received 3 doses of DPT vaccine (%); who have received 3 doses of polio vaccine (%); who have received measles vaccine (%); and also % children (age 9 months and above) received at least one dose of vitamin A supplement. Background characteristics of children vaccinated in DLHS-1&2 rounds were (residence: rural/urban; caste (SC/ST/other); mothers education: illiterate, 0–9 years, 10 years and above; type of house: kachcha, semi pucca, pucca; and sex of child: male/female). In DLHS-3, background characteristics also included, birth order: 1,2,3,4+; religion (Hindu, Muslim, Christian, Sikh, Buddhist, Jain); Caste (SC, ST, OBC, Others); and wealth index.

### **2.1.3 Indicator 3: Under Five Mortality Rate (U5MR)**

U5MR denotes number of children (0–4 years) who died before reaching their fifth birthday per 1000 live births. U5MR is an important indicator (along with infant mortality rate) related to improving child health (reduce infant mortality and reduce child mortality) under goal number 4 of the Millennium Development Goals (MDGs). The U5MR can be taken as a combined outcome of high female infant mortality rates as well as a general neglect of girls relative to boys in terms of their diet and in terms of their access to, and utilization of, healthcare facilities. The SRS, NFHS and AHS are the major sources of U5MR data.

The *Sample Registration System* provides U5MR by sex and residence for India and bigger states annually. The SRS gives estimates of child mortality rates since 1971, but clear age specific mortality rates (0–4 age group) is available only since 1998 and as U5MR in later SRS reports (since 2008). Gender segregated data is available for all years.

The *National Family Health Survey* records the U5MR for the five-year period (0–4 years) preceding the survey and U5MR data is available in all the three survey rounds of NFHS. The NFHS records U5MR for both rural and urban areas across all the states surveyed according to background characteristics. It also records IMR by selected demographic characteristics like sex of the child, mother's age at birth (<20, 20–29, 30–39, 40–49), birth order (1,2,3,4,5,6,7+) and birth interval (<24 months, 24–47, and above 48 months), etc.

The *Annual Health Survey (AHS)* gives U5MR across all districts surveyed (in rural and urban in the eight EAG states and Assam for both male and female children). The AHS also gives confidence interval (95%) for U5MR for all states and for each of the districts.

#### 2.1.4 Indicator 4: Nutrition Gap

Nutrition gap between boys and girls can be ascertained through nutrition assessment surveys. Three standard indices of physical growth that describe the nutritional status of children are: height-for-age (stunting), weight-for-height (wasting), and weight-for-age (under-weight). A gap in these between girls and boys may indicate a nutrition gap due to differences in intake of key food ingredients like cereals, proteins, micronutrients, etc. The major sources of data on nutrition are the NFHS, the National Nutrition Monitoring Bureau (NNMB), and the DLHS.

The ***National Family Health Survey (NFHS)***: In NFHS-1 & 2, anthropometric measurements were restricted to children born to women interviewed with the women's Questionnaire, and did not represent all children. To overcome the problem, NFHS-3 included height and weight measurements for all children born in the five years preceding the survey who were listed in the Household Questionnaire. NFHS-3 (2005–06) reports the percentage of children under-five years classified as malnourished according to three anthropometric indices of nutritional status: stunting, wasting, and underweight, by background characteristics of the mother, sex of the child, birth interval in months, size at birth, mother's nutritional status, child's living arrangement for India and states.

Each of the three nutritional status indicators is expressed in standard deviation units (Z-scores) from the median of the reference population.

The ***National Nutrition Monitoring Bureau (NNMB)*** and ***India Nutrition Profile (INP)*** make available nutrition data, based on household survey disaggregated by region/states. NNMB was set up by the Indian Council of Medical Research in 1972 in 10 Indian states. Data on time trends in dietary intake in rural areas and urban slums in nine states was available from surveys conducted by the NNMB. For rural areas data is available for 1975–79, 1988–90, 1996–97, 2000–01, 2004–05 and for urban areas for 1975–79 and 1993–94. Till 1990, NNMB adopted its own sampling procedure. However, to obtain better spatial distribution and representativeness, a sub-sample of NSS sample was taken in the later rounds.

NNMB surveys provide data on time trends in dietary intake (by 24-hour recall) and nutrition status of the population in major states. Apart from these surveys, NNMB also generates data periodically on diet and nutritional status of socially vulnerable groups like the tribals and population at-risk physiologically like elderly population and adolescents in collaboration with various agencies. An attempt was made by the Department of Women and Child Development of the Ministry of Human Resource development of the Government of India to bring out somewhat comparable data for the year 1995–96 for the states not covered by the NNMB. This data, India Nutrition Profile (INP) provides data on nutrient intake in all non-NNMB states of the country in urban and rural areas. Since both these surveys collect data for every individual in a household and age and sex are recorded, gender bias can be easily captured.

In the ***District Level Household Survey (DLHS)***, the blood of children (ages below 72 months), adolescents, and pregnant women is tested to assess the level of anaemia and measured weight of children to assess the nutritional status. The report based on DLHS-2 (2004–06), '*Nutritional Status of Children and Prevalence of Anaemia among Children, Adolescents girls and Pregnant Women in India*' gives district level age-wise gender disaggregated information on under nutrition. Prevalence of under nutrition (WHO (2006)  $\leq 2$  SD Weight for Age) in relation to

standard of living (wealth quintiles) is also available from DLHS-2. Other rounds of the DLHS do not capture it.

### **2.1.5 Indicators on ‘Survival of Girl Child’: Limitations and Comments**

In India, the most reliable annual data source on infant mortality and child mortality (U5MR) is the sample registration system. Although, the SRS covers about less than 1% of India's population, its representative character allows for estimation of vital statistics for the country and major states. Definitions of terms and data collection methods of the SRS are consistent over time, allowing for comparability over time. As discussed earlier in SRS, IMR is also estimated by gender and rural/urban areas for bigger states. Sex-wise age specific mortality rates (0–4 age group) are available only from 1998 and as U5MR from 2008. Completeness of registration of events has however not been sound with interstate variations with not much information on the missing data. Given the social context of gender based differentiation it would be better to have information on the number of births for which sex information is not available. Missing data on sex information is surely an outcome of gender bias as many may not report birth or, for that matter, death of girls.

Further, as in the case of all SRS based statistics information is not available across social groups or economic categories which are important variables in the analysis as well as formulations of policy intervention. Many studies have observed that death of the child during the first few month of birth could primarily be due to many factors other than gender. On the other hand infant/child deaths during higher age cohorts, or that below five years, are determined by a host of exogenous factors such as socio-economic or behavioural, which are not captured in the SRS data. This is compounded by the fact that the raw data is unavailable, which limits even any level of possible disaggregation.

SRS gives estimates on age-specific death rates by sex, only for large states (with population exceeding ten million). Another major limitation of the SRS is that the sample design permits estimates only at the state level and disaggregation to lower levels is not possible though the administrative district is recognized as a planning unit in the country. SRS cannot provide small area statistics at the district and sub-district level as the sample frame and small sample size do not allow for such calculations.

The IMR figures arrived at by the CRS are dependent on the ‘level of registration’ and as a result has a lower value in comparison to SRS or NFHS figures. Levels of registration vary from state to state (particularly low in states like Uttar Pradesh and Bihar). The coverage of registration system is incomplete and not up to the mark to be utilized for statistical purposes at the national level but there are 18 States/UTs where the coverage of birth registration is more than 95% and 11 States/UTs where the coverage of death registration is more than 90%. As registration is based on reporting, given the social situation there is a higher probability of underreporting of girl's birth which needs to be addressed for better gender wise reporting.

The NFHS data is clearly the most useful research data for all the four indicators of survival of girls, as it provides for many levels of disaggregation. However, the quality of data is an issue.

Underestimations of deaths are noted to be severe in the neo-natal stages in NFHS and the quality of data also varies across different rounds. It is carried out by different agencies in different locations. The sampling error for key indicators is small at the national level but the relative error reaches a level of 10% even in case of large states (Kulkarni, 2011). Like the SRS, a major limitation of the NFHS is that the sample design does not permit estimation below the state level. Even for state level, since age specific mortality data is limited to a few samples, there could be issues of comparability and consistency.

The most important advantage in the use of NFHS data is that it allows for analysis across social and economic aspects. Further the indicator can also be correlated with demographic characteristic of the mother and the child. Availability of raw data permits additional analysis allowing assessment of the influences of proximate and socio-economic determinants which would clearly help in assessing net influences of various factors on the risk of infant mortality providing for appropriate policy formulation and intervention. Besides, as the raw data are available in the public domain, it is also possible to carry out further statistical analysis.

The NSSO definition of immunization is limited as it counts all those children who have received any one of the vaccines listed in the survey as being immunized. Since the demand on economic and other resources may vary across different vaccines, there could be a difference in its administration among boys and girls. Thus, while vaccines that are free and easily available may be administered on girls, boys may be given costlier vaccines. Further, extra effort of travelling a long distance or spending more time in the hospitals for vaccination could be acceptable for boys, while for girls it may be a matter of concern. Vaccination against common and serious diseases needs to be seen as a package and hence any data that does not provide for such an approach will be of limited use.

Due to the partial definition of immunization, NSSO does not provide sufficient scope for comparison with other data sets such as NFHS or AHS. Nor does it allow for time series comparison as it is a onetime data. The quality of NSS data needs to be improved by redefining immunization. Since raw data of NSS surveys are available, many disaggregate analysis (across various household and individual characteristics) will also be possible which will make this data set a source of rich information.

Vaccination performance or immunization gap is always presented in terms of average coverage rates which raise serious issues. Averages often mask the wide disparity between extremes which could be either across regions, social groups, economic categories, or within boys or girls. Since indicators are developed for monitoring and interventions, there is a need to identify groups at the highest risk of remaining unvaccinated and bridging gaps/imbbalances as far as possible. This information on vaccination needs to be related to the region they belong, the household circumstances of the children, the circumstances of the mothers, the occupation and literacy levels of parents, their caste and religion, the quality of relevant infrastructure available with particular reference to the availability of healthcare facilities and anganwadis. In this regard, the NFHS survey is the only survey which provides a vast body of data on immunisation across individual, family, and social characteristics. But the issue with NFHS data is its small sample, which renders any analysis below the state level problematic.

AHS and DLHS allow for district level analysis which is not the case with both NSS and NFHS. The AHS, which is relatively a fresh initiative, has a large enough sample size to obtain district level estimates. It captures infant mortality, U5MR and immunization gap and is available for all districts, region-wise (rural/urban). Gender-wise disaggregation is also possible. But this survey covers barely half of the country and the data is available only for two years apart from the baseline survey data. Moreover, the functioning of the survey is yet to be ascertained as only few rounds are over. Further, since the raw data is not available, no further disaggregation is possible though the survey collects background information.<sup>9</sup>

Though DLHS provides for district level data, it does not allow for disaggregating the disparity that may exist across households and individuals since raw data is not easily available. Good background information is collected in the surveys, which needs to be fully analysed regularly. Further, the sample selection differed in various rounds of DLHS which should be borne in mind while using and comparing the DLHS indicators over time and with other surveys. In DLHS, the sample size among the districts varied according to their performance in terms of ante-natal care (ANC), institutional delivery, immunisation, etc. and it was fixed based on information related to such indicators from DLHS-2. For low performing districts, 1500 Households (HHs), for medium performing districts, 1200 HHs, and for good performing districts, 1000 HHs were fixed as sample size. Further, as discussed earlier, sample respondents also varied from currently married (in DLHS-1&2) to ever married and never married in DLHS-3.

As discussed, state-wise data on child malnourishment in India are available from two major sources other than one round of DLHS. Besides the problem of inter-temporal comparability, due to a change in the scientific procedure used by the NNMB in 1982, NNMB data suffer from the serious limitation of incomplete coverage as all the states are not covered. Further after 2004–05 there has not been any large scale survey conducted by NNMB. The INP survey was a standalone exercise and was not repeated. Thus, an inter-temporal study of the extent of under-nutrition among girls for all the Indian states cannot be carried out with NNMB data.

Nutritional data provided by NFHS is the only consistent source of data for all states on nutritional status over time, though it has all the limitations that were discussed earlier. NFHS data is available not only for nutrition related aspects but also on variables that are often correlated with nutrition such as awareness among mothers/women, social and economic conditions, etc. However, getting data for exactly identical variables that cover the same states for different rounds remains an important issue. DLHS data do not capture nutrition status neither in its 3rd or 4th round which limits its use.

Failure to have gender informed infant mortality indicators for diverse regions within states is a major handicap in carrying out analysis and making interventions. There seems to be no alternative but to strengthen the CRS which will ensure that all births and deaths across sexes, the registration of which is mandatory by law, are captured. Alongside this, if disaggregate data could be generated at the district level by NFHS by appropriately redefining its sample frame

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<sup>9</sup> Four Schedules are administered in AHS. These are: (i) House-listing Schedule, (ii) Household Schedule, (iii) Woman Schedule, and (iv) Mortality Schedule.



and sample size, these two data sources could definitely give a clear gender-sensitive picture of the issue of infant mortality.

Consistency and comparability are issues across years with DLHS though it covers all the districts since the number of households surveyed differs across rounds. If DLHS could be conducted on a consistent basis regularly, this could serve as a good data source. However, since the survey does not provide background characteristics it is important to design periodic household surveys. NSS health surveys could be modified appropriately in this regard to capture immunization gaps.

There is a real absence of gender informed child mortality (U5MR) indicators for diverse locations within a state, which upsets interventions. The AHS could be developed as a good source of such data by expanding its coverage to other states and districts. NFHS could also redefine its sample frame and sample size in such a way as to give a representative sample at the district level. However, there have not been any good sources of secondary data on nutrition gap which allow for any consistent evaluation. The DLHS could be a source for consistent data generation on the theme which would also project a district level picture. This, alongside NFHS, can give a comprehensive picture of the nutritional status of all children sex-wise.

The four indicators of survival of girl child capture different aspects of possible deprivation and neglect which, taken together as a composite index, could give insights into the condition of girls. There are definitely reliable data sources on infant mortality and U5MR but data on immunization and nutrition gap is still limited and comparability across data sets are issues. District level data is an issue with all the identified indicators though AHS and DLHS do give limited insights into these dimensions.

## **2.2. MATERNAL HEALTH**

In India, maternal mortality ratio is still very high though the rate has fallen over time. Different socio-demographic factors are responsible for this high rate besides the medical factors.

### **2.2.1 Indicator 1: Maternal Mortality Ratio**

The Maternal Mortality Ratio (MMR) depicts the risk of maternal death relative to the frequency of childbearing and is defined as the number of maternal deaths for 100000 live births.

Maternal mortality rate is different from MMR and is found by dividing the average annual number of maternal deaths in a population by the average number of women of reproductive ages (typically those aged 15-49 years) who are alive during the observation period. Thus, the MMR reflects not only the risk of maternal death per pregnancy or per birth, but also the level of fertility in a population. The macro data sources that give estimates of MMR are the SRS, NFHS, and AHS.

**Sample Registration System** provides data on MMRs. The mortality measures are based on the number of maternal deaths that occurred during childbirth or within two months after the end of a pregnancy or childbirth. The maternal mortality data from SRS is available since 1997<sup>10</sup>.

The SRS gives both MMR (three year averages as maternal death is a rare event and the sample size may be inadequate if annual numbers are taken) and maternal mortality rate. Age distribution (15–19, 20–24, 25–29, 30–34, 35–39, 40–44, 45–49) of maternal deaths and non-maternal deaths are also presented in SRS. But socio-economic disaggregation is not given.

**National Family Health Survey** in its first two rounds provides data on maternal mortality. MMR is based on the annual number of female deaths that occurred during childbirth or within two months after the end of a pregnancy or childbirth, obtained from the household respondent. The annual number of female deaths is calculated from the total number of such deaths reported and occurring in the two years preceding the survey. Since the background information on individual women is also given, detailed disaggregate analysis is also possible. However, the small size of the sample is an issue.

**Annual Health Survey:** Through the Mortality Schedule, AHS collects details of the deaths which have occurred to the usual residents of sample households during the reference period and it includes information on name and sex of deceased, date of death, age at death, registration of death, and source of medical attention received before death. In case of deaths associated with pregnancy, information on a variety of questions on factors leading/contributing to death, symptoms preceding death, time between onset of complications and death, etc., were asked to yield data on various determinants of maternal mortality.

The AHS gives district-wise data on both MMR as well as maternal mortality rate for all EAG states and Assam. For the AHS survey data 2010–11, the reference period is 2007–09; while for 2011–12 and 2012–13 surveys the reference period is 2010 and 2011, respectively. The AHS also gives the confidence interval (95%) for the values of both MMR and maternal mortality rate for all districts. Since the data is collected from a larger sample at the district level, the data is reliable with a reasonable reference period.

### **2.2.2 Indicator 2: Age Specific Fertility Rate**

The age specific fertility rate (ASFR) is the number of births per woman in a particular age group in one year expressed per 1000 women in that age group. The ASFR enables the assessment of adolescent fertility (births to women aged 15–19 years), which is of special concern. Early childbearing, particularly before the age of 18 entails greater risks to the mother. In addition, children born to very young mothers also have higher levels of morbidity and mortality. The Population Census, SRS and the NFHS are major sources of ASFR data.

**Population Census** provides age specific fertility levels of the population since the 1951 Census, though comparable estimates are available only since 1981 (with information collected on

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<sup>10</sup> Verbal autopsy instruments are administered for the deaths reported under the SRS on a regular basis to yield cause-specific mortality profile in the country since 2004.

‘children born alive during last one year’ to currently married women). From 2001, this information has also been tabulated by sex (sex of the child born alive during last one year also gives the sex ratio at birth). Based on Children Born Last Year (CBLY) and the number of women in various age groups, the Census computes direct estimates of ASFR. The ASFR data is available by age groups (15–19, 20–24, 25–29, 30–34, 35–39, 40–44, 45–59) for total population and also separately for Scheduled Castes, Scheduled Tribes and also for religious communities (Hindu, Muslim, Christian, Sikh, Buddhist, Jain, other religious communities) up to the district level.

**Sample Registration System** gives annual estimates of age specific fertility rates by residence (rural/urban) and major states since 1993. In addition, it also makes available ASFRs by literacy as this variable is found to have significant impact on fertility. The SRS, since 1996, also makes available fertility indicators by different levels of education (illiterate, without formal education, below primary, primary, middle, class X, class XII, and graduate or above).

**National Family Health Survey** gives age specific fertility rates for all states across the three survey rounds. Rates are for the period 1–36 months preceding the survey (approximately, 1990–92 for NFHS-1, 1996–98 for NFHS-2, and 2003–05 for NFHS-3). ASFR are expressed per woman. The age cohorts are 15–19, 20–24, 25–29, 30–34, 35–39, 40–44, 45–49. It gives the ASFR for three years preceding the survey by background characteristics.

### **2.2.3 Indicator 3: Total Fertility Rate**

Total fertility rate (TFR) refers to the average number of children a woman would bear over the course of her reproductive life (or life time). Micro level studies show that low fertility rate have potential health benefits for women. Achieving a TFR of 2.1 is a target as it is taken as the replacement level of fertility. The Population Census, SRS, and NFHS are the major data sources giving estimates of TFR which is expressed per woman.

**Population Census:** Total fertility levels of the population in Census are estimated based on ‘children born alive during last one year’ to currently married women (as stated for ASFR earlier). Based on CBLY, the TFR for the population, for social groups (Scheduled Castes and Scheduled Tribes) and for religious communities (Hindu, Muslim, Christian, Sikh, Buddhist, Jain, other religious communities) is computed. Comparable data on TFR is available from 1981 Census (for India, states and districts).

**Sample Registration System** is considered to be the most reliable source of TFR (it also gives marital fertility rate) and gives estimates of TFR from 1993 for rural and urban areas for India and major states. The TFR is the cumulative value of ASFR at the end of child-bearing ages. TFR indicates the average number of children expected to be born per woman during her entire span of reproductive period assuming that the ASFR to which she is exposed to continue to be the same and that there is no mortality.

**National Family Health Survey:** TFR is a summary measure, based on the ASFRs, that indicates the number of children a woman would bear during her reproductive years if she were to experience the ASFRs prevailing at the time of the survey. It is five times the sum of all the

ASFRs for the five-year age groups. NFHS gives data on TFR for all states across its three rounds and thus gives useful information on trends in fertility. It gives the TFR for three years preceding the survey by background characteristics (same as in ASFR). TFR (15–49 ages) by residence (rural/urban) is available for all states and India across the three rounds.

***District Level Household and Facility Survey:*** DLHS does not give estimates of total fertility but of completed fertility. DLHS 1 gives the estimate of the completed fertility for states and UTs, measured by average children ever born to women aged 40–44 years; DLHS 2 give data on mean children ever born to currently married women age 15–44 years by selected background characteristics (Age: 15–19, 20–24, 25–29, 30–34, 35–39, 40–44; place of residence; education; religion; caste and wealth index). DLHS 3 records average children ever born to ever-married women in age group 15–49 years and 40–49 and separately for currently married women between 40–44 years by background characteristics (age: 15–19....; place of residence; education; religion; caste and wealth index).

## **2.2.4 Indicator 4: Maternal Morbidity Rate**

Maternal Morbidity relates to pregnancy and childbirth related illness and disability. These may not necessarily be life-threatening but can have a significant impact on the quality of life. The possibility of not receiving adequate delivery and post-partum care is high for many women, particularly for those from weaker economic and social categories. Some macro data on the incidence of maternal morbidity is available from NSSO and DLHS.

***Annual Health Survey*** does not provide any detailed information on morbidity though it collects some information on this issue. Morbidity of female members is collected in the household schedule and questions relating to infant deaths as well as deaths associated with pregnancy are collected in the mortality schedule. This indicates that data is available but is yet to be presented in AHS reports.

Though ***NFHS*** covers a section on morbidity and healthcare it does not discuss any morbidity that has resulted as a consequence of pregnancy and childbirth.

***National Sample Survey:*** Health and morbidity issues of the Indian population have been covered in its periodic surveys; first time during the NSS 28th round (in October 1973–June 1974), and later in its different rounds. NSS data gave estimates of morbidity in 42nd (1986–87) and 52nd round (1995–96). It provided data on diseases relating to pregnancy and childbirth (including natural abortion) related problems under short-duration ailments by age (0–14, 15–39, 40–59, above 60 years) in rural and urban regions. In the 52nd round (July 1995–June 1996) it covered the curative aspects of the general health care system in India and also the mother and child health (MCH) care programmes. In the 60th round, it gave hospitalized cases of gynaecological disorders during the last 365 days by nature of ailment for different age groups by sex for rural and urban areas. NSSO does not cover reproductive related ailments separately under prevalence of chronic (long-term) ailments and are captured as part of ‘other diagnosed diseases’.

***District Level Household and Facility Survey*** is the first national level large-scale survey that has recorded information on reproductive morbidity. The DLHS-1 (1998–99) and DLHS 2

(2002–04) has recorded percentage of women who had pregnancy, delivery, and post-delivery complications for births in three years preceding the survey for all districts. The pregnancy complications included paleness, bleeding, visual disturbances, etc., by background characteristics (age group: 15–19, 20–24, 25–29, 30–34, 35–39, 40–44; children ever born, residence, standard of living index, received any ANC). Apart from the above variables, DLHS-3 also captures data on occurrence of obstetric fistula across states.

### **2.2.5 Indicator 5: Maternal Care Indicators: Ante-natal and Post-natal Care**

Maternal care includes both care during pregnancy before childbirth (ante-natal care or ANC) and post-childbirth (post-natal care). The NFHS, AHS and DLHS are the major sources of information on maternal care indicators.

*National Family Health Survey* provides information on various aspects of ante-natal and post-natal care, place of and assistance during delivery, delivery characteristics, and post-partum complications. All data are based on self reports by women respondents. The NFHS-3 (2005–06) expanded its scope to include information on all births to women in the last five years, with detailed information on ante-natal, delivery, and post-natal care. Post-natal care details are obtained for only the woman's most recent birth during the five years. NFHS-2 (1998–99) provides similar information but the reference period is for three years preceding the survey.

NFHS also gives the number of ANC visits, and the timing of the first visit, the details of medical care, according to the source of ANC public sector, private/NGO sector, both public, private and NGO sector. ANC received only at home and details of the care provider doctor, Auxiliary nurse midwife (ANM), Lady health visitor (LHV); *dai* or TBA (traditional birth attendant); *anganwadi*/ICDS worker; others. NFHS treats post-natal check-ups as checks on the woman's health within 42 days of the birth. It records women who received a post-natal health check-up after their most recent live birth and the timing of the first post-natal check-up (less than 4 hours, 4–23 hours, 1–2days, 3–41days), and also those who did not receive any such check-up. Also, details about the post-natal care provider and post-partum complications (massive bleeding, very high fever) were also recorded. The data could be disaggregated by background characteristics, birth order, and place of delivery.

*Annual Health Survey* gives district-wise data with respect to almost all maternal care indicators collected through woman schedule from ever-married women aged 15–49 years in respect of their last two outcomes of pregnancies which have resulted into live births/still births during the reference period in all EAG states and Assam.

It records number of ante-natal check-ups received, months of pregnancy at the time of first ANC, main source of ANC, type of tests performed during ANC, number of Tetanus Toxoid (TT) injections received, and number of days of consumption of IFA tablets/syrup.

The AHS also records post-natal care indicators across all districts in the surveyed states. It provides percentage of mothers who received post-natal check-up within 48 hours of delivery; percentage of mothers who received post-natal check-up within one week of delivery and percentage of mothers who did not receive any post-natal check-up. In case of institutional

delivery where the woman had stayed there for at least 48 hours, it was presumed that the post-natal care was given within 48 hours. These indicators are based on the last outcome of pregnancy which resulted into live/still birth during the reference period.

***District Level Household and Facility Survey*** gives district-wise data by residence (rural/urban) with respect to both pre-natal and post-natal care from ever-married women aged 15–44 years in DLHS-1 (1998–99) and DLHS-2 (2002–04) and ever-married women aged 15–49 years in DLHS-3 and DLHS-4 with respect of their last two outcomes of pregnancies which have resulted into live births/still births.

In DLHS, full ANC has been provided to the pregnant woman if she had at least three visits for ante-natal check-up, one TT injection and 100 IFA tablets or consumed adequate amount of syrup. DLHS give information on mothers who received any ante-natal check-up (%); mothers who had ante-natal check-up in first trimester (%); mothers who had three or more ANC (%); mothers who had at least one tetanus toxoid injection (%); mothers whose Blood Pressure (BP) was checked (%); mothers who consumed 100 IFA tablets (%); mothers who had full ante-natal check-up (%). DLHS also provides information on mothers who received post-natal care within two weeks of delivery (%).

***National Sample Survey*** has collected detailed information on ante-natal and post-natal care in the 42nd round (July 1986–June 1987), and later in the 52nd and 60th rounds. From the 60th round, it also provides information on expenditure for availing ante-natal and post-natal care by source of service (government/private).

It gives information for age groups 15–49 who were pregnant any time during the last 365 days and who availed antenatal and post natal care services. Particulars of prenatal care collected by the NSS include, age, whether registered for prenatal care, type of hospital/doctor, no. of times attended, reason for seeking prenatal care, during pregnancy whether injected with tetanus toxoid/received IFA (if yes, from public/private health facility), whether hospitalized due to complications in pregnancy, whether food supplements given during pregnancy, source of food supplements, etc.

### **2.2.6 Indicator 6: Proportion of Institutional Deliveries**

The Reproductive and Child Health programme encourages deliveries in proper hygienic conditions under the supervision of trained health professionals which is a precondition for safe motherhood. The major data sources are the SRS, CRS, NFHS, AHS, DLHS, and the NSSO

***Sample Registration System*** since 1988 records the percentage of women who delivered in health institutions like hospitals, maternity/nursing homes, health centres, etc., by residence (rural/urban); it also records delivery conducted in the home by doctor, trained dai, trained midwife, trained nurse, untrained village dai or other untrained professional functionary, and by relatives. The data is available for all major states.

***Civil Registration System*** provides data on live birth by type of medical attention received at the time of delivery from 21 States/UTs and also whether live births had occurred in an institution (government or private hospital). Information on whether non-institutional births were attended

by physicians/nurse/mid-wife/dai or others are recorded, but do not allow possibilities for further disaggregation.

**National Family Health Survey** records the percentage of women who delivered in a health facility or the place of delivery (health facility or institutions: public sector, NGO/trust, private sector; home: own home, parents home, other home; other). NFHS-3 also covered the reasons (costs too much; facility not open; too far/no transport; don't trust facility/poor quality of service; no female provider at facility; husband/family did not allow; not necessary; not customary; other) for not delivering at a health facility. The information can be disaggregated across many background characteristics.

**Annual Health Survey** gives details about place of delivery, source of transport provided and availed for reaching the institution, length of stay in the institution after delivery, type of delivery (normal/caesarean / assisted) and the personnel conducting delivery. Data was collected from ever-married women aged 15–49 years for their last two pregnancy outcomes resulting into live births/still births during the reference period.

Indicators with respect to institutional delivery available from AHS are percentage of deliveries that have taken place in institutions and their distribution into government and private institutions. It also gives district-wise data on percentage of deliveries taken place at home; percentage of home deliveries conducted by skilled health personnel; and percentage of safe deliveries (safe delivery comprises institutional deliveries and home deliveries conducted by doctor/nurse/ANM/LHV but does not include those attended by trained dais separately as they are included under skilled health personnel).

**District Level Household and Facility Survey** also provides information on institutional delivery (based on women whose last pregnancy outcome was live/still birth during reference period) for each of its survey rounds. It provides data on percentage of women in each district (rural and urban areas) who had institutional delivery, delivery at home, delivery at home by skilled personnel, and safe delivery.

**National Sample Survey** from its 42nd round onwards has been collecting detailed information with respect to child birth such as medical attendance at child birth, place of child birth, type of delivery, if the delivery is at home or other places (reason for not going to the hospital), for deliveries in hospital: type of hospital, type of ward, duration of mother's stay at the hospital, whether required more than normal stay for post-natal complications, post-natal care (whether registered, type of hospital/doctor, no of times attended, received food supplementation, received free medicine, etc.). The average expenditure for childbirth by place of delivery (government hospital/private hospital/home) was also recorded for urban and rural areas. The data is available for all major states.

## **2.2.7 Indicator 7: Access to Support/Beneficiary Schemes for Deliveries**

The Government of India has initiated certain schemes for providing state support for deliveries thus enhancing safe motherhood. Janani Suraksha Yojana (JSY) is one of the most important

programmes under the overall umbrella of National Rural Health Mission (NRHM) aimed at reducing Maternal Mortality Ratio and Neo-natal Mortality Rate by promoting institutional deliveries. The major macro sources giving data on proportion availing some beneficiary scheme are the AHS and the DLHS.

**Annual Health Survey** gives information on whether ever-married women aged 15–49 years had availed the maternity financial assistance for safe motherhood under the JSY scheme during the reference period. It gives percentage of mothers who availed financial assistance for delivery, percentage of mothers who availed financial assistance for institutional delivery and percentage of mothers who availed financial assistance for government institutional delivery under JSY, all in respect of the last delivery resulting in live birth/still birth.

**District Level Household and Facility Survey (DLHS):** DLHS-3 provides information on mothers who received financial assistance for delivery under JSY in respect of their last two outcomes of delivery resulting in live/still births during the reference period.

**Integrated Child Development Services (ICDS):** ICDS gives information on pregnant and lactating mothers who availed supplementary nutrition from ICDS for all states and union territories.

### **2.2.8 Indicators on Maternal Health: Limitations and Comments**

Until the early 1970s, there were no efforts to estimate maternal mortality ratio. As discussed earlier, the only sources of long term data on this indicator is SRS and NFHS as AHS data is limited to a few recent years. Estimates of maternal mortality and its consequences are built on relatively limited data. An important issue with this indicator is that even the large-scale surveys could not provide the estimate of maternal mortality at sub-national/regional levels owing to sample size.

The maternal mortality data from SRS is available since 1997. Even with SRS, which is one of the largest continuous demographic household sample survey in the world, estimates of maternal mortality have large sampling fluctuations due to inadequate sample size, though there has been a revision of SRS sampling frame and an increase in the sample size in 2004. In many such cases, one has to execute indirect techniques, which may not fully capture the various dimensions of the indicator. Since maternal mortality is a rare event, to enhance the SRS sample size, the results have been derived by following the practice of pooling the three year data to yield reliable estimates of maternal mortality. Though SRS provides data on large sample of births, which is required for such an analysis, it has information only for limited set of associated factors. A further limitation is that the sample design does not permit estimation below the state level.

NFHS-1 gave the first national estimate of MMR in India. Although NFHS-1 and 2 have attempted to provide national level estimates of MMR, the same are not consistent and have large sampling errors, despite the large sample size of both the surveys. This being the case at the national level, reliable MMR cannot be calculated for individual states or population groups. Because of relatively high sampling errors in its first two rounds, NFHS-3 did not collect



information on maternal mortality. Also, as the data is largely based on household reporting, estimates on maternal mortality is bound to have problems unless cross checking and careful canvassing of questionnaires are carried out. These methods suffer from misclassification and under reporting since persons giving information on death may not know the pregnancy status of the deceased or the cause of death.

The sample size of AHS at the district level has been derived taking IMR as the decisive indicator which may provide a better measure of maternal mortality as these two indicators are found to be closely related.

The existing maternal health literature focuses primarily on maternal death while there are many aspects that do affect the health status of mothers. While the estimates of maternal mortality and its consequences are built on relatively limited data, women who suffer from direct obstetric complications are estimated to be far higher in number, yet less well-documented. Even less is known about the numbers and description of the consequences women may suffer as a result of pregnancy and childbirth and other life threatening obstetric complications. Maternal morbidity is an overarching term that refers to any physical or mental illness or disability directly related to pregnancy and/or childbirth. It varies from physical to mental health issues. These could range from acute maternal morbidities of various kinds to those which are milder and chronic, all of which could impair quality of life. Since large sections of women still remain outside the coverage of basic reproductive programmes of safe birthing and related care, data on morbidity is a crucial indicator of maternal health, and may be of greater relevance than mortality.

An important issue with maternal morbidity is the lack of reliable and accurate data. None of the surveys capture the complex dimensions of maternal morbidity which ranges from physical to emotional issues of varying degrees. All the existing surveys are governed by a limited understanding of maternal morbidity and are largely restricted to physical health dimensions. Further, the vulnerability of certain subgroups of women to pregnancy-related mortality and morbidity is based on other health conditions, income, caste, age, etc. These dimensions need to be understood to assess the risks in specific populations as the average value may give an erroneous picture. Aspects like education are also important as educated women are more likely to delay childbearing, may have greater say over pregnancy decisions and are less likely to resort to unsafe abortions, all of which may alter maternity and morbidity chances. Though such information is collected in both AHS and DLHS, it is rarely looked into or critical indicators developed as the raw data is unavailable. The most common causes of maternal mortality and morbidity are widely known and include a range of economic, social, medical, and health system-related factors. These indicators on maternal health need to be correlated with dependent factors which are important to assess both the current situation as well progress over time.

Currently morbidity data is gathered mostly through sample surveys. The inconsistent use of terminologies to describe various maternal morbidities and disabilities is a major source of confusion in interpreting the available data. Further, investigators are most likely to have differing levels of training and supervision to gather information on maternal complications. In addition, the reliability and validity of these assessments and their comparability are concerns. For instance, NSS (1986–87) excluded expenditures related to abortions and miscarriages. The later survey rounds were to include complications around pregnancy and childbirth but how well

it did so is not clear. Neither did they make any special attempt to ensure that information on reproductive ill-health was systematically collected from women.

At present, none of the surveys provide estimates of core vital indicators on fertility and mortality at the district level. This is a major limitation of the existing secondary data. The DLHS conducted with periodicity of five years at present focuses mainly on indicators pertaining to maternal health and child welfare programmes. Thus the only way to address this limitation is to widen the scope of the DLHS survey by including these variables.

Census provides fertility data which permits analysis up to the district level. Census is conducted every 10 years, the last census was in 2011. As a result, the Census data refer to time points spaced by 10 years, which is too long a period for a country that has witnessed sharp changes. This is a handicap especially for urban areas that experience rapid growth. In Census, the limitations with regard to completeness and accuracy arise because data on births during the last year is based only on currently married women. The births that occurred to women other than currently married (which could be small in number) are therefore bound to be left out. If the mother did not survive as on the date of enumeration, then such children may also get excluded. In addition, because of the retrospective nature, there are chances of omissions of births during the years preceding the Census due to inaccuracies in date of births and distortion in age reporting.

The Census enumeration suffers from both coverage and content errors, the estimates of which are made available through post-enumeration surveys. The coverage error has been quite small in the Indian Census, generally below 2 %. The Post Enumeration Survey of Census 2001 has shown that while there was no gender bias in coverage, the overall omission rate was 23.3 per thousand persons, which is higher than that in the Census 1991 (17.6 per thousand). The omission rate of 2011 is yet to be known. Omission is much higher in urban areas than rural and this is a matter of concern. The content errors are small except that age reporting suffers from digit preference.

SRS surveys are the most reliable data source on fertility. The SRS estimates allow one to detect changes over short periods, an essential requirement in the context of rapid fertility transition that has happened in India during the past four decades. However this too has limitations when one looks at estimates over time. Mahapatra (2010) states that in SRS fertility indicators, the broad age groups have differed according to current policy interest: until 1990 age groups were 0–14, 15–49, and 50+ years. From 1991, the broad age groups were expanded to 0–4, 5–9, 10–14, 15–59, and 60+. In 1994, another two broad age groups were added, namely, 15–64, and 65+ years. Another major limitation is that these indicators relate to states and not to lower level of disaggregation such as districts.

The three rounds of the NFHS have been a major source of data on fertility since the early 1990s. Since the indicators have a reference period of three years, it gives a clear picture of changes. Besides, as the surveys naturally collect fertility histories of women in reproductive ages, fertility trends for up to 15 years prior to the survey are available. An important advantage with the data is that the availability of raw data permits additional analysis allowing assessment of the

influences of proximate and socio-economic determinants on fertility. Comparison of TFR values of Census, NFHS, and SRS shows that they are not consistent for the same period.

The NFHS is the only source giving data on maternal care indicators for the country as a whole and comparison across periods is also possible. But, since the target population in each round has been differently defined to include more categories in later rounds, comparison can be made only between groups which are covered in all the rounds.

The maternal care indicators available from DLHS (2007–08) are *percentage who received ANC*, *percentage who received ANC within the first trimester*, and *percentage of births delivered in a health facility*. In DLHS, though the overall sample size is large, the size within each district is in the range of 1000–1500 households. Studying differentials with such a sample faces the problem of relatively large sampling errors.

The vital registration system is an important source to estimate maternal mortality. The health delivery system in India is expected to record deaths in institutions; however, many maternal deaths take place at home and these do not necessarily get recorded by the health functionaries. However, as explained earlier the registration system is poor and the quality of data differs across states. Some of the issues in the context of maternal mortality are under-reporting of deaths, misclassification of maternal deaths as non-maternal, etc. Besides, private providers cater to a large section of population and the compilation of events that occur in this domain is difficult. Estimates of MMR from hospital records are not reliable or representative of the general population. The fact that hospital admission is high during emergency, obstetric cases could give a higher rate if only hospital records are looked at.

The only way to improve the quality of data on maternal mortality is to improve the legal registration of deaths. This along with SRS and AHS could give a macro picture. Since SRS and AHS collects some background information of the household, the possibility of correlating this indicator with other dimensions should also be explored. To capture the maternal health status of women, maternal morbidity is the most critical variable.

Maternal mortality and morbidity could clearly capture maternal health status of women, though other indicators discussed may provide elaborate account of specific issues which indirectly or directly may have contributed to this outcome. Though, rough estimates on maternal morbidity are available from SRS data and AHS data, the quality of maternal morbidity data is a cause of concern, which needs immediate attention. NSS health surveys could be modified to include reproductive and maternal health related questions. Such questions should cover both physical and psychological dimensions of maternity. The scope of DLHS survey could also be modified to capture issues related to morbidity at the district level.

## 2.3. SEXUAL AND REPRODUCTIVE HEALTH

Sexual and reproductive health is a very important parameter determining the well-being of women. The indicators under this are: prevalence of early pregnancy and motherhood, contraceptive prevalence rate, and prevalence of reproductive and sexual health problems.

### 2.3.1 Indicator 1: Prevalence of Early Pregnancy and Motherhood

Young women who become mothers while still in teenage years may experience relatively high levels of pregnancy and health complications because of physiological immaturity, in addition to social, economic, and emotional difficulties. Women or girls who attained motherhood in the age group 15–19 are considered to have had an early child birth. SRS, NFHS, AHS, and DLHS are data sources giving this information.

*Sample Registration System* gives annual estimates of age specific marital fertility rates (ASMFR) by residence (rural/urban) for India and major states since 1993 from where we get data on birth of children to married women in age group 15–19. The age specific fertility rates (ASFR) also give us childbirth by women between ages 15–19. Age groups for which ASFR and ASMFR are currently available are 15–19, 20–24, 25–29, 30–34, 35–39, 40–44, 45–49.

*National Family Health Survey:* NFHS 1, 2, and 3 gives data on early childbearing by giving information on age at first birth as well as teenage pregnancy and motherhood. It gives the proportion of women aged 15–19 who had a live birth, are pregnant with first child, and have begun childbearing. The data is available for India and states and can be disaggregated by background characteristics.

*Annual Health Survey* also collects and makes available district-wise data on early childbearing by recording the ‘percentage of women aged 15–19 who were already mothers or pregnant at the time of survey’ in all EAG states and Assam. AHS gives the percentage of women who had begun child bearing among all ever-married women aged 15–19 years.<sup>11</sup>

*District Level Household and Facility Survey:* DLHS 2 and 3 records childbirth to women in the age group 15–19 which indicate the extent of early childbearing in rural and urban areas across districts surveyed. These rounds give data on average number of children ever born by selected background characteristics (place of residence, education, religion, caste, and wealth index) of currently married women.

### 2.3.2 Indicator 2: Contraceptive Prevalence Rate (CPR)

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<sup>11</sup> The ever-married sample denominator for the age group 15–19 years has not been adjusted by the all-women factors for the same age group. This factor should be taken into consideration for interpretation.

The current level of contraceptive use among currently married women is referred to as the contraceptive prevalence rate. Contraceptive prevalence rate is an important indicator of women's decision-making capacity as among many regions and communities women do not have the freedom to decide on the number of children they want or in terms of spacing children.

***National Family Health Survey*** across all three rounds has brought out information on both the level of knowledge as well as adoption of various family planning methods including usage of contraceptives. It gives details about both knowledge and usage among women according to background characteristics. Data is available for all states and the country.

***Annual Health Survey*** gives contraceptive prevalence rate among currently married women aged 15–49 years for all districts in EAG states and Assam. All currently married women except those who had already attained menopause, or were currently pregnant, or had hysterectomy, or had never menstruated were asked whether they or their husbands are currently using any method(s) of family planning. The family planning methods included both traditional and modern methods. Modern methods included tubectomy, vasectomy, copper-T/IUD, pills (daily), pills (weekly), emergency contraceptive pill, condom/nirodh, etc. Traditional method included contraceptive herbs, rhythm/periodic abstinence, withdrawal, lactational amenorrhoea method, etc. It also gives the percentage of currently married women reporting use of various types of family planning methods (most used method). In addition, percentage of currently married women using any method (CPR), any modern method and any traditional method is also tabulated.

***District Level Household and Facility Survey:*** DLHS survey gives contraceptive prevalence rates for all states, and also progress/trend in contraceptive prevalence (any method, modern method) across its three rounds. The two earlier rounds covered some aspects like knowledge of family planning methods as well as CPR by method of use including modern methods by background characteristics. DLHS-3 dealt with family planning methods in more detail. It covered all contraceptive methods (any method, any modern method, male sterilization, female sterilization, IUD, emergency contraceptive pill, condom, rhythm method, withdrawal, other) by place of residence and other background characteristics for all states. Ever use and current use of contraceptive methods are available by background characteristics such as age group, number of living children, residence, education, religion, caste/tribes and wealth index. In addition, aspects like duration of spacing methods and age at the time of sterilization by background characteristics is also available from DLHS.

### **2.3.3 Indicator 3: Prevalence of Reproductive and Sexual Health Problems**

People generally, women especially, are reluctant to disclose information about reproductive tract/sexually transmitted infections (RTI/STI) and therefore surveys may not be able to give true estimates of its prevalence.

**National Family Health Survey:** Reproductive health problems are covered only in NFHS-2. It gives data on ever-married women (%) reporting abnormal vaginal discharge or symptoms of urinary tract infection during three months preceding the survey and currently married women reporting painful intercourse or bleeding after intercourse by background characteristics. It also gives some information on those with such problems who accessed healthcare.

**District Level Household and Facility Survey** gives data on this indicator. DLHS-1 & 2 provides data on the percentage of women who had symptoms of RTI/STI, problems of vaginal discharge, and who had menstruation related problem. The third round gives extensive data on various reproductive and sexual health problems, particularly on infertility and RTI/STI prevalence across all districts. In all its rounds, the prevalence was judged by self-reporting by the respondents (after they were made aware of common symptoms associated with RTI/STI) even if they reported the presence of any one symptom. It also gives details on whether treatment was sought or not.

Prevalence of RTI/STI, (percentage of ever-married women aged 15–49 years who had reported abnormal vaginal discharge as well as specific RTI/STI symptoms like itching, boils, warts, swelling, blisters, and pain during sexual intercourse, spotting after sexual intercourse, etc.) is available according to background characteristics. Also, prevalence of RTI/STI, as well as number of women who sought treatment is available for all states.

DLHS-3 also gives data on infertility and related aspects. It makes a distinction between primary (those who have never been able to conceive) and secondary infertility (difficulty in conceiving again after having conceived earlier). It gives data on percentage of ever-married women aged 15–49 years who had infertility problems (primary, secondary) as well as percentage of childless women according to their background characteristics.

**National Sample Survey** makes available gender disaggregated data of those affected with sexually transmitted diseases (STD) in different age groups for rural and urban areas. Data is available from the 42nd, 52nd and 60th survey rounds. Disaggregate data is available across many demographic, social, and economic variables.

### **2.3.4 Indicators on Sexual and Reproductive Health: Limitations and Comments**

In the case of early childbearing/teenage pregnancy, there may be high levels of under reporting as surveys are only looking at early childbearing among all ever- married/currently married women. There is no data on ‘out of marriage’ pregnancy and childbearing across all sources which only provide data with regard to those who had begun childbearing among all ever-married women (for obvious reasons relating to stigma associated with such cases), or currently married women, or both in case of sources like the DLHS and NFHS. In the case of contraceptive prevalence rates, AHS give prevalence rate among currently married women with rural–urban disaggregation alone. NFHS and DLHS also give use of contraceptive methods by background characteristics, with the third round of DLHS giving CPR data across districts according to the sex and number of living children which is significant for policy making and targeted interventions.

With respect to prevalence of reproductive and sexual health problems, data is available only in NFHS-2 so comparison is not possible across time. But the DLHS has brought out rich data in its third round and has extensively covered various reproductive and sexual health problems, particularly on infertility and RTI/STI prevalence and should continue to cover these parameters in its future rounds. The NSS only looks at STDs and gives prevalence of STDs by age and sex in rural and urban areas, but allows comparison across time on this aspect.

Though a few sources exist, data on reproductive and sexual health is a cause of concern due to the known reasons of under-reporting. This is particularly true for women given the stigma associated with such diseases. Data on these are critical given its relationship with the increased prevalence of HIV/AIDS among females. Age specific information on its prevalence is critical as sexual health of adolescent women impact maternal mortality and morbidity. Since large surveys are bound to under-report prevalence of sexual health issues, there is a need to design smaller surveys targeting different segments of the population taking into account social, demographic, and economic aspects.

## **2.4. WOMEN'S GENERAL HEALTH**

Studies indicate that inequalities within households mediate the distribution of resources and thus benefits, which puts women at the receiving end. Apart from the lack of acknowledgement of women's ill health in general there also exists a gender bias in the expenditure on health.

### **2.4.1 Indicator 1: Age Specific Mortality Rates**

Age Specific Mortality Rate (ASMR) is defined as mortality limited to a particular age group. ASMR indirectly gives an idea about the survival rates across age groups. Data on ASMR is given by SRS and CRS.

**Sample Registration System:** Though it provides estimates of ASMR since 1971, gender differentiated data is available only from 1996. The mortality rates are available across age groups (0–4, 5–9, 10–14, 15–19, 20–24, 25–29, 30–34, 35–39, 40–44, 45–49, 50–54, 55–59, 60–64, 65–69, 70–74, 75–79, 80–84, 85+) for males and females, for all states and UTs. No further disaggregation is possible.

**Civil Registration System:** Medically certified deaths by age groups (less than 1 year, 1–4, 5–14, 15–24, 25–34, 35–44, 45–54, 55–64, 65–69, 70 and above) for both male and females is available through the Medical Certification of Cause of Death Reports published since the mid-1970s. No further disaggregation is possible.

### **2.4.2 Indicator 2: Morbidity Rates of Women**

Morbidity is the relative incidence of any one or more diseases. Morbidity rate may be defined as the proportion of ailing persons (generally for a specified number of days) in a population. Morbidity data is available from the NSS, NFHS, and AHS survey rounds.

**National Sample Survey** define morbidity rate (proportion of ailing persons or PAP) as the estimated proportion of persons reporting ailment during the last 15 days per 1000 persons. Morbidity could be as a result of some acute/short duration or chronic/long duration (or lasting for more than 30 days) ailment. Some of the chronic diseases listed by the NSSO include tuberculosis, epilepsy, leprosy, piles, etc., while acute diseases include measles, dysentery, diarrhoea, and various accident injuries).

The NSS first collected information on morbidity in the 7th round (October 1953–March 1954) and subsequently in exploratory surveys during its 11th to 13th rounds. A full-scale survey on morbidity was conducted for the first time during the NSS 28th round (October 1973–June 1974). Since then, there were no separate surveys on morbidity and the collection of data on morbidity became a part of the decennial surveys on social consumption carried out in the NSS 35th round (July 1980–June 1981), 42nd round (July 1986–June 1987) and 52nd round (July 1995–June 1996). A separate survey on ‘Morbidity and Healthcare’ was undertaken by the NSSO in the 60th round (January–June 2004).

The NSSO surveys (42nd, 52nd, 60th rounds) make available morbidity rates by age (0–14, 15–29, 30–44, 45–59, 60 and above) and sex for each type of acute and chronic ailment for rural and urban areas. In addition, the prevalence of number of *chronic* and incidence of number of *acute* (short duration) ailments per 100000 persons by age is given separately. NSSO also records the number of persons reporting ailment during a period of 15 days per 1000 persons by MPCE fractile group and social categories (SC, ST, others) and gives estimates across all states and UTs.

The estimates of morbidity rates are based on self-reported morbidity data, during a specific reference period. Reference period has also differed across survey rounds (in 17th and 42nd it was 30 days while in the 52th round it was the last 15 days).

**National Family Health Survey** provides data on prevalence of certain diseases like TB and anaemia (ascertained by testing haemoglobin levels through blood tests in NFHS-3) among women according to background characteristics. Percentage of women with anaemia (mild to severe) is recorded for all states.

In addition, women in the age group 15–49 (per 100000) who have TB, diabetes, asthma and goitre/any other thyroid disorders by background characteristics are also recorded. Data relating to the prevalence of these diseases among target women across all states is available.

**Annual Health Survey (AHS)** gives gender disaggregated data on morbidity, both ‘acute’ and ‘chronic’. If a member (usual resident) of the household suffered from any ‘acute illness’ (diseases like diarrhoea/dysentery; acute respiratory infection, jaundice with fever, reproductive tract infections, and all types of fever are categorized under acute illness) during the past 15 days prior to the date of survey he/she was recorded as suffering from acute illness. The data in respect of ‘chronic illness’ has been collected based on the symptoms pertaining to a particular illness persisting for more than one month and also in respect of illnesses where it was diagnosed. For both cases, the reference period was last one year preceding the date of survey and persons diagnosed with such chronic illnesses per 100000 population is recorded. Chronic



illness symptoms include diseases of the respiratory system, cardiovascular system, central nervous system, musculoskeletal system, gastrointestinal system, genitourinary system, skin diseases, goitre, elephantiasis, different types of cancers, and others. In addition, prevalence of diseases such as diabetes, hypertension, tuberculosis, asthma/chronic respiratory disease, and arthritis per 1,00,000 population has been individually presented. Besides, data on the source from where the treatment for illness was taken has also been included both for 'acute' and 'chronic' illness (per 100000) in rural and urban areas of all districts.

### **2.4.3 Indicator 3: Women Affected with Life-threatening Diseases (HIV/AIDS, Cancer, and TB)**

There are a number of life-threatening diseases of which the most important are: HIV/AIDS, Cancer and TB. Out of these data sources, CRS gives number of deaths succumbing to above diseases, while the NFHS provides gender disaggregated data on prevalence of TB in the population. NSS, AHS, and NACO also give data on select diseases mentioned above.

**Civil Registration System** provides data on deaths that occurred due to AIDS, TB, and Cancer in the *Report on Medical Certification of Cause of Death*. The report is based on medically certified deaths occurring in hospitals (whether public or private). The statistics from the report provide information on cause-specific mortality cross-classified by sex and broad age groups. Gender disaggregated data across states and UTs are available.

**National Family Health Survey:** NFHS-3 (2005–06) for the first time through blood testing ascertained HIV prevalence and provided a national estimate of HIV in the household population of women aged 15–49 and men aged 15–54, as well as separate HIV estimates for each of the six highest HIV prevalence states (Andhra Pradesh, Karnataka, Maharashtra, Manipur, Nagaland, and Tamil Nadu) and one HIV low prevalence state (Uttar Pradesh).

NFHS-3 gives national level estimates (excluding state of Nagaland) of HIV positive (%) among women and men age 15–49 who were tested, by background characteristics.<sup>12</sup> From the state level data from HIV high prevalence states (excluding Nagaland), HIV prevalence among couples and among young is also estimated separately. HIV prevalence in all the states considered is given separately and also by background characteristics. As discussed earlier, NFHS also records occurrence of TB among women according to background characteristics and also tries to establish causes of TB.

**District Level Household and Facility Survey:** DLHS-3 (2007–08) has recorded aspects related to AIDS (awareness, prevention of transmission) among the population at district levels. But there are no estimates of prevalence rates of HIV/AIDS.

**National Sample Survey** as discussed earlier, has recorded age group-wise (0–14, 15–39, 40–59, 60 and above) gender disaggregated data on the prevalence rate of TB (per 100000) in its 28th round (1973–74), and in subsequent rounds, namely, the 42nd and the 52nd separately in rural

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<sup>12</sup> It also gives information on HIV positive persons on the time away from home in the preceding 12 months, male circumcision, sexual behaviour, current pregnant status and ANC for past pregnancy (in the last three years of HIV positive), prevalence of STI or STI symptom (in the 12 months preceding the survey).

and urban areas. NSSO also gives similar data for cancer, and sexually transmitted diseases (but not for HIV/AIDS).

**National AIDS Control Organization (NACO)** gives data generated through annual sentinel surveillance from its sentinel sites and also makes estimates of prevalence (separately for males and females) since 2002. The HIV sentinel surveillance obtains HIV prevalence data from ANC's and STD clinics as well as from high-risk groups (female sex workers, injecting drug users and others like those with STDs, and so on). The data is available at the state level however the possibility of further disaggregation is limited owing to limited background data collected as well as issues of small sample.

**Annual Health Survey (AHS)** as discussed earlier, collects district-wise data (all EAG states and Assam), on occurrence of different types cancer (of respiratory system, gastrointestinal system, genitourinary system, breast). It also has information on occurrence of TB.

#### **2.4.4 Indicator 4: Proportion of Women Seeking and Receiving Healthcare**

Prevalence of gender biases in access to healthcare, work to the detriment of women's health is a fact that is well documented. Women are known to suffer ill-health silently, particularly when it is related to sexuality or reproduction (Bang *et al.*, 1989).

A person is considered to have received medical treatment if he/she consults a doctor anywhere (in OPD of a hospital, community health centre, private residence, etc.) and obtains medical advice for the ailment. Self-doctoring or acting on the advice of a non-medical person is not treated as medical treatment.

**National Sample Survey** has data of those who received hospitalized and non-hospitalized treatments from a medical practitioner/institution (public and private). This indicates the proportion of those who received healthcare.

NSSO also gives the number of persons reporting *medical treatment of ailment* during a period of 15 days per 1000 ailing persons by age (0–14, 15–39, 40–59, 60 & above) disaggregated by sex and region (rural/urban) across all states and UTs. It also makes available medical treatment of ailment data across MPCE and social group (SC, ST, others) for each sex across rural and urban regions of all states and UTs. It should also be noted that NSS used last 15 day reference period in 52nd and 60th rounds while in 42nd it was 30 days preceding the survey date.

In addition, NSSO records distribution (per 1000) of treatments (not treated as inpatient of hospital) during last 15 days by age and sex. It also reports the age (0–14, 15–39, 40–59, 60&above) and gender-specific proportions (number per 1000) of any ailment (acute and chronic) during the reference period of 15 days preceding the date of survey, separately for rural and urban areas.

### **2.4.5 Indicator 5: Gender Gap in Hospitalization**

Gender gap and gender bias may exist if the rate of hospitalization for the male population is different and higher than that for the female population. NSS is an important source of this data at the national level.

*National Sample Survey* in its 42nd, 52nd, and 60th rounds have collected data across states about hospitalization. NSSO regard a person having been hospitalized if he/she has availed of medical services as an indoor patient in any medical institution. However, hospitalization of female members for childbirth was not considered to be hospitalization for the survey.

The NSSO records the number (per 1000) of persons hospitalized and their distribution across the MPCE groups during the previous year (last 365 days) separately for male/female/total population in rural and urban areas. The 42nd round did not publish any gender-specific estimates on the rate of hospitalization, but the 52nd and the 60th rounds gave the gender differentiated estimates of hospitalization; that is hospitalized cases (per 1000) during last 365 days by nature of ailment (gastro-intestinal, cardio-vascular, gynaecological, neurological...) for different age groups (0–14, 15–29, 30–44, 45–59, 60 and above) and sex in both rural and urban areas.

### **2.4.6 Indicator 6: Gender Gap in Out-of-Pocket Healthcare Expenditure**

There are out of pocket expenditure in seeking and accessing healthcare. It could be incurred for hospitalized as well as non-hospitalized treatments. NSSO records average expenditures for both, incurred by both males and females separately. It also gives the average expenditure incurred for accessing healthcare from different sources (govt/private), by region (rural and urban) in states and UTs.

*National Sample Survey* in its 42nd, 52nd, and 60th rounds provide data related to the average hospitalization expenditure (considering all admissions) incurred for *hospitalized treatment during the reference period of 365 days*. It provides separate estimates for treatment of male and female patients in rural and urban areas for the country as a whole, and for all states and UTs.

The NSSO also give information on the *average expenditure for non-hospitalized treatment per ailment*. It gives the estimates of total per-ailment expenditure incurred for non-hospitalized treatment during the reference period of 15 days separately for male and female patients of rural and urban areas for the country as a whole. Data on average total expenditure (for treatment) per ailment (not treated as inpatient of hospital) during last 15 days by age (0–14, 15–39, 40–59, 60 +), sex, region (rural and urban), MPCE and social groups are also available for all states and UTs.

### **2.4.7 Indicator 7: Reasons for Death among Women**

It may be hard to find reliable data on causes of death as such for the population and particularly causes of death in case of women. This is because of lower hospitalization, reporting, and registration of the event of death of women.

**Sample Registration System:** Special surveys on causes of death by the SRS give estimates of total death due to various causes (%), including estimates of reasons for death among women. These include *Survey on Cause of Deaths through Verbal Autopsy in SRS (1999–01)*, *Special surveys on maternal mortality, fertility and mortality (1997–98)*, and *Special survey on deaths (2001–03)*, all of which record causes of death. Survey of Causes of Death has been integrated with SRS from 1999 to cover all deaths in rural and urban areas. For recording of causes of death for females of ages 15–49, the *maternal mortality survey* followed the method of post-death verbal autopsy for determination of causes of death.

From the maternal mortality survey the actual number of women (%) who died every year (from 1992–98) due to various causes, namely, abortion, toxemia, anaemia, bleeding of pregnancy and puerperium, malposition of child, puerperial sepsis and other non-classifiable reasons was made available. *Special survey on deaths (2001–03)*, conducted during 2004–05 also provides gender disaggregated data on various causes of deaths for different age groups (1–4, 5–14, 15–24, 25–34, 35–44, 55–69, 70+) for the country, regions and states.

**Civil Registration System:** The CRS through the *Medical Certification of Cause of Death* reports (published since the mid-1970s) makes available statistics on causes of death obtained through the CRS under the Registration of Births and Deaths Act, 1969.

The eight leading cause-groups of deaths (87.9 % of total deaths) were: diseases of the circulatory system; certain infectious and parasitic diseases; injury, poisoning and certain other consequences of external causes; diseases of the respiratory system; certain conditions originating in the prenatal period; neoplasm (commonly known as cancer); endocrine, nutritional and metabolic diseases; and symptoms signs and abnormal clinical findings not elsewhere classified. Gender-wise distribution of deaths under these cause-groups is available in these reports. Medically certified deaths by age groups for both male and females are also available. Additionally, gender disaggregated data across states and UTs with respect to specific infectious and parasitic diseases (tuberculosis, septicaemia, malaria, diarrhoea and gastroenteritis, and HIV) that caused death are available.

## 2.4.8 Prevalence of Surrogacy

Surrogate motherhood raises questions about gender relations, power and women's agency. In the past, surrogacy arrangements were confined to kith and kin largely as part of a personal relationship. But, with commercialization, guided by economic inequalities, surrogacy has raised fundamental questions around women's autonomy and rights. This is particularly in context where there are inadequate legal provisions to safeguard the interests of the surrogate mother.

Though surrogate motherhood is growing in India, there is no official/national level data available owing to many reasons including the huge element of secrecy associated with it. According to the data from the Indian Society of Assisted Reproduction records in 2009, there were 150 reproduction centres in the country, of which, 60 % were offering commercial surrogacy. However, no data is available on the number of cases handled by these centres which is reflective of the lack of appreciation of the issue among policy makers. Generating data based on household sample surveys on such an issue is complex as the level of secrecy involved in

surrogacy is high coupled with the prevalence of few cases which such surveys cannot capture adequately. The state machinery however, could generate data based on records from hospitals/reproduction centres which could be published periodically on a regular basis. Record maintenance may be made compulsory, which should include basic background information of the surrogate mother which would allow gender-based interventions in terms of both regulations as well as designing programmes.

#### **2.4.9 Indicators on ‘Women’s General Health’: Limitations and Comments**

Gender differentials in health could be estimated through many indicators as discussed above. Women’s socialization into a mindset of self-denial and the family’s clear prioritization to the needs of its male members not only impact early action on women’s illness but also the quality of data generated on women’s health in general.

For analysing age specific mortality, SRS surveys are useful. However, SRS cross tabulation variables have varied across years according to the interest of policy makers as well as contemporary perceptions. Until 1990, the broad age groups used were 0–14, 15–49, and 50+ years. From 1991, the broad age groups were expanded to 0–4, 5–9, 10–14, 0–14, 15–59, and 60+ and in 1994, another two broad age groups were added, 15–64, and 65+ years.

With improvements in general standards of living, there has been some shift in the overall health of women. However, persistently poor status of women (girls and adult women) discriminate them in terms of food intake and timely medical attention. For girls and women therefore, frailty may well replace early death. More females therefore remain alive in the current context but they are more likely to suffer from health frailty. Hence indicators on mortality on its own fail to give any clear understanding of women’s health status and its changes over time unless it is used alongside other indicators.

The quality of the morbidity data in the NSS surveys has been criticized for its definition and methodology which leaves a lot to be desired. Both the overall morbidity rates and the rates for women are found significantly lower than that of estimates provided by field-based community-level studies. Morbidity rate as per NSS definition (PAP or proportion of ailing persons) is the estimated proportion of persons reporting ailment suffered at any time during the reference period. These are not strictly the prevalence rates as recommended by the Expert Committee on Health Statistics of the WHO. Prevalence rate is an important indicator for women in the context of increased self denial of illness by women in general.

The estimates by the NSSO are based on self-reported morbidity data, rather than on medical examination and therefore, the information on number of spells of different ailments suffered during the reference period are not likely to reflect the objective illness-status of the patients, particularly the number of diseases a patient is afflicted with. This issue is particularly of importance for women who may under report all or many illnesses due to their socialization. Thus it could be concluded that the rates of female morbidity, as estimated through NSS surveys, are probably gross underestimates of the full extent of women’s illness. Since an illness that is not acknowledged is unlikely to be treated, this probably means that women’s untreated morbidity is also underestimated (Koenig and Khan 2000). Field level studies have shown that

non-treatment tends to be highest in the reproductive age groups (Madhiwalla *et al.*, 2000). There could also be demographic differences in reported illness and morbidity, particularly with regard to elderly women who may not value their health condition given the fact that they are no longer productive members.

Despite these limitations, the NSS data on untreated morbidity point to some broad trends with scope for improvement. Female morbidity is particularly sensitive to study methodologies and techniques of data collection. Women through long years of socialization, reinforced by competing demands on their time and energy, often do not acknowledge their own health problems. It means that the full extent of women's morbidity becomes evident only when women are addressed one-to-one by women researchers/interviewers after initial rapport building. Studies have shown that such careful gender-sensitive probing is reported to have increased reporting of morbidity. NSS surveys could take a small sub-sample each round to study the underestimation and thus make correction in its own estimations. Follow-up small studies could also be designed to probe particular issues.

The demand for healthcare has received relatively little attention, particularly because of the non-availability of representative household-level data sets. Out of those available, the NSS data is the most suitable. But, over the last two decades, there have been only three rounds where healthcare data has been collected in detail, these were the 42nd, 52nd, and 60th rounds conducted in 1986–87, 1995–96 and 2004–05. While the time gap of the surveys is useful in comparing changes in the utilization rates of public and private facilities, expenditure by households and individuals, etc., changes in questionnaire design and data collection methodology have rendered such comparative analysis difficult.

The latest (60th) round of the NSS included detailed questions on household characteristics, economic profile, expenditure on in-patient cases over the past year, details of diagnostic and other charges, lost income due to illness and caring for the sick, and utilization of out-patient services due to illness with a recall period of 15 days.

However, since NSS surveys are based on the household, not much information is available on the facilities for healthcare. Access to quality public health institutions is a critical variable as studies have found that debilitated public health institutions may not only have a negative impact on utilization by the poor, but may also severely impact women's access to and utilization of care. Further for women, considerations like affordability, time, work, distances to be travelled and faith in the abilities of the health provider determine their access to and utilization of care (Gupte *et al.*, 1999; Shatrugna *et al.*, 1993). However, these are not given due consideration in these surveys which is a major limitation in analysing women's access to health care.

Data on women with fatal diseases like TB, Cancer, and HIV is at present limited given the poor reporting of health status of women as has been discussed earlier. The Office of the Registrar General, India, (ORGI) obtains data on causes of death from the Chief Registrar of Births and Deaths of different States and Union Territories, under the Registration of Births & Deaths Act, 1969. Under the system of registration of Births & Deaths, the scheme of Medical Certification of Cause of Death (MCCD) is an integral part. The forms are filled-up by the medical professionals attending to the deceased at the time of terminal illness and thereafter sent to the

concerned Registrars of Births and Deaths for onward transmission to the Chief Registrar Office for tabulation as per the National List of Causes of Death based on Tenth Revision of International Classification of Disease (ICD-10). Annual reports are brought out by the CRS based on the data but the scope is somewhat limited. But only selected hospitals, mostly from urban areas, are covered at present under the scheme of MCCD, and therefore, the data may not yield a reliable pattern of cause specific mortality prevalent in the states/country. Owing to different levels of efficiency of medical certification across the states/UTs, the number of deaths reported therein may lack the representative character in the strict sense, however, it may be sufficient to throw some valuable insights into deaths by various cause groups and their gravity.

Though sample surveys could provide good estimates of TB with its high prevalence rate across many states, estimates on diseases such as HIV and to some extent cancer would be a problem. Since there exists a gender division across types of cancer, with cancer of cervix followed by breast cancer being the common form of cancer among women, there is a need to collect information on this specificity which could then be related to specific aspects of interventions.

HIV prevalence level in India is relatively low (less than 1 % of the adult population according to the official estimate at the time), because of which very large samples would be required to obtain reliable estimates of HIV in individual states. Therefore, in NFHS, it was decided to design the sample to provide state-level HIV prevalence estimates only for the seven states mentioned above. To ensure that the state-level HIV estimates were reasonably precise, those seven states were oversampled. In the context of large-scale under-reporting due to stigma, HIV incidence rates are very difficult to estimate. Further, for women, hospitalization is not a given outcome always and hence it is difficult to arrive at any data using hospital records.

Under nutrition among women remains quite high and is a key factor in both high morbidity rates and maternal mortality rates. Though under nutrition is a function of food intake it is also influenced by the access to basic facilities such as access to clean cooking fuels and toilet facilities alongside drinking water on premises. Studies have shown a negative relationship in terms of access to these facilities and the incidence of under nutrition among women in India. Lack of access to sanitation, for instance, makes women vulnerable to infections, whereas cooking by bio-fuels exposes them to toxic pollutants and fetching drinking water from far away sources severely drain them of physical energy. Under nourishment and access to basic resources could also be a function of households' economic situation. However, indicators on under nutrition do not give adequate importance to these variables. Access to social infrastructure should be an important indicator of women's health. Though the data on these are available, they remain underutilised in analysing the overall health status of women.

In the context of a large-scale withdrawal of the state from health sector financing and management of both infrastructure and regulations, health insurance coverage has emerged as an important component of the health system. Nationally representative survey level data on health insurance is not currently available. According to the Government (GOI 2006) public and private insurance schemes barely cover 11% of the population, but gender distributions of these schemes are not known. But in recent years, attempts have been made in NSS and NFHS surveys to get some data on insurance coverage. NSS is the only source of data which gives a gender disaggregated picture. However, the data is limited as it captures only hospitalization cases and

given the poor hospitalization rates for women in general this data is not of much use. The quality of data is also affected by the lack of knowledge on the schemes at the grass root level. With respect to health insurance, programme level data is (coverage of beneficiaries by gender across states) available from the Rashtriya Swasthya Bima Yojana (RSBY). Though the scheme intends to cover all informal sector workers eventually, at present it is limited to certain occupations such as domestic workers, street vendors, construction workers, etc., where there is in general a larger presence of women. Hence, this data will not provide a real picture of gender bias.

The growing importance of insurance schemes calls for regular data on its coverage not only across sex, but also other socio-economic and demographic variables. NSS health rounds could be adequately developed towards collecting such data as it already covers a large number of background information which makes required disaggregation possible.

## **2.5. WOMEN'S ACCESS TO HEALTHY LIVING FACILITIES**

Access to basic facilities is bound to reduce women's drudgery and thus improve their health as women are either responsible for organising these or are affected badly by the outcomes. Use of traditional cooking, poor sanitation, and water has many serious health repercussions that impact women.

### **2.5.1 Indicator 1: Proportion Using Traditional Cooking and Lighting Methods**

Access to modern source of cooking is particularly a gender issue since women are primarily responsible for cooking. Many households still burn wood, cow dung, coal, and other traditional fuels inside their homes which are responsible for numerous health issues in women. National level data sources that give data on cooking and lighting fuel used in households are the Population Census, NSSO, NFHS, AHS, and DLHS.

*Population Census* gives information on availability of kitchen (inside the house or outside the house) and fuel used (firewood, crop residue, cow-dung cake, coal/lignite/charcoal, kerosene, LPG/PNG, electricity, biogas, any other) for cooking.

It also gives data on availability of separate kitchen in female-headed households, as well as with respect to social groups from the 1981 Census. The 1991 Census for the first time collected information regarding type of fuel used for cooking and thereafter has continued to collect the data on type of fuel in subsequent Census years. The data is available for SC/ST separately.

*National Sample Survey* started collecting data on housing condition of the dwelling units and basic housing amenities available from its 7th round (October 1953–March 1954) to the 23rd round (July 1968–June 1969) with the exception in 13th and 14th rounds. With bigger sample size, comprehensive surveys were carried out later, during the NSS 28th round (1973–74), 44th round (1988–89) and 49th round (January–June 1993). After a gap of nearly ten years, the fourth survey in the series was conducted in the 58th round during July–December 2002. The latest in the series is the 65th round (July 2008–June 2009).



The NSS gives information on whether the household has electricity facilities for domestic use. The use of the electricity for domestic use might be for lighting or cooking or for both. Number of households (per 1000) having electricity for domestic use according to region (rural and urban) and social groups (SC/ST/OBC and others) is available for all states and UTs.

**National Family Health Survey** records type of cooking fuel and method of lighting (with or without electricity) used in the surveyed households. It gives the distribution of households in both rural and urban areas according to fuel used (electricity, LPG/natural gas, biogas, kerosene, coal/lignite, charcoal, wood, straw/shrub/grass, agricultural crop waste, dung cakes, and others) for cooking. In addition, NFHS also gives place of cooking (in the house in separate room, in the house but not in separate room, in a separate building, outdoors, etc.). In households using solid fuels, it also gives type of fire/stove (stove with chimney, open fire or chullah under a chimney, stove without a chimney, open fire or chullah not under a chimney).

NFHS also indicates the association between health and lighting and cooking methods, specifically by examining the prevalence of TB by type of housing and fuel/cooking arrangements. In the third round it also gave the number of persons (per 100000) suffering from any TB and medically treated TB by fuel/cooking arrangements (cooking fuel, place of cooking, type of fire/stove among households using solid fuels).

**Annual Health Survey** in all its rounds recorded main source of fuel used for cooking (firewood, crop residue, cow dung cake, coal/lignite/charcoal, kerosene, LPG/PNG, electricity, biogas) for all the districts covered under the survey.

**District Level Household Health and Facility Survey:** DLHS-3 (2007–08) recorded fuel used (LPG, electricity, kerosene, wood, others) for cooking both in rural and urban areas for all districts.

### **2.5.2 Indicator 2: Availability, Time, and Distance Travelled for Drinking Water**

Women do most of the water collection in all households and the drudgery related to collecting drinking water is acknowledged. Census, NSS, NFHS, AHS, and DLHS do provide data on sources of drinking water though not all sources give information on its availability in terms of availability at premises or distance to source.

**Population Census:** Census has brought out information on availability of amenities like drinking water in households since 1981, but details that may indicate quality (treated/untreated, covered/uncovered) as well as availability within premises (indicate increased time availability as well as reduced drudgery of water collection for women) was covered for the first time in the 2011 Census. Data is available for all states and UTs up to ward and village levels with rural-urban bifurcation.

The Census 2011 gives details on source of drinking water<sup>13</sup> and drinking water availability (within premises, near the premises, away). No data is available from Census on who fetches water, distance, or time taken to fetch water.

**National Sample Survey** has collected data on drinking water beginning from the 28th round (October 1973–June 1974), followed by the 38th (January–December, 1983), 42nd (July 1986–June 1987), 44th (July 1988–June 1989), the 49th round (January–June, 1993) 54th round (January–June 1998), 65th (July 2008–June 2009), and the 69th (July–Dec 2012).

From the 54th round of the survey, more comprehensive details on the principal source of drinking water in rural and urban areas and proportion of households having a specific source (tap, tube well, etc.) were brought out. It also recorded households having principal source within premises as well as distance from source for those households without source within premises. NSSO in the 69th round (2012) also specified the distances (less than 0.2km, 0.2–0.5km) that household members had to travel to reach the principal source of drinking water in rural and urban areas for all states and UTs. Also average time (in minutes) taken in a day, as well as average waiting time (in minutes) by household members to fetch drinking water from outside the premises was captured. Additionally information on household members who fetched water from outside premises was collected (male of age below 18 years, male of age 18 years or more, female of age below 18 years, female of age 18 years or more, non-member of the household, hired labour, others) in this round.

**National Family Health Survey** in all its rounds has collected information (not presented in the report) on source of drinking water<sup>14</sup> available to members of the household. It also collected information on time taken for one round trip for collecting water. For collecting the time dimension, the question that was canvassed in NFHS-1 and 2 was ‘how long does it take to go there, get water and come back in one trip? NFHS-3 apart from data on the source and time taken to obtain drinking water also collected information on the person who usually did the task (for households that do not have drinking water within premises).

**District Level Household and Facility Survey:** DLHS-1 collected information on source of drinking water in households. In DLHS-2, detailed data on access to drinking water with respect to percentage of households with tap (inside residence/yard/plot), tap (shared/public), hand pump/bore well, well (covered), well (uncovered), river, pond, spring, and others was collected. DLHS-3 bifurcated sources into improved (piped water into dwelling/yard/plot, public tap/standpipe, tube well/borehole/hand pump, other improved) and non improved sources.

**Annual Health Survey** from its baseline survey (2010–11), make available region-wise (rural and urban) data on households (%) with improved source of drinking water for all districts surveyed in the eight EAG states and Assam. Sources include piped water into dwelling/yard/plot, public tap/stand pipe, hand pump, tube well/ bore hole, protected dug well, unprotected dug well, tanker/ truck or cart with small tank, surface water, and other sources.

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<sup>13</sup> The Census 2011 gives details on source of drinking water which include tap water (separately from treated and untreated source), wells (covered and uncovered), hand pump, tube well/bore hole, spring, river/canal, tank/pond/lake, and others.

<sup>14</sup> The sources were: piped water (piped into residence/yard/plot, public tap), ground water (hand pump in yard/plot, public hand pump), well water (well in residence/yard/plot, public well), surface water (spring, river/stream, pond/lake, dam), rainwater, tanker truck, others.

### **2.5.3 Indicator 3: Proportion of Women having Access to Toilets**

Many data sources give information on whether households have access to toilet facilities, and not whether women have access. For the purpose of this analysis, we assume that women have access to toilets if households have access to them. Important sources of data that provide information on whether women have access to toilets include the Population Census, NFHS, AHS, and the DLHS.

**Population Census:** Information on availability of toilet facility for the first time (but only for urban areas) was collected by the 1981 Census; the same was extended to rural areas in 1991 and was further improved with the 2011 Census giving information on whether there is ‘latrine’ access within household premises. Census also gives information with regard to latrine facilities in female-headed households, as well as with respect to social groups from the 1981 Census.

**National Sample Survey:** As discussed earlier, NSS started collecting data on housing condition of the dwelling units and basic housing amenities available to them from its 7th round, though not regularly. Data on bathing and latrine facilities separately for all households surveyed across all states and UTs is available with possibility of disaggregation for rural/urban as well as social groups (SC/ST/OBC/others).

In the recent rounds, data on bathroom include type of bathroom: attached, detached, and no bathroom. NSS also gives the distribution of households (per 1000) having bathroom within premises and no bathroom by distance (less than 0.2km, 0.2–0.5, 0.5–1.0, 1.0–1.5, more than 1.5 km) of the dwelling from the bathing place. It also gives distribution of households (per 1000) by use of latrine (exclusive, shared, service, public/community, no latrine).

**National Family Health Survey:** NFHS rounds provide information on percentage of households that have access to toilet facilities in rural and urban areas. The type of toilet facility is given under two heads: improved/not shared and unimproved. Improved toilet facilities include toilet facilities with a flush or a pour flush that is connected to a sewer system, septic tank or pit latrine, a ventilated improved pit (VIP) latrine, a biogas latrine, a pit latrine with slab, and a twin pit, composting toilet. If a household has any of these types of toilet facilities but shares them with other households, the household is considered not to have an improved toilet facility.

**Annual Health Survey** recorded type of toilet facility mainly used by households (flush/pour flush latrine-connected, pit latrine without flush/pour flush, service latrine, community toilet, open defecation) and also whether toilet facility was shared. The data is available till the district level for rural and urban areas for selected states.

**District Level Household and Facility Survey:** DLHS-3 provides information on percentage of households that have access to toilet facilities in rural and urban areas for all districts. The DLHS bifurcates information on sanitation facilities in households in to: *improved sanitation*

(households are using flush to piped sewer system, flush to septic tank, flush to pit latrine with slab, pit ventilated and other) and *not improved sanitation* (households are using flush not to piped sewer /septic /pit/ twin pit, pit without slab, dry toilet, no toilet/open space).

#### **2.5.4 Indicators on ‘Women’s Access to Healthy Living Facilities’: Limitations and Comments**

Though women’s access to social infrastructure is understood to contribute to their well-being, it has often been ignored in the analysis on women’s health. Lack of basic amenities like toilets, electricity, drinking water, and modern cooking methods (and fuels) inevitably lead to extra burden on women as making these available for households (particularly fuel and drinking water) are exclusively their responsibility.

There has been a dearth in macro level data on analysing these though many micro level studies have brought out useful insights. All the available data sources on access to basic living facilities are for the household and the data is not disaggregated by sex, even for toilet facilities. All the surveys seem to assume that if a household has access to toilet, women will automatically be using these, which may not be the reality. Another important limitation of the existing data sources is that it does not take into account the use of multiple methods. Thus, for cooking and drinking water many households may rely on a combination of sources that may vary across seasons, and unless data on each of these dimensions are available not much analysis could be done. Census alongside NSS surveys can be developed as a good source of data on women’s access to basic facilities with required improvement in its methodologies.

### **2.6. WOMEN WITH DISTINCT NEEDS AND VULNERABILITIES**

Women with disabilities (either physical or mental health issues) constitute a group with distinct needs, vulnerabilities, and ability to respond. Under this broad sub-theme, two issues are considered: (a) *Women with Physical Disabilities* and (b) *Mental Health of Women*

#### **2.6.1 Indicator 1: Proportion of Disabled Women and Distribution across Nature of Disability**

The *Population Census* brings out extensive data on disability and gives us the actual picture of both the proportion of disabled women as well as distribution across various types of disabilities. Earlier Censuses had a question related to ‘infirmities’ till 1931 which was discontinued during the censuses of 1941 to–1971. It attempted to collect information on ‘disability’ in the 1981 Census and a question was canvassed through which information was collected on three categories of disabilities—Totally Blind, Totally Dumb, Totally Crippled. But it was dropped in 1991. In 2001, it collected information on total or partial disability, and type of disability was captured under five heads; Sight, Speech, Hearing, Movement, and Mental illness. The 2011 Census substantially increased the scope of information on disability.

The 2011 Census has generated substantial information on the extent of disability in India. The Census gives disabled population data (for rural and urban separately) by type of disability, age (0–4, 5–9, 10–19, 20–29, 30–39, 40–49, 50–59, 60–69, 70–79, 80–89, 90+) and sex for all districts across states and UTs. In addition, it also makes available disabled population by type of disability, age, and sex for Scheduled Castes and Scheduled Tribes.

The type of disability covered by the 2011 Census includes disability ‘in seeing’, ‘in hearing’, ‘in speech’, ‘in movement’, ‘mental retardation’, ‘mental illness’, ‘any other’, and ‘multiple disability’. In case of multiple disabilities, there was provision for recording maximum three types of disabilities.

**National Sample Survey** provides extensive information on the magnitude and other characteristics of disabled persons in the country based on its third survey (58th round) on disabled persons conducted during July 2002 to December 2002. The previous two surveys on the theme were conducted during the 36th round (July–December, 1981) and the 47th round (July–December, 1991).

NSSO defines a person with restrictions or lack of abilities to perform an activity in the manner or within the range considered normal for a human being as having disability. It excludes illness/injury of recent origin (morbidity) resulting into temporary loss of ability to see, hear, speak, or move. NSSO gives the prevalence and incidence of different forms of disability and the distribution of disabled by cause of disability, marital status, educational level, living arrangement, and activity status across sexes. NSS also makes available the number of disabled persons by age at onset of disability per 1000 disabled persons for each age-group and type of disability. Gender disaggregated data is available separately for rural, and urban areas.

**Annual Health Survey:** The data on any type of disability as on date of survey was collected in AHS. The type of disability included ‘visual’, ‘hearing’, ‘speech’, ‘loco-motor’, and ‘multiple’. The prevalence of any type of disability per 1,00,000 population by gender and residence at the district and state levels is available from AHS, but the reports do not give prevalence of each type in the population.

## **2.6.2 Indicator 2: Disabled Women Receiving Welfare Assistance**

As disabled persons are highly vulnerable, there are some state welfare schemes or provisions that are made available to them. NSSO is the only national level data source that covers information on this. NSSO has also estimated persons (age 5 years and above) receiving aid/help (separately for male and females) in rural and urban areas.

**National Sample Survey:** It gives data on number of persons who have received any Govt. Aid/Help (RGAH) per 1000 disabled persons of age 5 years and above (RGAH rate) and distribution of such persons (male, female, person) by type of aid/help received for each sex and type of disability (mental retardation, mental illness, blindness, low vision, hearing, speech, locomotor). Type of aid/help could be from government or other aid/help. From the government,

the help/aid that is recorded is: vocational training, aid/appliance, corrective surgery, government/ semi-government job, other government help.

Since the raw data is available for recent rounds, one can carry out disaggregate analysis across background data collected and this data across gender is of utmost relevance for gender sensitive policy interventions.

### **2.6.3 Indicator 3: Proportion of Women with Mental Health Issues**

Many women are affected by mental health issues, but the real magnitude may be much higher than reported data and available official statistics. This is due to the nature of illness, as well as the associated shame and stigma attached to it across socio-economic categories. Both the Census and NSSO makes available data on mental health issues.

**Population Census:** As discussed earlier, the 2011 Census gives for the first time information on mental health issues, separately for ‘mental retardation’ and ‘mental illness’. Gender disaggregated mental retardation and mental illness data is available for rural and urban areas according to age groups (0–4, 5–9, 10–19, 20–29, 30–39, 40–49, 50–59, 60–69, 70–79, 80–89, 90+) for all districts across states and UTs. In addition, it also makes available mental illness and mental health status separately for males and females among scheduled castes and scheduled tribes.

**National Sample Survey** captures the number of persons who had difficulty in understanding routine instructions, who could not carry out their activities like others of similar age or exhibited behaviours like talking to self, laughing / crying, staring, violence, fear and suspicion without reason as mentally disabled. The ‘activities like others of similar age’ included activities of communication (speech), self-care (cleaning of teeth, wearing clothes, taking bath, taking food, personal hygiene, etc.), home living (doing some household chores) and social skills. Mental retardation among disabled was estimated for the first time in the 58th round.

Like Census it gives data with respect to ‘mental retardation’ and ‘mental illness’. NSSO makes available more detailed data than the Census. It provides number of persons suffering from *mental retardation* and *mental illness* per 1000 disabled persons for each age group (0–4, 5–9, 10–14, 15–19, 20–24, 25–29, 30–34, 35–39, 40–44, 45–49, 50–54, 55–59, above 60, 15+) by usual activity status (employed: self-employed in agriculture, self-employed in non-agriculture, regular employee, casual labourer; unemployed; not in labour force: attended educational institution, attended domestic duties, beggar, others) separately for male and females in rural and urban areas. The number of ‘mentally ill’ persons (per 1000) by age, at onset of mental illness across background variables is also available. In case of ‘mental retardation’ it gives cause (pregnancy and birth related, serious illness during childhood, head injury, heredity, others, not known) of mental retardation (per 1000 persons).

**Annual Health Survey:** The prevalence of any type of disability per 100000 population by gender and residence at the district and state levels is available in AHS reports. AHS has collected data on ‘mental’ disability as on date of survey, though it is not presented separately but clubbed along with other disabilities.

#### **2.6.4 Indicator 4: Proportion of Women with Mental Health Issues Seeking and Accessing Healthcare**

Those suffering from mental health issues may be accessing facilities from institutions catering to their special needs, including those of healthcare. Some may not be able to do so because of various reasons including lack of family support.

*National Sample Survey* in its 58th round makes available data regarding the number of mentally retarded persons attending special schools (per 1000 mentally retarded persons) as well as those who have taken treatment (consulted doctor/other) or those who are undergoing treatment (consulted doctor, other-wise) in the past for each age group (0–4, 5–9, 10–14, 15–19, 20–24, 25–29, 30–34, 35–44, 45–59, 60 and above, 15 and above). NSSO makes available data with respect to this at the national level (separately for rural and urban), but there is no gender-wise information from the published reports, though one can carry out disaggregate analysis as raw data is available.

#### **2.6.5 Indicators on ‘Women with Distinct Need and Vulnerabilities’: Limitations and Comments**

As outlined above, Census and NSS data are the two main data sources on disability. The major limitations that are often raised in the context of these two data sources are exclusion of many disability categories. There has been change in the approach to the question of disability in these data sources over time from a medical model to that of social model. However, the entire gamut of the social model is yet to find a place as the approach followed still does not recognize disability as arising from the interaction of a person’s functional status with the physical, cultural, and policy environments.

Both these data sources categorize nature of disabilities based on PWD Act categories which is reported to be a limiting factor. NSS definition of Disability is a person with restrictions or lack of abilities to perform an activity in the manner or within the range considered normal for a human being as having disability. It excludes illness/injury of recent origin (morbidity) resulting into temporary loss of ability to see, hear, speak, or move. In the Census there has been no one definition of disability followed but it is defined through various categories in different rounds as discussed above.

Mental disability is a cause of concern across both the surveys. As per Census, ‘a person who lacks comprehension appropriate to his/her age will be considered as mentally disabled. This would not mean that if a person is not able to comprehend his/her studies appropriate to his/her age and is failing to qualify examination is mentally disabled.’ NSS defines mental disability as persons who had difficulty in understanding routine instructions, who could not carry out their activities like others of similar age or exhibited behaviours like talking to self, laughing/crying, staring, violence, fear, and suspicion without reason. The ‘activities like others of similar age’ included activities of communication (speech), self-care (cleaning of teeth, wearing clothes, taking bath, taking food, personal hygiene, etc.), home living (doing some household chores),

and social skills. Both these definitions are vague and much is left to the individual and social perceptions.

Further the method of questioning on disability in both Census and NSS is also problematic as it relies on a traditional 'diagnostic' identification of disability. This method is argued to give lowest estimates as per a study conducted by World Bank (2009). Further, since the data are collected by non-medical investigators, who are untrained for such interviews it is imperative to define disability in a very careful and guarded way to minimize the bias of the investigators and respondents.

Further, there has been no continuity in terms of data available. The data collected through Censuses of 1872 to 1931 were not considered reliable and hence the question was dropped during 1941–1971. The definitions and categories followed in the Censuses have also varied across years which render any comparison over time difficult or meaningless. Because of the above limitations, many still argue that Census is not the appropriate medium to canvass the question on disability as the data would largely depend on the quality of canvassing these core questions. The argument is often that the definitions of disabilities are too complex to be understood by the respondents and the enumerators.

In the context of NSS survey, the sample size is an issue. Persons with disabilities account for less than 2 % of any population, so unless the survey is very large, the sample size of persons with disabilities will be small. For women, the problem is more severe because of the issue of under-reporting. Hence, unless special efforts are made to collect information on disability as such and on women in particular, NSS data will not provide gender-sensitive data. Though care has been taken on this aspect, it is still an issue.

Because of the above problems, the nature and quality of data provided by these two data sources is argued to be limiting, particularly in the context of women though there has been substantial changes over time both in terms of concepts/definition and quality of data collection. This is because certain types of disabilities are stigmatized by many societies. It was found that there exists a general tendency to withhold information, especially in the context of women, which affects the quality of data though the questions canvassed are clear. Further the perception and response of respondents is taken as final without any cross-checks, resulting in biases.

Apart from the indicators listed, there are few specific indicators on disability that are important from a gender-sensitive perspective. The most important of these indicators is old age disabilities. Since women have longer life expectancies than men inclusion of old age disabilities are very important, which at the present none of the surveys are capturing or focusing. Another aspect that needs to be captured is the level of assistance required. This is an important gender sensitive indicator as care giving revolves around women and hence women with disabilities in many cases do not get access to care. However, data is completely missing on this aspect.

Coverage is poor in the context of institutionalized persons, the homeless, refugees, or nomadic populations where many women may be found. These institutions need to be specially targeted for generating rich gender sensitive data.



Data generated on welfare assistance is poor. Though NSS data provides estimates on access, it does not give any information on the details of the assistance, except the source of such help. Gender differences may surely exist in terms of access to programmes of a particular kind. Basic information on the actual programme assistance could be collected by the NSS through few additional questions which could give more insights into the gender aspect of this issue.

Apart from these large-scale surveys, which are required to provide a macro picture, there is a need to formulate regular detailed small surveys which have a clear gender component. Such surveys should be carried out by trained investigators under close supervision, inputs from which could be fed into the large surveys to improve their quality.

## **CHAPTER III**

### **EDUCATIONAL STATUS OF WOMEN**

Education is a basic human right protected by the Constitution of India. The state is therefore duty-bound towards ensuring equality in educational opportunities. Though there has been significant improvement in the educational development, the goals of universal elementary education and basic literacy for all has remained elusive. The linkages between women's educational levels and their status have now been substantiated by numerous studies. Women's educational opportunities and attainments are important indicators as well as instruments of gender equity. Gender gap exists at various levels of education, right from literacy and enrolment at primary levels to completion rates at various levels. As one goes upwards in the education ladder, gender difference is striking with segregation of women in certain streams of education. What is appalling is that despite affirmative action, gender disparities remain substantial and their magnitude, form, and causes are still less understood and captured effectively.

Under the theme of Education, there are three sub-themes:

- *Gender Gaps and Biases in Schooling*
- *Enabling Factors*
- *Gender Gaps and Biases in Higher Education.*

The indicators of each sub-theme are given in Chapter 1, Table 1.1

#### **DATA SOURCES**

The major data sources that provide data on various indicators concerning education are the Population Census, NSSO, and the NFHS. Ministry of Human Resource Development (MHRD) also provides some of the crucial information on education at different levels through various reports and annual publications like the Selected Educational Statistics. Other data sources on educational indicators are All India School Education Survey (AISES), Annual Status of Education Report (ASER) and District Information System for Education (DISE) prepared by the National University of Educational Planning and Administration (NUEPA).

### **3.1. GENDER GAPS AND BIASES IN SCHOOLING**

Girls experience discrimination in educational opportunities beginning with enrolment in primary schools. Even if they are enrolled, chances of continuation and completion at various levels of schooling are issues. Indicators to capture some of the striking gaps are discussed in the following sections.

#### **3.1.1 Indicator 1: Literacy Rate**

Literacy rate shows the total percentage of the population, above a certain minimum age, who can read and write. Gender gap in literacy is the difference between the male and female literacy rates. The major data sources that give us data on literacy rate are Population Census, NSSO, and the NFHS.

**Population Census:** Queries for understanding literacy levels have been part of the Population Census from pre-independence times; for instance, in the 1881 Census the uneducated were asked whether they were ‘able to read and write’. Additional questions were asked in almost all Census to understand related aspects, for instance, from 1901–1941 whether the literates were ‘literate in English’ was also recorded.

Literacy rates have been worked out since 1951; but rates for 1951, 1961, and 1971 relate to population aged 5 years and above. From 1981 onwards, until the most recent one in 2011, the rates relate to population aged 7 years and above.

The Census gives the aggregate literacy rate at the national level and also gives gender-wise segregation in literacy rates in rural and urban areas up to ward and village levels across states and UTs.<sup>15</sup> Also, literacy rates across both sexes among SCs and STs for both rural and urban areas from 1961 are available from the Census. Literacy rates are also available for different age groups (5–9, 10–14, 15–19, 20–24, 25–34, 35 and above, all ages, 5 and above, 10 and above, 15 and above). Though information on religion has been collected since independence (Bose 2005) there was no cross-tabulation (with literacy) until 2001.

**National Sample Survey:** NSSO conducted the survey on participation in education and expenditure as part of its social consumption surveys in the NSS 35th (1980–81), 42nd (1986–87), 52nd (1994–95), and 64th (2007–08) rounds using separate schedule. These surveys collected information on persons in the age group of 5–24 except the 64th round which covered the age group of 5–29.

Besides, NSS also collects data on literacy in the employment–unemployment rounds. The NSS quinquennial surveys on employment and unemployment (1983, 1987–88, 1993–4, 1999–2000, 2004–5, 2009–10, 2011–12) provide data on educational attainment and educational attendance of the population. The coverage of these surveys is good as it collects information from more than 1,00,000 households and about 5,00,000 persons.

NSS gave estimates of literacy rates beginning from the 38th (1983)<sup>16</sup> where it provided gender disaggregated literacy rate for all ages (age 0 and above); and later in the 42nd round (1986–87), 43rd round (1987–88), 50th round (1993–94), 52nd round (1995–96), and in the 55th round (1999–2000), it gave literacy rate for all ages (age 0 and above) and for ages 15 and above; From the 61st round (2004–05) onwards, estimates of literacy rates for ages 7 and above were also provided.

Since unit level data is available for NSS surveys since the 38th round, analysis of literacy gap across many parameters is possible such as household types (self-employed in non-agriculture,

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<sup>15</sup> Some years excluded some states, 1981 (Assam), 1991 (Jammu and Kashmir), and certain districts of Manipur (2001 and 2011).

<sup>16</sup> 1980–81 data was not published by NSSO.

agricultural labour, other labour, self-employed in agriculture and others in rural, self-employed, regular wage/salary earning, casual labour, and others in urban), social groups (SC, ST, OBC, Others); for size class of land possessed (< 0.01 ha, 0.01–0.4, 0.41–1.0, 1.01–2.0, 2.01–4.0, 4.01 or more in rural alone); and religion (Hinduism, Islam, Christianity, Sikhism, Jainism, Buddhism, others), employment status, industrial and occupational classifications and consumption expenditure quintiles. Household and individual level data are available from social consumption surveys for the latest two rounds which makes possible gender-wise analysis across various parameters.

**National Family Health Survey:** The NFHS has stated ‘basic literacy’ as the ability to read and write. In NFHS, literates included those who could read a whole sentence or part of a sentence and those who completed standard 6 or higher. It records literacy according to age groups (6–9, 10–14, 15–19, 20–29, 30–39, 40–49, 50+) separately for males and females in households surveyed in urban and rural areas in all three rounds for all states. In NFHS-1 and NFHS-2, categorization of females age 6+ into literates and illiterates were based on self-reported literacy; first, respondents were asked whether they had ever attended school, and if not whether they could read or write. If they had attended school and had only completed 0–5 grade, then they were asked whether they could read or write, based on which they were categorized into literates and illiterates. In NFHS-3 respondents who had not completed at least standard 6 were given a literacy test.

### **3.1.2 Indicator 2: Adult Literacy Rate**

India has the largest number of illiterate adults in the world (about 287 million in 2012) according to the UNESCO. Illiterate adults are an indication of missed schooling opportunities.

Adult Literacy rate is the literacy rate with respect to population of age 15 and above. The gender gap can be calculated from the difference between male and female adult literacy rates. Adult literacy rate data is available mainly from the Census and NSSO.

**Population Census:** Adult literacy rates from the decennial Census are available from 1961 onwards up to ward and village levels. As discussed, literacy rates were cross-classified according to caste groups from 1961, and according to religious groups from 2001.

**National Sample Survey** defines adult literacy rate as the literacy rate for population of age 15 and above. Literacy rate of 15 + age-group by sex is available for rural and urban areas. It is available from various rounds of NSS as discussed in the previous section.

### **3.1.3 Indicator 3: Gross Enrolment Ratio**

The Parliament of India passed the Right to Education Act in 2009, guaranteeing free and compulsory education to all children in the age-group 6–14 years. This implies that gender gap in enrolment in primary to secondary education should not be there. Gender gap in enrolment can be ascertained through difference between male and female enrolment ratios. Official statistics on enrolment are available from MHRD, which gives gross enrolment ratios.

Gross Enrolment Ratio (GER) for each class-group is the ratio of the number of persons enrolled in the class-group to the number of persons in the corresponding official age group. Data on enrolment are brought out mainly by official agencies and departments under the MHRD apart from NSSO.

MHRD's official educational statistics is based on data collected by department of education across states and UTs on an annual basis and passed on to the Ministry.<sup>17</sup> It gives gender-wise data on persons enrolled in an educational institution from primary onwards through gross enrolment ratios: class I–V (in ages 6–10 years), class VI–VIII (11–13 years), class I–VIII (6–13 years), class IX–X (14–15 years), class I–X (6–15 years), class XI–XII (16–17 years), class IX–XII (14–17 years), class I–XII (6–17 years), through *Statistics of School Education*. Gender-wise gross enrolment ratio for SCs and STs are available from 1980–81 to 2010–11.

**All India School Education Survey** has data on primary school enrolment, class-wise (I, II, III, IV, V, and I–V) for students (boys, girls, total) across all states and UTs. In addition, enrolment of girls as a percentage of boys across SC, ST, OBC and Muslim enrolment (minority religious group) is also available.

The first All India Education Survey was conducted by National Council of Educational Research and Training (NCERT) in 1957. The survey is conducted with the assistance of state education departments at a gap of five years. However, the 6th round (1993) and 7th round (2002) were conducted after considerable gaps. The 8th round was conducted in 2009. Since the 6th round, the data has been computerized which has made the data available at school, block, district, state, and national level. The 7th round also gives enrolment figures with respect to children with disability in recognized schools.

**District Information System for Education** from National University of Educational Planning and Administration (NUEPA) is a school based computerized information system, which was born out of the need to develop a sound information system essential for successful monitoring and implementation of District Primary Education Programme (DPEP). The first version of the software named DISE was released by NIEPA (now NUEPA) during the middle of 1995. After 2001, DISE was extended to non-DPEP states and it was also extended from primary to the entire elementary level of education. By 2005–06, 604 districts across 35 states and UTs were covered under DISE providing comparable data over time. DISE is unique as it provides data aggregation at multiple levels, making possible comparable analysis at the school, cluster, block, Taluk, Mandal, district, state, and the national level. The data is available online.

DISE defines enrolment in primary education (Grades I–V), regardless of age, as a percentage of the eligible official primary school-age population (6+ to 10+ years) in a given school year. NUEPA releases statistics on enrolment based on DISE which makes available grade-wise and level-wise enrolment across sex and also of children with disabilities at primary (Grades I–V) and upper primary (Grades VI–VIII) levels. It provides data on girls enrolment in SC and ST in

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<sup>17</sup> MHRD data is collected through prescribed formats. The primary data collected from educational institutions are aggregated at the block level but the reporting is done at the district level. Unrecognized institutions are excluded for enumeration purposes.

Grade I–V, VI–VIII, and I–VIII), OBC and Muslims; and also percentage of female enrolment and ratio of girls to boys enrolment or the gender parity index.

DISE was modified in 2012–13 following the recommendations of the Expert Group on Creation of Unified System of Data Collection for School Education Statistics and since then, all MHRD statistical publications on school education has been based on UDISE data. It gives enrolment data for Grade I–V, VI–VIII and I–VIII alongside enrolment in Grade I and percentage of girl's enrolment in total, disaggregated by social groups.

**National Sample Survey:** Data on enrolment and attendance is available from the 42nd (1986–87), and subsequently in the 52nd (1995–96) and 64th rounds (2007–08). These surveys collect information on persons in the age group of 5–24 except the latest round which covers the age group of 5–29. It thus provides for data on gender disparity by current enrolment for India and states. The possibility of social group wise analysis is limited because of the small size for a particular age category. The NSS Employment and Unemployment Survey rounds on the other hand collect data only on 'current attendance in educational institution' from early rounds like the 43rd (1987–88) and also in recent rounds, namely, 61st (2004–05), 66th (2009–10), and 68th (2011–12) in which there are two categories: currently attending and currently not attending (currently attending is divided into two categories never attended, ever attended).

**Annual Status of Education Report** brings out annual data on enrolment based on school based enrolment data (from school registers) as well as on the basis of data from households. ASER data is based on annual surveys, conducted since 2005 by Pratham in all rural districts of India.<sup>18</sup> ASER gives reliable estimates of children's enrolment. Since it is designed as a household-based survey so as to include all children—those who have never been to school or have dropped out, as well as those who are in government schools, private schools, religious schools or anywhere else the coverage is complete. It gives data right from pre-school level (children between ages 3–6) attending anganwadi (ICDS), *balwadi*, or nursery/LKG/UKG and for all school going children (5–16 years) through the household survey. ASER has brought out enrolment of children in the 6–14 and 7–16 age group and the data is available annually from 2005 for all states and India (for rural). It gives percentage of girls and boys in different types of schools: government, private, others (like madrasa and EGS) and not in school (dropped out + never enrolled) age-wise (7–10, 11–14 and 15–16 years).

### 3.1.4 Indicator 4: Net Attendance Ratios

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<sup>18</sup> In each rural district, 30 villages are sampled, the villages being randomly selected using the village directory of the 2001 Census and sampling is done using the PPS (Probability Proportional to Size) sampling technique. In each village, 20 randomly selected households are surveyed. This process generates a total of 600 households per district, or about 3,00,000 households for the country as a whole. Approximately 7,00,000 children in the age group 3–16 who are residents in these households are surveyed and information on schooling status is collected for all children living in sampled households.

Attendance refers to whether a person is currently attending an educational institution or not. Attendance is a better measure of learning (though not sufficient to ensure learning) than enrolment, though even attendance cannot guarantee learning (ASER, 2011).

The Population Census collects information on ‘status of attendance’. Surveys by NSSO, NFHS, and ASER also emphasizes on attendance and gives indicators of attendance, for example, gross attendance ratio, net attendance ratio, etc. In this section, we restrict our discussion to attendance ratios.

**Population Census** The Census makes available attendance in educational institution for all ages, by gender (male and female) for rural and urban areas up to village and ward levels across all states and UTs from which gender gap can be calculated.<sup>19</sup>

The Census started collecting information on ‘attending school/college’ from 1981. In 2001, ‘vocational’, ‘other institute’, and ‘literacy centre’ were added to type of education institutions attended. In 2011, data on attendance in ‘special institutions for disabled’ was collected under ‘status of attendance in educational institution’. In addition, for those who were not attending any educational institution, provisions were made for collecting information on those who have either ‘attended any institution before’ and also for those who have ‘never attended’ any institution. Census also makes available school attendance by social and religious groups (from 2001), and for age group 5–19 years there is also cross classification by work participation.

**National Sample Survey** ‘Current attendance’ according to NSSO refers to whether a person is currently attending any educational institution or not. While every person who is attending an educational institution is necessarily enrolled in that institution, it may so happen that a person who is enrolled is not currently attending the institution. It collects data on current attendance from 52nd round. Net attendance ratio (NAR) for a particular level of education has been defined by NSSO as the ratio of number of persons belonging to a particular age group with current attendance in that particular level and estimated persons in that specified age group. Since raw data is available disaggregation across male and female for different categories of educational level is possible across locations. Though further segregation across household characteristics is also feasible, given the small sample size, such analysis is difficult. Comparatively, the 64th round with its focus on education, allow more detailed analysis of level of current attendance by household’s monthly expenditure, and also for each social (SC, ST, OBC, Others) and religious groups (Hindu, Muslim, Christian, etc.) at the national level.

Comparative analysis on attendance can be made for both male and females according to region (rural/urban) using the 52nd (1995–96), 64th round (2007–08), 66th (2009–10) and 68th round through NAR.

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<sup>19</sup> Population attending ‘school’ include all persons attending educational institutions from Kindergarten/Nursery/Montessori level to XII standard and also those receiving school level education through correspondence/open school as well as reformatory/certified schools. Even in states and UTs where the Plus 2 classes are referred to as ‘Junior College’ are treated as school; A person attending ‘college’ or university or any such private (recognized or unrecognized) institution that ultimately resulted in award of Graduate or Post Graduate Degree recognized by the government or university or any other agency authorized by government were considered as attending college (also included correspondence course of a recognized university/open university or institute). Those attending ‘vocational training’ or attending vocational/professional courses was under ‘vocational’ category. (ORGI 2011: 58–59).

**Annual Status of Education Report** gives data on attendance through ‘per cent enrolled children present’ annually since 2005. It gives annually data on attendance for Standard I–IV/V as well as for I–VII/VIII. ASER has brought out attendance of children (and separately for boys and girls) in the school going age group 6–14 and 7–16 years.

**National Family Health Survey:** The NFHS from its first round (1992–93) reports the percentage of population aged 6–14 years attending school by sex (male, female), residence (rural, urban) for all states. It also gives attendance by age groups (for 6–14, 6–10, and 11–14 years). NFHS-2 also gives data on attendance by age groups in a similar manner. NFHS-3 gives more detailed information including attendance ratios like the NAR as well as gender parity index for primary, middle, secondary, and higher secondary levels. NFHS-3 makes available gender disaggregated attendance by age groups (6–10, 11–14, 15–17) for rural and urban areas.

### 3.1.5 Indicator 5: Drop-out Rates at Primary Level

A student who has enrolled in an educational institution may stop attending it after a while for various reasons and are said to be drop-outs. Drop-out rates at primary levels are brought out by the MHRD and the ASER surveys.

**MHRD** defines drop-out rate as the percentage of students who drop out from a given grade or cycle or level of education in a given school year. It gives gender-wise data on drop-outs at various levels through annual publications like the Selected Educational Statistics.

Data on drop-out rates of students in all categories (girls, boys, total) in primary level (I–V) is available from 1960–61 onwards, up to 2010–11. Level-wise drop-out rates for SC and ST is made available with gender disaggregation from 1990–91 onwards to 2010–11.

**National Sample Survey:** NSSO does not give drop-out rates for primary level, though it gives for middle level for later rounds, because of the methodology that it follows.

But in all its education rounds it gives the distribution of drop-outs by level of education and proportion of drop-outs from all levels of education, separately for males and females in rural and urban areas across all states and UTs. This term ‘drop-out’ has been defined to include: (i) one who has discontinued education before completing the last level of education for which he or she was enrolled or (ii) one who has discontinued education before attaining a specific level. In addition, it also gave distribution (per 1000) of drop-outs by reason for dropping out (*no tradition in the family, children not interested in studies, parents not interested in studies, inability to cope with or failure in studies, unfriendly atmosphere at school, education not considered useful, schooling/higher education facilities not conveniently located, has to work for wage/salary, has to participate in other economic activities, has to look after younger siblings, has to attend to other domestic activities, financial constraints, completed the desired level, awaiting admission to the next level, others*) for states and UTs, separately for males and females in rural and urban areas. Though analysis across household characteristics is feasible since the 52nd round, the sample size is a major issue.

**Annual Status of Education Report** brings out data of children ‘not in school’. Children ‘not in school’ include those dropped out and those who are never enrolled. For age group 6–14 if the



child had never been enrolled in school she/he is marked as ‘Never Enrolled’, and if the child had dropped out, then was a ‘Drop-out’. In the case of latter, the level/class in which the child was studying was also recorded irrespective of passing/failing and the year of leaving school which could be used to indirectly estimate drop-out rates for primary level.

### **3.1.6 Indicator 6: Primary Completion Rate**

Progress in universal primary education can be judged by enrolment ratios, but effectiveness of education imparted may be ascertained through primary completion rates (PCR). Primary education corresponds to the first four or six years of education. Therefore, if enrolment had taken place when a child is between 6 and 9, the completion of primary education (class V) should take place by the time the child is 12–15 years (Husain and Chatterjee 2009).

Primary completion rate is the percentage of students completing the last year of primary school. It is calculated by taking the total number of students in the last grade of primary school, minus the number of repeaters in that grade, divided by the total number of children of official graduation age.

Data on primary completion rates are brought out by MHRD. NSSO gives completed educational level. NFHS and Census also give related information but not completion rates.

**MHRD** gives the gross completion rates at primary level (Grade V) where the official graduation age is 10+. MHRD has made available primary completion rates from 1971 onwards, annually, but has not made available gender disaggregated primary completion rates.

**National Sample Survey** does not give primary completion rates but in turn gives completed educational level (from which it may be possible to calculate primary completion rates by making relevant assumptions). NSSO gives the highest level a person has completed successfully or the ‘stage of educational attainment’. A person is considered to have attained that level of education only if he/she has successfully passed the final year of a given level. NSSO gives ever-enrolled persons aged 5–29 years by age group (5, 6–10, 11–13, 14–15, ...) for each completed level (primary, ...) of education, and is available for males and females in rural and urban areas. Educational levels disaggregated by caste and religious groups is also available from the 42nd round (1986–87) and in subsequent rounds on Education like the 52nd and the 61st. Studies have used NSSO rounds to understand primary completion rates across time (Husain and Chatterjee 2009)

**National Family Health Survey:** The NFHS has recorded education level of household population across its three rounds through its household and women’s questionnaire, using queries like, ‘have you attended school’, ‘highest grade completed’, and ‘highest degree obtained’. According to NFHS ‘primary school complete’ means ‘5–7 completed years’ of education and gives distribution (percent) of population in rural and urban areas who has completed primary school according to sex and age groups (6–9, 10–14, 15–19, 20–29, 30–39, 40–49, 50+).

**Population Census:** The Census does not give primary completion rates, but gives data on ‘highest educational level attained’ and the number of males and females in the population who

have completed primary level in the population cross classified by age groups across rural and urban areas. The highest educational level attained by a person who is still studying in a particular class, is the one that she/he has actually passed and not the one in which she/he is studying.

### **3.1.7 Indicator 7: Drop-out Rates at Secondary Level**

Successful completion of Secondary level or Class X board examination is considered as a milestone in life (secondary level means classes IX–X) as it is the gateway to higher education and opportunities for technical and professional education. But many may discontinue or drop-out without completing this level due to reasons like failure, difficulty of subjects, and in the case of girls commonly because of responsibilities at home and at times, early marriage. MHRD is the only source that gives drop-out rates at secondary level.

*MHRD* provides gender-wise data on drop-outs at secondary level through its selected Educational Statistics. Data on drop-out rates of students in all categories (girls, boys, total) in Secondary level (IX–X) level is available from 1960–61 onwards, up to 2010–11. Drop-out rates for SC and ST is made available with gender disaggregation from 1990–91 onwards.

### **3.1.8 Indicator 8: Completion Rates of Secondary Education**

Passing Class X indicates completion of Secondary level. Data regarding completion of Secondary Education (actual numbers passing) are brought out officially by MHRD, and also by survey based sources like the NSSO and NFHS but there is no data available on completion rates (except that it may be indirectly estimated from drop-out rates at secondary level (class IX–X).

*MHRD* gives actual numbers successfully completing the Secondary level (Grade X) but not completion rates.

*National Sample Survey* does not give completion rates but completed educational level (from which it is possible to calculate completion rates by making relevant assumptions and generate approximate secondary completion rates). NSSO gives ever-enrolled persons aged 5–29 years by age group (5, 6–10, 11–13, 14–15, 16–17, 18–24, 25–29) for each completed level (primary, middle, secondary, higher secondary..) of education, and is available for males and females in rural and urban areas disaggregated by caste and religious groups from the 42nd round (1986–87), and followed in subsequent rounds.

*Population Census:* The Census does not give completion rates; but gives data on ‘highest educational level attained’ where it gives the number of persons (male, female) who have completed Matric/Secondary education level in the population.

*National Family Health Survey* The NFHS across rounds gives data on ‘high school complete’ which according to NFHS is 10–11 years of completed years of education. It gives distribution (%) of household population in rural and urban areas who have completed secondary education

(means high school complete) according to sex and age groups ( 6–9, 10–14, 15–19, 20–29, 30–39, 40–49,50+).

### **3.1.9 Indicators on ‘Gender Gaps and Biases in Schooling’: Limitations and Comments**

Data on education is an important concern not only with regard to females but also in general. It has often been highlighted that the education data collected before the 1950s and 1960s were of much superior quality and coverage compared to recent data ((Mehta 1996). In the last few decades there has been a progressive decline in the scope, coverage, and reliability of education data as such which is of grave concern as far as women’s status in education is concerned given the context of our country. A number of challenges and problems continue to constrain data on women’s education. Girls belonging to poor families in general are expected to contribute to the family by engaging in economic activities or by taking care of younger siblings. These considerations have resulted in prejudices against girls’ education which continue to have a detrimental effect on the extent of schooling they receive.

The most important source of educational statistics is the data provided by MHRD which is an administrative outcome. The major advantages of this database are that it provides data on a regular basis over a long period time, covers all of India and the data is tabulated based on comparable classification. However, private unrecognized educational institutions that are large in number are not included in the official collection of statistics. With growing privatization of education, both in rural and urban areas, such private unrecognized schools are large in numbers especially at lower levels of schooling. These schools are not covered at all in the official statistics. Gender biases and gaps are bound to be pronounced at a greater scale in these private schools which are market driven. The possibility of low enrolment of girls, high drop-outs, and low completion rates among girls in these schools cannot be ruled out given our social contexts.

As is evident from the discussion, there are two main sources of data to understand gender dimensions of school education: (i) collected from educational institutions (MHRD, DISE, NCERT survey, etc.) and (ii) household surveys (NSS, Population Census). The data from institutional sources do not shed light on student and household socio-economic characteristics such as caste, religion, occupation, income, etc., while the household surveys do not contain information pertaining to educational institutions. ASER is the only data source that collects information from both sources, but has data only on rural areas.

It is well established that girl’s education is an outcome of social and cultural factors which vary across locations and social groups. Many background factors are believed to affect enrolment and drop-out rates in school, and are believed to be magnified in the case of girls. Studies have shown that ‘general household characteristics like income, caste, occupation and educational level of parents continue to determine access, attendance, completion and learning achievements’ (Ramachandran and Saihjee 2002). Studies have also found that caste and religion are important determinants of schooling. Most of the data sources provide only a generalized picture and are inadequate in exposing the complexity of gender biases intersected by other determinants. The only data source that could provide the various dimensions of gender difference is NSS data.

However, the data is limited by its focus on households and by its sample size. Quality and reliability of data collected is an issue given the wide discrepancy across sources of data. Indicators on enrolment, attendance, and drop-out vary considerably between the official source and NSS clearly reflecting the methodological, definitional, and conceptual issues in these surveys. Since Census and NSS collect data from the households, concepts, scope and coverage of the data are different. The diversity of educational systems further complicates data generation and analysis.

To address these, there is a need to enlarge the data collected from the institutions by collecting additional information on students' socio-economic characteristics. A system of 20 % sample data collection along with collection of education data can be introduced.

The sampling design and sample size of the NSS household surveys relating to education and employment and unemployment also needs improvement. Household stratification based on social groups and age groups will further enrich the usefulness of these surveys. The NSSO may consider pooling of central and state samples with a single sampling framework so that the sample size can be increased to arrive at reliable estimates by social groups at state level. The decennial Population Census is yet another source of data that provides enrolment and educational attainment of the population. Though it is wider in coverage and collects data from all households in the country, one has to depend on published tables and information, as unit level data are not available for generating information across various sub-groups.

Participation in primary education is an issue as the number of students in various types of schools is not completely known with the result that the GER and NER do not reflect the true picture. The practice of over reporting of enrolment to show targets has always been an issue. With increased focus on girl's education at the policy level the possibility of over reporting of girl's enrolment cannot be ruled out. Also, there is no cross-checking or validation which also makes the data highly unreliable. Even for DISE which is a computerized data or information system, misreporting by schools is an issue. For unrecognized schools, it is left to their discretion whether or not they choose to share information with the officials, and there is no real incentive for these schools to enter into the DISE assessment. In the recent past a number of private schools have come up including those in rural and backward areas. In addition, a large number of schools are also run under various schemes of central/state governments. Institutions under these are reported or have failed to evolve a sound reporting and monitoring system. No enrolment and attainment data is available for the non-formal education (NFE) centres, though there are a large number of such centres in the country. No gender-wise data is available on any of these institutions on a regular basis.

Pre-primary education or early childhood education is yet another area where availability of data is highly inadequate. In addition to government interventions there are a large and growing number of centres in the private informal sector. A large number of private schools have come up at pre-primary levels with varying scales, facilities, and fees, especially in urban areas for which no data is available. Gender-wise data on enrolment, years of continuation, expenditure, and related aspects of these pre-primary schools could reveal interesting dimensions of discrimination.

Even if girls are enrolled and are attending schools, given the low priority to girls' education at a general and social level (even by teachers and girls themselves) it is possible that girls may take more years to complete a particular level of education. Completion rates are available from different sources, though the quality of data is definitely an issue. Alongside completion rates, repetition rates and grade transition rates are important variables that need to be captured for a gendered analysis of schooling. None of the sources give data to capture these dimensions. Yet another dimension that needs attention is the distribution of students by medium of education, as in many parts of the country girls are sent to vernacular medium schools as against boys who are put in English medium schools. Except for DISE, no information is available on the gender-wise distribution across medium of education. Gender-wise expenditure by level and medium of education across social groups are critical dimensions that can be part of a regular sample-based study.

It is important to understand the magnitude of out-of-school children. While some data is available from sources like NSS, Census, Education department, and other household surveys on this, reliable data on the division between drop-out and never-enrolled is not available. This is an important gender indicator as many girls may not get enrolled.

Enormous delays accompany the release of data collected by many agencies. Therefore, the practical utility of whatever data collected, collated, and tabulated is reduced due to large time lags in its availability. At present, it takes 3–5 years to finalize national data for all states; the indifferent attitude of states to participate in the national data collection system is an issue often highlighted in this context. The central government normally relies on state governments for data collection and reporting, but the response has not been uniform. Efforts may be made to ensure timely, regular and accurate reporting of information.

Quality of education is an underlying factor that defines and determines gender outcomes in education. However this aspect is rarely looked at in many data sources on the issue except that of ASER which is limited by its coverage. Even from ASER while it is clear that the quality of learning is poor no information is available on the differential quality levels of children. The National Achievement Survey (NAS) conducted by NCERT among Class V students to assess grade-level competencies of children enrolled also give some data on quality of education but is limited to government and government-aided schools. Collection of regular data on achievement is still not part of the national official data system even now. Official data generation on this is a priority concern.

## **3.2. ENABLING FACTORS**

There are many factors that influence both enrolments of girls as well as whether they will stay in schools after they attain certain ages. We group some of these under *Enabling Factors*, which include 'Availability of separate toilets for girls', 'Usability of girls' toilets', 'Distance travelled to school/education institutions', and 'Proportion of female teachers'.

### **3.2.1 Indicator 1: Availability of Separate Toilets for Girls**

Access to education does not only mean the availability of schools but also availability of basic facilities at various levels of schooling. From a gender perspective, availability of basic facilities, especially toilets are a critical factor. Availability of toilets and separate girl's toilets are part of RTE norms (along with drinking water, building aspects, mid-day meals, and library facilities in schools). ASER surveys have brought out data on facilities in school, including separate toilet facilities for girls from the beginning but the information is limited to schools in rural areas. DISE is a major source of data on basic facilities in school and the data is available since 2004. NSSO does not collect information with regard 'to availability of separate toilets for girls' but from the 64th round it has included 'non-availability of ladies toilet' as a reason for dropping-out/discontinuity/non-enrolment.

*ASER* has brought out information on whether the schools surveyed had a common toilet, a separate toilet for girls, a separate toilet for boys, and a separate toilet for teachers. ASER gives data on 'availability of separate toilet facilities for girls' since 2010.

*DISE*: Published reports of DISE give district-wise information on facilities in schools, including percentage of schools having boys' toilets, as well as schools with separate toilets for girls (in primary schools and all schools).

*All India School Education Survey (AISES)* from its seventh round (2002) onwards provide information on availability of separate toilets for girls in schools across various levels/stages (primary, upper-primary, secondary, and higher secondary).

### **3.2.2 Indicator 2: Usability of Girls' Toilets**

Availability of a functional toilet is as important as making provisions for separate girls' toilets in schools. A usable toilet is one with water available for use (running water/ stored water) and a basic level of cleanliness. Only ASER surveys have brought out data on toilets with both lock facilities as well as water availability in toilets. It has recorded from 2010 whether toilet facility available in schools had locking facilities as well as whether it was usable.

NUEPA has also published data on these in some of its recent reports. DISE from NUEPA reports based on unified DISE (UDISE) data brings out data on facilities in schools, including percentage of schools having functional girls' toilets. It also gives percentage of schools having hand wash facility available near toilet/urinal. Data is available since 2013.

### **3.2.3 Indicator 3: Distance Travelled to Schools**

Access to education as well as attendance in educational institutions to a very large extent is dependent on distance travelled to schools. NSSO has covered this in its recent survey rounds while the AISES gives data on habitations having educational facilities within it and those which have educational facility within certain distances.

**National Sample Survey:** The NSSO in recent rounds (first in the 64th) has collected information on distance from sample households (in both rural and urban areas) to nearest school (those imparting primary, middle, and secondary level classes). It gives the percentage of rural and urban households having schools (imparting primary, middle, and secondary level) within a certain distance (less than 1km, 1–less than 2 km, 2–less than 3 km, 3–less than 5 km, more than 5 km). The data could be classified across each decile class of MPCE, for each social group (SC, ST, OBC, Others) and for each religious groups (Hinduism, Islam, Christianity, Sikhism, Buddhism, others).

**All India School Education Survey:** The first survey of AISES in 1957 (which was then called the All India Education Survey) looked at the number of ‘habitations’ (or population centres) which had an educational facility; the distances between habitations and the distance students had to travel to reach an educational facility if their own habitation did not have one.

The surveys that have followed since then, including most recent one, the Eighth AISES have brought out data on the availability of schooling facility for primary, upper-primary, secondary, and higher secondary stages within habitations, and also distances to reach them for those without it, including for those habitations predominantly populated by SC/ST for all states and UTs. The distances depending on education level was different; for instance in case of primary it was up to 0.5 km, 0.6–1.0 km, up to 1.0 km, 1.1–2.0 km, up to 2.0 km or more than 2.0 km; while for higher secondary it was up to 2 km, 2.1–4.0 km, 4.1–6.0 km, 6.1–8.0 km, up to 8.0 km, more than 8.0 km. Across time there have been changes, for instance, the second AISES brought out percentage of rural population who either had primary education facility within their own habitations or within a walking distance of 1 mile. From the third round onwards, percentage of rural populations served by primary education facility within their habitations or within walking distance of 1 km was recorded. With respect to various levels of education also there are changes; for instance, in the case of upper primary stage, the first and second AISES had brought out percentage of rural population who either had upper primary education facility within their own habitations or within a distance of 5km, while from the third round onwards, it was within a distance of 3 km.

### **3.2.4 Indicator 4: Proportion of Female Teachers**

The presence of female teachers in schools may lead to higher levels of girls’ enrolment, as socio-cultural considerations may influence parents in having a preference for females as teachers, particularly for their girl children. This hypothesis may be the basis for the 50 % female teacher stipulation in all new teacher recruitments in the National Policies on Education (1986 and 1992).

Percentage of female teachers out of total can be obtained across various levels of education. Data on female teachers (%) is available from MHRD (Selected Educational Statistics), DISE, and AISES.

**MHRD** gives data on female teachers per hundred male teachers in its selected educational statistics. *Selected Educational Statistics* has data on number of female teachers per 100 male teachers from 1950–51 across levels (primary, middle, and intermediate/secondary/senior secondary). In recent years, data is available across primary (pre-primary available in few states), upper primary, High/Secondary, and Intermediate/ Senior-secondary schools. Data is available for all states and UTs.

**NUEPA** publishes reports (*like Elementary Education in India, one of the eight publications of NUEPA based on DISE data*) based on DISE data gives percentage distribution of female teachers in various levels (primary only, primary with upper primary, primary with upper primary and higher secondary, upper primary only, upper primary with higher secondary) for India and states. DISE has data on single-teacher schools (for primary schools and all schools). Proportion of female teachers is also available according to caste groups, age groups, and professional qualification (raw data is available online for districts across most states and UTs from 2002-03, but for all states and UTs from 2005–06. Thus percentage of schools with female teachers is available for all states and UTs from 2005–06.

**AISES** collected data on number of female teachers in the first round (1957) itself, but few states did not provide the data. The second round (1965) had level-wise data on female teachers across all states and UTs. The third round was more detailed and gives distribution of teachers teaching in primary, middle and secondary/senior secondary levels according to management (government, local body, private aided, private unaided), sex (male, female), caste (SC, ST) according to rural/urban for India and states. In 4th survey round, it gave state/UT-wise number of teachers and female teachers (%) in primary, middle, secondary/ higher secondary stages. In the fifth round it gave percentage of female teachers at all levels (separately for secondary and higher secondary levels for the first time). AISES has given data on teachers by caste groups from the third round (SC, ST), and by the sixth round had included OBC category teachers but did not give gender disaggregated caste group data on teachers. It also gave data on female teachers out of full-time teachers including principal/headmaster as well female teachers out of para/contract teachers in the seventh and eighth survey rounds. AISES also has data on zero teacher schools, one, two, three, four, five, five plus (percentage out of total primary schools) from fourth round, for all states and UTs.

### **3.2.5 Indicators on ‘Enabling Factors’: Limitations and Comments**

Data on basic infrastructure which has gender implication is limited and not reliable. ASER is the only source that collects data at the level of the institution but is limited to rural areas. NSS data is based on household survey where the chances of misreporting on facilities in school are high as in many cases it is the perception of the respondent and not the experience of the student that gets captured.

Regarding female teachers the data sources such as DISE and AISES have limitations which have been discussed earlier, the most important being its partial coverage. Though DISE and AISES have data on single-teacher schools (for primary as well as all schools) for all states, there is no gender disaggregated information (that is proportion of female single-teacher schools)



which should be made available as it is an important data. Sources like AISES should also provide gender disaggregated data on teachers according to caste groups.

### **3.3. GENDER GAPS AND BIASES IN HIGHER EDUCATION**

GOI (2012) defines ‘Higher Education’ as the education obtained after completing 12 years of schooling or equivalent and is of the duration of at least nine months (full time); or after completing 10 years of schooling and is of the duration of at least 3 years. An important form of inequality among women is educational access, particularly in access to higher education. Educational attainment levels as well as opportunities in higher education are influenced by a host of socio-economic and cultural factors and hence gender difference in higher education is an important indicator of women’s status. Unequal access to higher education leads to inequality in skills these groups bring to labour markets.

Higher education may be divided in to two broad areas: general and technical/professional; general stream includes courses in arts, commerce, and science. The technical education on the other hand comprises of programmes of education, research and training in engineering technology, architecture, town planning, management, pharmacy, and applied arts and crafts. Professional education includes courses in medical education, law, and other specialized fields. There are formal and non-formal modes in Higher Education and all who are engaged in both these modes are considered as undergoing Higher Education. Non-formal system of Higher Education include Distance or Correspondence modes, wherein education may be imparted through internet, broadcasting, telecasting, correspondence courses, seminars, contact programmes, or using a combination of two or more of the above mentioned means of communication.

#### **3.3.1 Indicator 1: Level of Higher Education Completed**

The ‘*level of higher education completed*’, is an important indicator as it is only successful completion of higher education that opens up opportunities in employment and other life chances. But unfortunately, data on the completion of levels as such is not published by official sources (MHRD) though enrolment data as well as examination results are readily available. There are various agencies involved in the collection of higher education data under the MHRD such as the University Grants Commission (UGC) and the All India Council for Technical Education (AICTE). Recently, surveys like the All India Survey on Higher Education (AISHE)

have also been instituted.<sup>20</sup> Prior to 1982, the Department of Education in MHRD as well as UGC collected data on higher education (from colleges and universities) which created duplication. Later UGC alone was in charge of the exercise, but it faced problems of time lag and non-response from reporting institutions (though some basic statistics was published every year in its Annual Report). Since 1994–95, the MHRD has again started collecting data on higher education from the States through State Education departments. NSSO, Population Census, and NFHS provide household level data on completed education levels.

**MHRD** gives gender-wise data on enrolment but not level of Higher Education completed. Enrolment figures in Higher Education in a year may give an idea about Senior Secondary completion in the year (but not necessarily completion of the level as many who completed senior secondary may not enrol into Higher Education courses). Gender disaggregated level-wise enrolment figures (the levels are Integrated, Certificate, Diploma, Post-graduate Diploma, Undergraduate, Post graduate, MPhil and PhD) is available for all students and also for SC and ST categories.

Gender disaggregated enrolment figures from 1950–51 are available for Secondary/Senior Secondary combined (MHRD did not provide separate enrolment figures of Senior Secondary until 2004–05) and Higher Education. Senior Secondary is 16–17 years (XI–XII) and Higher Education is 18–23 years. Gender disaggregated enrolment figures for SC and ST is available from 1986–87 for Higher Education and from 2004–05 for the Senior Secondary level.

**National Sample Survey:** According to NSSO (2010) persons who have completed Higher Education include those who have successfully completed any or all of these levels: Higher Secondary, Diploma/Certificate course, Graduation, Post-Graduation, and above.

According to NSSO, the category ‘diploma or certificate course’ meant diploma or certificate courses in general education, technical education or vocational education, which is below graduation level. Diploma or certificate courses in general education, technical education, or vocational education, which is equivalent to graduation level, was considered under the category ‘graduate’. Similarly, diploma or certificate courses in general education, technical education or vocational education, which is equivalent to post-graduation level and above were considered under the category ‘post-graduate and above’.

It gives distribution (%) of persons of age 15 years and above by completed level of education (here, relevant levels are Higher Secondary, Diploma/Certificate course, Graduation, Post-graduation, and above). It gives gender disaggregated data for rural and urban areas. Data is available from the 42nd round onwards.

**Population Census:** The Population Census gives gender disaggregated data on education level completed; Higher Education level completed (Higher Secondary, Graduate and above, Post-graduate degree other than technical degree, and technical degree or diploma equal to degree or

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<sup>20</sup> The first All India Survey on Higher Education (AISHE) report was published in 2010–11 by MHRD. The survey was online for which a dedicated portal ( <http://aishe.gov.in> ) was developed (the reference date was 30 September 2011). The institutions covered in the survey have been classified into three broad categories: ‘University’, ‘College’, and ‘Stand Alone Institutions’. Data is collected on several parameters such as teachers, student enrolment, programmes, examination results, education finance, and infrastructure.

Post-graduate degree in engineering & technology, medicine, agriculture and dairying, veterinary, teaching, others) for different age groups (15–19, 20–24, 25–29, 30–34, 35–59, 60+) is available separately for male and females, region-wise (rural/urban) up to ward and village levels. From 2001 Census, data for SC/ST is also available.

**National Family Health Survey:** The NFHS across rounds gives data on ‘Higher Secondary complete and above’ which according to NFHS means 12 or more completed years of education. It gives distribution (%) of household population in rural and urban areas who has completed higher secondary and above according to sex (male and female) and age groups (10–14, 15–19, 20–29, 30–39, 40–49, 50+) for India and states. NFHS does not publish any ‘specific’ higher levels of education (but information has been collected with respect to highest degree obtained: degree not completed; non-technical degree: bachelors, masters, PhD; technical degree: bachelors, masters; technical diploma/certificate, not equivalent to degree; and non-technical diploma/certificate, not equivalent to degree).

### 3.3.2 Indicator 2: Participation in General Stream of Higher Education

Though gender gaps in higher education at the enrolment level have reduced over time, new and complex forms of gender gaps prevail. Segregation in limited fields, difference in achievement levels and differential gender disparity across social groups are some of the newer concerns. MHRD and NSSO give data related to enrolment in general stream of higher education.

**MHRD:** The Department of Secondary & Higher Education gives details on enrolment of boys and girls in arts, science, and commerce. Gender gap can be ascertained in each of these streams as data on number of girls enrolled per 100 boys in university education (graduation and master) is available from 1950–51 onwards in arts and commerce and from 1970–71 onwards in science stream (Arts and Science was combined for the years 1955–56, 1960–61 and 1965–66). Data is available on an annual basis.

MHRD publishes annual enrolment of students (boys, girls, total) for all categories by level/courses for all states and UTs (from 2006–07). The enrolment data (by level/courses) for PhD/MPhil, Post-graduate and Under-graduate degree (Arts, Commerce, Science), Post-School Diploma, and Post-Graduate Diploma; Enrolment figures for Scheduled Caste and Tribes (boys, girls, and total) for PhD/MPhil, Post-graduate degree, Under-graduate degree, Post-School Diploma, and Post-graduate Diploma is also available.

**National Sample Survey** In the earlier rounds (42nd, 52nd) general stream in Higher Education included higher secondary levels and there after normal university education for a degree *including* professional education like Engineering, Medicine, Agriculture, etc. Since the 61st round general stream includes normal university education at graduate and post-graduate level. This include Bachelors and Masters programmes in subjects of Arts (programmes in Philosophy, History, Geography, languages, Dance, Music and so on), Science (physics, chemistry, biology), Commerce (and accountancy related subjects), Mathematics, etc. Engineering, Medicine and Agriculture under professional/technical education was separated from general education for the first time in the 61st round.

Since raw data is available from the 52nd round, gender difference in general stream of higher education for different levels of education across a number of socio-economic variables could be calculated from the data.

### 3.3.3 Indicator 3: Participation in Technical and Professional Courses

Technical Education has a vital role for improving the employability of women. It's a vast area and encompasses programmes in engineering, technology, management, architecture and town planning, pharmacy, applied arts & crafts, food processing, hotel management and catering. Both MHRD and NSSO provide data on gender-wise enrolment in such courses.

**MHRD:** The MHRD publishes data on technical and professional education in '*Statistics of Higher and Technical Education*' regularly from 2006–07 (since 2010–11 through AISHE reports).

Enrolment of students (boys, girls, total) for all categories by level/courses is available, from which gender gap for each course can be worked out for all states and UTs. The enrolment (by level/courses) for PhD/MPhil, Post-graduate and Under-graduate degree (Engineering/Technology/Architecture/Design, Medicine, Agriculture and allied sciences, Management/Hotel/Travel/Tourism/Management, Education/Teacher training, Law, and other), Post-School Diploma, and Post-graduate Diploma; Enrolment figures for Scheduled Caste and Tribes (boys, girls and total) for PhD/MPhil, Post-graduate degree, Under-graduate degree, Post-School Diploma, and Post-graduate Diploma is also available.

**National Sample Survey:** In both 42nd and 52nd rounds, technical and vocational courses were taken as one stream, which included courses offered by polytechnics, ITIs, etc. In the 60th round, vocational stream was separated from technical and professional education (which was separated from general education) was clubbed with technical education and has continued so in later rounds.<sup>21</sup>

The highest level of technical education of members of household were recorded by NSS in its 61st round (in 12 categories), namely, (i) *no technical education*, (ii) *technical degree in agriculture / engineering / technology / medicine, etc.*, (iii) *diploma or certificate below graduate level in: (a) agriculture, (b) engineering/technology, (c) medicine, (d) crafts, (e) other subjects*, and (iv) *diploma or certificate equivalent to graduate and above level in: (a) agriculture, (b) engineering/technology, (c) medicine, (d) crafts, (e) other subjects*: diploma or certificate in management, applied arts, etc. In the latest rounds 66th and 68th the classifications are *technical degree in agriculture/ engineering/ technology/ medicine, etc.* diploma or certificate (below graduate level) in: *agriculture, engineering/ technology, medicine, crafts, other subjects*; diploma or certificate (graduate and above level) in: *agriculture, engineering/ technology, medicine, crafts, other subjects*.

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<sup>21</sup> Since the 60th round, three streams of education data are available – general, vocational and technical.

### 3.3.4 Indicator 4: Participation in Vocational Education

Most of the vocational courses or trainings are parallel to the other conventional courses and a range of institutions with varied organizational structure impart vocational training. Since vocational trainings are closely linked to the labour market demand, it is bound to reflect gender-based segregation in the workforce. However no comprehensive data at the institutional level is available on the number of such institutions and their areas of training, or on students who undertake these courses. NSS and Census collects some data on vocational courses which are available across sex.

The major sources of data on vocational education are the Population Census and the NSSO apart from the Directorate General of Employment and Training (DGET). The DGET being the apex organization that regulates ITIs and ITCs at the national level and implements policies for vocational training does collate some data but these databases are highly irregular and unreliable and do not give gender-wise data. There are some vocational institutions under the public sector which are women-only institutions and even data on these is not available.

*National Sample Survey* is the only source that gives data in what fields or vocations, girls/women have availed training in and distribution across these trades. NSS gives data on vocational training with respect to training received by persons in the 15–29 years category for the first time, through the Employment Unemployment survey (EUS) of the 60th round (Jan–June 2004), and followed in the 61st, 64th, 66th, and 68th rounds.<sup>22</sup> It collected data by ‘field of training’ which included mechanical engineering trades, electrical and electronic engineering trades, computer trades, civil engineering and building construction related works, chemical engineering trades, leather related work, textile related work, catering, nutrition, hotels and restaurant related work, artisan/ craftsman/handicraft and cottage-based production work, creative arts/artists, agriculture and crop production related skills and food preservation related work, non-crop based agricultural and other related activities, health and paramedical services related work, office and business related work, driving and motor mechanic work, beautician, hairdressing and related work, work related to tour operators/ travel managers, photography and related work, work related to childcare, nutrition, pre-schools and crèche, journalism, mass communication and media related work, printing technology related work, and others. Similarly, data with regard to duration of training as well as usefulness of training for taking up self-employment or wage/salaried work was also collected. In the 60th round survey, information on vocational training was collected only on formal vocational training, while from the 61st round onwards information regarding both non-formal and formal vocational training was collected for persons of age 15–29 years.

From the 66th round (July 2009–June 2010), information on ‘whether receiving/received any vocational training’ was collected for persons of age 15–59 years. It gave gender disaggregated information for rural and urban areas, with regard to vocational education and training such as field of training, duration of training (less than 3 months, 3–5 months, 6 months– 1 year, and

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<sup>22</sup> The previous NSS rounds do not allow for a clear distinction between vocational education and general secondary education, and between vocational training and tertiary education. Hence, it is very difficult to do any detailed analysis of vocational education or vocational training on the basis of NSS data.

more than 1 year) according to their broad usual principal activity status; It also provided data on source of training, and helpfulness of vocational training.

**Population Census:** The Census since 2001 has included ‘vocational’ to the type of educational institution attended, and makes available data on attendance in such institutes, for both males and females across age groups.

In Census, those attending ‘vocational training’ or attending vocational/professional courses was under ‘vocational’ category. It included the study of courses which prepare students for various vocations/professions such as Agriculture, Teacher Training, Physical Education, Engineering and Technology, Architecture, Fine Arts (Music, Dancing, Sculpture, etc.), Journalism, Library Science, Law, Medicine, Business Management, etc.<sup>23</sup>

This definition of vocation followed in the Census is an issue since it clubs professional and vocational courses under one head.

### **3.3.5 Indicators on ‘Gender Gaps and Biases in Higher Education’: Limitations and Comments**

The higher education data provided by MHRD is based on information provided by the state governments (as reported by the educational institutions) and also information provided by the UGC and the Councils such as MCI, AICTE, etc. The data are available on an annual basis over a long period of time and contains information on the number of educational institutions as well as enrolment in them. From the beginning of the 11th Five Year Plan period (2006–07), the data pertaining to higher education is being published separately as ‘Statistics of Higher and Technical Education’ by the Department of Higher and Technical Education. The coverage has improved over time. The enrolment data is provided by gender (male, female); caste (SC, ST, and Others), and by region (by state and UTs). As discussed in the previous section, important issues with regard to this data are its delay, reliability and representativeness. In the case of higher education, unlike that of school education, under-reporting of enrolment is an issue as many institutions are constrained by sanctioned strength. Further, there has been a massive expansion in private institutions and unrecognized institutions which are outside the outreach of this source. Added to this, the usual time lag for collection and dissemination of data is more than 3 years. Though the data gives enrolment by gender and caste (SC, ST), enrolment in the OBC category is not available. Further, no information is available on other social variables such as religion and particulars of the family (parental income, education, occupation, etc.). Hence,

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<sup>23</sup> Therefore all persons attending vocational or professional courses such as electrician, plumber, carpenter, motor mechanic, fitter, stenography, typing, architecture, engineering, computers, nursing, midwifery, pathology, courses of ayurvedic, unani and other systems of medicine; agriculture, dairying, forestry, blacksmithy, dyeing, tanning, textile, teaching (JBT, B.Ed., M.Ed., etc.); physical education, journalism, library science, art, fine art, dress making, visual communication, etc., are considered as attending Vocational Institutes. Persons attending computer and similar courses offered by different private institutions are also covered under this category. Engineering Colleges, Medical colleges, IIT's, Institutes of Business Management, professional courses such as Company Secretary, Chartered Accountant, Law Colleges, etc., are covered. It also included persons attending dance, music, driving, cookery classes, etc., on an informal basis as a hobby, but if they were attending any of these courses for the purpose of seeking employment, she/he was treated as attending a vocational institute.

this data is of limited usefulness to study gender informed social group inequality in higher education.

The NSS surveys on social consumption and employment and unemployment collect rich information pertaining to education. As discussed, the information collected through social consumption surveys pertains to the age group of 5–24 except the recent one which covers the age group of 5–29. Household and individual level data are available to researchers for the latest two rounds only. These surveys provide valuable information for computing net enrolment/attendance rates by education levels (or age groups) and social groups. It is also possible to examine enrolment by type of management (government, private aided and private unaided) and unit private cost of education among others. With increasing educational aspirations and availability of education through distance mode, people enrol in higher education even at later ages. To capture this, the 64th round survey extended its coverage to include persons aged 25–29 years. Further, information was also collected from persons enrolled in vocational stream, expenditure incurred on second course, particulars of course repetition, etc.

Despite the large volume of information collected by these surveys, the sample design and sample size impose constraints for bringing out reliable estimates of gender-wise net attendance rates and unit costs for different educational levels among social groups. For instance, the overall sample size of the 64th round data is very large (1,00,681 households and 4,46 960 persons). But the number of sample persons who are currently attending schools and colleges is only 73,597 in the age group of 5–29. The sample size becomes even smaller when one classifies age groups by various educational levels, especially at higher levels of education. Therefore, both the survey design and sampling procedure may need some modification. These could be with regard to household stratification, which must give due weight by age group of the persons in the household and persons enrolled in educational institutions. The sample size corresponding to the social groups is quite small, making it difficult to derive reliable estimates even at the national level. Considering the rapid changes taking place in higher education and this being the only survey that provides information to compute net enrolment rates and private cost of education, it is desirable to improve the periodicity of the survey. It can be conducted on an annual or quinquennial basis like the employment–unemployment surveys. The NSSO may consider the possibility of collecting detailed information on persons who are enrolled in post higher secondary education or the age group of 18–29. Information on enrolment in self-financing institutions/courses, quality of the institutions, performance in terms of grades/class or marks obtained in the examinations need to be gathered.

The NSS quinquennial surveys on employment and unemployment (1983, 1987–88, 1993–94, 1999–2000, 2004–05, 2009–10 and 2011–12) provide data on educational attainment and educational attendance of the population. These surveys collect information from a large sample and hence the coverage is excellent. Reliable state and national level estimates of educational indicators can be computed from these surveys. However, since the focus of the survey is on employment and unemployment and not on education which limits the scope of the data. Enrolment by type of institution, cost of education and at higher educational level the courses in which enrolled is not available. Even in these surveys, sample size is a constraint if one wants to make estimates at the state level by gender and social groups. NSSO could consider the

possibility of increasing the sample size or stratification based on social groups to address this issue.

The decennial Population Census is yet another source of data that provides enrolment and educational attainment of the population. It is wider in coverage and is collected from households. One has to however depend on published tables and information as individual/unit level data are not available for generating tables by various sub-groups. Whereas for urban areas it provides detailed classification of education, for the rural areas the classification is too broad, namely graduates and above. Further, the Population Census data does not distinguish between enrolment in professional degree and in diploma programmes. It is collected once every 10 years and hence it is not possible to construct reliable time series data. At the higher education level, there is a need for finer classification based on levels of education (UG, PG, MPhil/PhD, Diploma, Certificate) in both general and technical education and disciplines (Humanities, Social Sciences, Languages, Science, and technical degrees such as agriculture, veterinary science, engineering, medicine, law, education, etc.) to capture the gender dimensions, as gender segregation across disciplines are often marked.

There is a real dearth of data on women's education in vocational training, particularly so as a bulk of these are in the informal sector. No systematic data is available even on those under the public sector. DGET needs to collate data from ITIs and ITCs systematically and regularly. The data should be disaggregated by sex and other possible divisions/categories at the national level. With economic and social changes there are many new vocational trades that are gaining prominence and which have clear gender divisions. Thus, certain trades are dominated by women, for example, beauticians, health and paramedical course, hospitality and customer oriented courses/programmes are undertaken by many girls while few girls are found in engineering and craft-related courses. Unless systematic gender-based data is not made available, such dimensions cannot be captured. The efforts by NSS in its recent rounds, in spite of various limitations are welcome changes. As the NSS and Census employ household based data collection methods, institutional aspects are absent. Thus, to supplement household data it there is a need to undertake a survey of institutions which would also give insights into the gendering of teaching and learning in such institutions apart from other dimensions.

## **CHAPTER IV**

### **ECONOMIC STATUS OF WOMEN**

Economic status of women is an important aspect that influences their position both within the family and in the society. The socio-cultural shifts and changes in the recent decades make it imperative to delink women from the household and look at their economic status independently. Access and participation in work, employment situation, asset ownership, social security benefits, financial inclusion, and many other aspects have a direct bearing on women's overall status. In the case of men, economic factors principally determine why and where they engage in productive activities. But, in the case of women, more than economic reasons, cultural, social,



reproductive, and demographic factors determine whether they would engage in productive work and, if so, what would be the nature and sector of work.

Under the theme of Economic Status, there are four sub-themes:

- *Economic Opportunities*
- *Quality of Work*
- *Support Services at Workplaces and Access to Social Security Schemes*
- *Financial and Other Forms of Economic Independence.*

The indicators of each sub-theme are given in Chapter 1, Table 1.1.

## **DATA SOURCES**

The major data sources that provide data on various indicators concerning economic status of women are the National Sample Surveys of the NSSO, Population Census, and the NFHS. Labour Bureau also provides some data on both employment and labour aspects. Another important source, especially for understanding gender-wise variations in loan, credit, and deposit details are the Basic Statistical Returns (BSR) and Small Borrowal Account Surveys of the Reserve Bank of India (RBI).

### **4.1. ECONOMIC OPPORTUNITIES**

Availability, access, and participation in economic opportunities determine the overall economic status of women in society. Several indicators can be thought of in capturing women's positioning in terms of economic opportunities. Some such indicators are explained subsequently.

#### **4.1.1 Indicator 1: Labour Force Participation Rate (LFPR)**

LFPR is the ratio of labour force (employed + unemployed persons) to total population. LFPR among women in India is relatively low in comparison to that in the developed and similar developing countries. The NSSO is considered to be the most reliable source and has brought out regular data on LFPR through its quinquennial Employment–Unemployment Surveys. The only other source is the Labour Bureau which has been bringing out annual figures of LFPR since the last three years.

**National Sample Survey:** NSS defines *labour force* as the population which supplies or offers to supply labour for pursuing economic activities for the production of goods and services and therefore, includes both 'employed' and 'unemployed' persons/person days.

The ‘employed’ are persons who were engaged in any economic activity or who, despite their attachment to economic activity, abstained from work for reasons of illness, injury, or other physical disability, bad weather, festivals, social or religious functions, or other contingencies necessitating temporary absence from work. Economic activity according to NSSO includes: all the market activities (those performed for pay or profit) which resulted in production of goods and services for exchange and out of the non-market activities: (a) all activities relating to the agricultural sector which resulted in production (including gathering of uncultivated crops, forestry, collection of firewood, hunting, fishing, etc.) of agricultural produce for own consumption and (b) the activities relating to the own account production of fixed assets. Own-account production of fixed assets includes construction of own house, roads, wells, etc., and of machinery, tools, etc., for household enterprises and also construction of any private or community facilities, free of charge. A person may be engaged in own-account construction either in the capacity of a labour or a supervisor.

Those seeking work or being available for work or ‘unemployed’ are persons who, owing to lack of work, had not worked but either sought work through employment exchanges, intermediaries, friends or relatives, or by making applications to prospective employers, or expressed their willingness or availability for work under the prevailing conditions of work and remuneration.<sup>24</sup>

*Total Population* figures in NSS are based on Census projections. As the Population Census is conducted decennially, the total population in any year between two Census years is based either on projections made in the earlier Census or on estimates using the average decadal growth rates between two consecutive censuses. Using these projections, absolute figures of the number of employed people or the number of people in the labour force and so on can be estimated.

NSSO gives estimates of LFPR using three different approaches as it collects information regarding the activity status of a person using three different *reference periods*: one year, one week, and each day of the reference week. Based on these three reference periods, there are three different measures of activity status, namely *usual status*, *current weekly status*, and *current daily status*.

According to the *usual status* (ps+ss), workers are those who perform some work activity either in the principal status or in the subsidiary status. A person who is not a worker in the *usual principal status* (ps) is considered as a worker according to the *usual status* (ps+ss) if he/she pursued some subsidiary economic activity for 30 days or more during the 365 days preceding the date of the survey.

*Current weekly activity status* of a person is the activity status obtained for a person during a reference period of 7 days preceding the date of survey. A person was working (or *employed*) if he/she while pursuing any economic activity had *worked at least one hour on at least one day during the 7 days preceding the date of survey*.

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<sup>24</sup> Persons who were neither ‘working’ and at the same time nor ‘seeking or available for work’ for various reasons during the reference period are considered as being out of labour force. The persons falling under this category are students, those engaged in domestic chores, rentiers, pensioners, those living on alms, recipients of remittances, etc., infirm or disabled persons, too young or too old persons, casual labourers not working due to sickness, prostitutes, smugglers, etc.

*Current daily activity status* was decided on the basis of his/her activity status on each day of the reference week using a *priority cum major time criterion*.

Each day comprised of either two ‘half days’ or a ‘full day’. Some of the points considered for assigning the time intensity and determining the current daily status of a person include: a person was considered as ‘working’ (employed) for the full day if he/she had worked for 4 hours or more during the day; if a person had worked for 1 hour or more but less than 4 hours, he/she was considered ‘working’ (employed) for half-day and ‘seeking or available for work’ (unemployed) or ‘neither seeking or available for work’ (not in labour force) for the other half of the day. The current weekly status of a person is derived from the intensities assigned for the daily activities performed during the seven days of the reference week.

The annual surveys of NSSO began in 1953, but it was in the 11th round that the ‘labour force’ concept was introduced. The concepts followed now were first introduced in the quinquennial survey rounds that were initiated in 1972–73 (27th round). The change that has taken place with respect to concepts, reference period, etc., is illustrated in Appendix Table A2 . There have been nine quinquennial rounds until now. Following the first round, the next was the 32nd round (July 1977–June 1978), followed by 38th round (January 1983–December 1983), 43rd round (July 1987–June 1988), 50th round (July 1993–June 1994), 55th round (July 1999–June 2000), 61st round (July 2004–June 2005), 66th round (July 2009–June 2010), and the 68th round (July 2011–June 2012).

The NSS data provides LFPR (per 1000) according to usual principal status (ps), usual status (ps+ss), as well as current weekly status (cws) and current daily status (cds). Since unit level data is available in the NSS from the 50th round (1993–94), it is also possible to calculate gender disaggregated LFPR by age groups, education level (not literate,... secondary and above), and socio-economic categories (religious groups, SC, ST, OBC, and others; MPCE decile classes) across rural/urban.

**Labour Bureau:** The Labour Bureau through its annual Employment and Unemployment Surveys also gives estimates of LFPR. The definition of LFPR, as well as other work related indicators and concepts followed in the labour bureau are similar to that given in the NSS. The EUSs give the LFPR (per 1000) for persons aged 15 years and above according to: usual principal status approach (ps), usual principal and subsidiary status approach (ps+ss), current weekly status, and current daily status for each state/UT; The survey also gives LFPR across social groups (SC/ST/OBC/General and Others) for all states and UTs.

The first survey was conducted in 28 States/UTs by covering 300 districts in the country during the year 2010 for a fixed reference period (financial year 2009–10). The second was conducted in all states/UTs by covering all the districts in the country for a fixed reference period (agriculture year July, 2011– June, 2012). The third annual EUS was conducted from October 2012 to May 2013 in all the 35 states/UTs by covering all the districts in the country. A moving reference period of last 12 completed months from the date of survey was used to derive various estimates of labour force (meaning if the household was surveyed in January 2013, the reference period was January 2012–December 2012).

LFPR for rural/urban women according to age categories (15–19, 20–24, 25–29, 30–34, 35–39, 40–44, 45–49, and 15–49), education (no education, less than 5 years, 5–7, 8–9, 10–11, and 12 or more years completed); marital status (never married, currently married, widowed/divorced/separated/deserted), number of living children( 0, 1–2, 3–4, 5 or more), and wealth index ( lowest, second, middle, fourth and highest) are available across all three rounds.

#### **4.1.2 Indicator 2: Gender gap in Work Participation Rate (WPR)**

The Work Participation Rate (WPR) is defined as the percentage of total workers to total population. The WPR is available from the Population Census, NSS, and NFHS, though concepts related to WPR, from definition of work and workers, may vary across sources.

**Population Census:** The definition of work and workers has changed in the Census over time (elaborated in A3 in Appendix). Data on the ‘activity status’ of individuals was gathered for the first time in the 1881 Census, but comparable data on work is available only from the 1961 Census. The Census defines work as *participation in any economically productive activity with or without compensation, wages, or profit*. Such participation may be physical and/or mental in nature. Work involves not only actual work but also includes effective supervision and direction of work. It even includes part-time help or unpaid work on farm, family enterprise, or in any other economic activity.

In the Census, the reference period for determining a person as worker and non-worker is one year preceding the date of enumeration. Those who pursued ‘economic activities’ of one nature or another, for more than 183 days in a year, were identified as ‘main workers’. Those who worked for less than 183 days were designated as being ‘marginal workers’, and those who did not engage in any form of activities were considered as being ‘non-workers’. Therefore, ‘Total Workers’ is the sum of ‘Main’ and ‘Marginal’ Workers. Total Population figures as well as the number of workers under ‘main’, ‘marginal’, and ‘total’ are arrived at through complete enumeration.

Comparable WPR for both males and females using Census data can be obtained for both rural and urban areas up to ward and village levels from the 1961 Census. Workers since 1971 are classified into main workers, marginal workers, non-workers, and those marginal workers seeking/available for work by age (age groups 5–9, 10–14, 15–19, 20–24, 25–29, 30–34, 35–39, 40–49, 50–59, 60–69, 70–79, 80+ and also for 15–59, 60+ and 80+), social groups (SC, ST and others), and religious groups (Hindus, Muslims, Christians, Sikhs, Buddhists, Jains, and others). The WPR of religious groups and across marital status<sup>25</sup> is available in the public domain only from 2001 Census for total, rural, and urban areas at the state level (not district level).

**National Sample Survey** gives estimates of WPRs. Workforce figures in NSS are estimated using Census segment-wise population projections and NSS segment-wise worker population ratios (usual status).

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<sup>25</sup> Never-married persons refer to ‘single’ persons consisting of all persons who have not married, i.e., bachelors and spinsters. The second group of ever-married persons refer to all those, who have married at least once (may or may not be currently married), and will have currently married persons, widowed, and divorced/separated persons.

*Workforce Participation Rates* can be calculated using the NSS data for total workers in usual status (principal + subsidiary), usual principal status (ps) as well as current weekly status (cws) and current daily status (cds). Since unit level data is available in the NSS, it is also possible to calculate gender disaggregated WPR by age groups, education, social groups (SC, ST, OBC, and others), etc., across rural/urban in all states and UTs.

**National Family Health Survey:** NFHS has collected work status of women across rounds but in the first and second rounds it was restricted to married women.<sup>26</sup> The third round (2005–06) collected information of work status from unmarried women as well as male respondents, unlike the previous rounds, and also gave more detailed information with respect to women's work.

In the NFHS, work is defined as any kind of job for which the woman is paid in cash or in kind as well as unpaid work on a family farm or business. There are three categories for workers in NFHS-3: '*currently employed*' defined as those having done work in the past *seven* days and also included persons who did not work in the past seven days but were regularly employed but were absent from work due to leave, illness, vacation, or any other such reasons); '*not currently employed*' persons who were employed at any time in the 12 months preceding the survey, but had not worked in the past seven days, and '*not employed in the 12 months preceding the survey*'.

*Gender Gap in WPR* can only be estimated by NFHS-3 as data is available on both men's and women's employment status (currently employed; not currently employed; and not employed in the twelve months preceding the survey) according to age categories (15–19, 20–24, 25–29, 30–34, 35–39, 40–44, 45–49); residence (rural, urban); education (no education, less than 5 years, 5–7, 8–9, 10–11 and 12 or more years completed); marital status (never married; currently married; widowed/divorced/separated/deserted); number of living children( 0, 1–2, 3–4, 5 or more); and wealth index ( lowest, second, middle, fourth and highest).

#### **4.1.3 Indicator 3: Women in Unpaid Economic Work or Paid Work Participation Rate**

Large numbers of women in India are invisible as workers as they are mostly engaged in unpaid work as 'helpers' in household enterprises. Economic data related to employment has clearly indicated the low levels of female work participation rates in India, but the extent of unpaid work participation is not depicted clearly by any of the national level data sources. Only when the magnitude of unpaid work is known can the Paid Work Participation Rates (PWPR) be determined, and only then the extent of economic independence and independent economic status of women.

The NSSO gives us data on women engaged as 'helpers'. The Census has a 'class of worker' categorized as 'family worker' which in most cases would be family members helping out in economic activities. These would include women and children 'helping' with ploughing, sowing, harvesting, and collection of farm produce; engaged as unpaid family workers in household industries, etc. The Population Census counts 'family workers' either as main or marginal workers. However, these categories are not recorded separately. NFHS also give data on unpaid

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<sup>26</sup> NFHS-1 has distribution of ever-married women age 13–49 and NFHS-2 of 15–49 years by work status.

work but is limited to ever-married women except in the third round. Thus, the only source of data for unpaid work for all women is NSS.

**National Sample Survey:** The unpaid work of women in NSS does not refer to domestic work such as cooking, cleaning, and child care, but to economic activities performed as ‘helpers’ generally in household enterprises. These include all the market activities in production of goods and services for exchange, as well as non-market activities which result in production of primary goods for own consumption or relate to the own-account production (construction of houses, wells, etc., and also construction of any private or community facilities free of charge), or in the capacity of either a labourer or a supervisor.

Though NSS does not publish any data on unpaid workers who are included under the category of self-employed, one can calculate the quantum of unpaid workers by rural and urban areas, and across age, education, marital status and socio-economic divisions from unit level data available since the 38th round.

**National Family Health Survey:** NFHS-2 and 3 give information with regard to whether women who are employed (any time during the past 12 months before the survey), were paid in cash or kind, or ‘not paid’. This could be disaggregated by socio-economic and other parameters.

#### **4.1.4 Indicator 4: Proportion of Women Workers with Higher Education/Skill Levels**

Successful completion of higher levels of education should lead to greater work participation and potentially lead to better work opportunities. We consider women workers with higher education/skill levels as ‘those who have either completed secondary education or above (under the general stream from *secondary, higher secondary, diploma/certificate course, graduate, and post-graduate, and above*) or those with technical or vocational education.’<sup>27</sup> The major sources of data giving us information on workers disaggregated by education levels are the Population Census and the NSSO.

**National Sample Survey:** The NSS gives data on demographic particulars like education level attained for all those who are employed. The categories at present are (not literate ... secondary, higher secondary, diploma/certificate course, graduate, post-graduate, and above). Though published data is limited to broad disaggregation, unit level data enables analysis at disaggregate levels though sample size is a limitation.

The Employment Unemployment Survey rounds of NSS have collected information on education levels of the population from the first quinquennial round (1972–73). But there have been some changes with regard to certain concepts. For example, until the 60th round ‘type’ of education had only two categories, general and technical; while in later rounds, there are three categories: general, technical/ professional, and vocational education. NSS has collected detailed

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<sup>27</sup> A skill can be learned on the job or through formal training. An avenue for acquiring formal skills-related training in India are the Industrial Training Institutes (ITIs) and the Industrial Training Centres (ITCs), both of which are under the Ministry of Labour and Employment. In recent years, greater emphasis on vocational training has also been emphasized in the educational policy.

information on whether those surveyed were receiving/received formal vocational training from the 60th round (Jan–June 2004), followed in the 61st, and 64th rounds.<sup>28</sup>

In the 66th and 68th round (July 2009–June 2010) information on ‘whether receiving/received any vocational training’ was collected for persons of age 15–59 years. It gave distribution (per 1000) of persons (separately for males and females) in the age group 15–59 who received/receiving formal vocational training by duration of training (less than 3 months, 3–5 months, 6 months– 1 year, more than 1 year) for each field of training; similarly, those who received/receiving formal vocational training by field of training for each broad usual principal activity status; similarly who received/receiving formal vocational training by source of training for each broad usual principal activity status.

From NSS data, proportion of women workers with higher education levels (out of all women workers) across rural and urban areas for all states and UTs, and also across socio-economic categories can be worked out.

**Population Census:** The Population Census gives data on main and marginal workers disaggregated by education level attained (higher secondary, graduate and above, post-graduate degree other than technical degree, and technical degree or diploma equal to degree or post-graduate degree in engineering and technology, medicine, agriculture and dairying, veterinary, teaching, others) for different age groups (15–19, 20–24, 25–29, 30–34, 35–59, 60+) and is available separately for males and females, region-wise (rural/urban). Data on workers cross classified by education levels attained is available from the 2001 Census onwards.

The Census since 2001 has also included ‘vocational’ to the type of educational institution attended, and makes available data on attendance in such institutes, for both males and females in various age groups (0–4, 5, 6 ... 19, 20–24, 25–29, 30–34, 35–59, 60+). It also brought out data on females with ‘Technical diploma or certificate not equal to degree’, and those with ‘Technical diploma or certificate equal to post-graduate degree’ working as ‘main workers’, ‘marginal workers’ and as ‘non-workers’.<sup>29</sup>

#### **4.1.5 Indicator 5: Migrant Women’s Participation in Employment**

There has been movement or migration of people from their place of origin to other areas within the country as well movement out of the country for various reasons, one of them being in search of better job/employment opportunities. Migration could take place from one village to another, from village to towns, and from towns to cities, or directly from villages to cities, or to large urban agglomerations (UA).

The proportion of ‘migrant women in employment’ can be computed by dividing the total number of migrant women workers by the total number of migrant women in the population.

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<sup>28</sup> NSSO also gave data on field of training (mechanical engineering trades, electrical and electronic engineering trades, beautician, hairdressing and related works, work related to childcare, nutrition, pre-schools and crèche and others) and source from where diploma/degree/certificate was obtained (ITI, ITC, polytechnics, hotel management institutes, nursery teachers training institutes, nursing institutes ... and so on) as well as duration of training.

<sup>29</sup> Under non-workers, those who were seeking/available for work is also made available.

Census and NSS which are the macro data sources on migration collect data on reasons for migration with respect to predefined categories following a mono casual approach and thus records only one reason. Due to socio-cultural reasons, women tend to under-report employment and over-report marriage as reason for migration. As a result, the data pertaining to reasons for migration cannot be used to understand the employment aspect of migration.

**Population Census** classifies migrants into two: by *place of birth* if a person enumerated is at a place (village or town) different from her/his place of birth and by *place of last residence* if a person had last resided at a place other than her/his place of enumeration.<sup>30</sup> Though data on migration was collected from the first Census of 1872, comparable data on migration and economic status is available only since 1981. The sex-wise disaggregated data is available up to the district level, across age groups classified by main and marginal workers, and industry.

**National Sample Survey:** NSSO defines a ‘migrant’ as those whose last usual place of residence (UPR) was different from the present place of enumeration.<sup>31</sup> The UPR of a person is defined as a place (village/town) where the person had stayed continuously for a period of six months or more.

NSSO began collecting migration data from the 9th round, as part of its employment and unemployment enquiries. In the 9th (May–August 1955), 11th (August 1956–January 1957), and 12th rounds (March–August 1957) of survey, migration particulars were collected for the labour force population only. From the 13th round (September 1957–May 1958) onwards, more detailed information on migration was collected. In the 18th round, survey on migration was conducted on a much larger scale, and also in the 28th round (October 1973–June 1974), migration particulars of the usual members of the sample households was collected. From the 38th round, it became part of the quinquennial EUS rounds. This was followed in the 43rd round (July 1987–June 1988), 55th (July 1999–June, 2000), and in the 64th round (July 2007–June 2008). Data on migration was also collected in the 49th round (January–June 1993). NSS gives activity status-wise data for males and female migrants, and these are available since the 38th, followed by 43rd, 49th, 55th, and the 64th rounds.<sup>32</sup> Since raw data is available, estimates of WPR for

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<sup>30</sup> Data on migration is collected from the first Census of 1872. However, information collected was confined to the place of birth of the individual. In 1961, the ‘rural or urban status of the place of birth’ and ‘duration of residence at the place of residence’ was included. From the 1971 Census, information on migration by place of last residence (in addition to place of birth) was also collected. Since 1981, ‘reasons for migration’ was also collected and the following two Censuses did not have any change with respect to migration particulars except that in 2001 the rural/urban status of place of birth was not collected. The category of ‘natural calamities’ as a reason for migration was also dropped and ‘moved at birth’ added. Under questions on migration, until 2001, only names of present district, state, and country was collected, but from 2011, the name of village/town was also added.

<sup>31</sup> NSS has two categories of migrants, namely ‘migrant’ and ‘short-term migrant’.

<sup>32</sup> Like Census, NSS also collects data on reasons for migration which has expanded over rounds, from 13 reasons in the 55th round to 18 reasons in the 64th round. The reasons in the 64th round included ‘in search of employment’, ‘in search of better employment’, ‘business’, ‘to take up employment/better employment’, ‘transfer of service/contract’, and ‘proximity to place of work’ (which were all employment related reasons). The other reasons were, ‘studies’, ‘natural disasters’, social/political problems, displacement by development project, acquisition of own house or flat, housing problems, healthcare, post-retirement, marriage, migration of parent/earning member of the family, and others. However, NSS, as in the case of Census, follows a mono-casual approach and hence under-represent migrant women’s employment.



migrant women could be disaggregated across socio-economic (religion, social groups, and MPCE class) categories.

#### **4.1.6 Indicator 6: Short-term/Temporary Migration among Women**

A substantial number of migrants in India are temporary migrant workers. Depending on the period for which a household or individual has moved away from his/her usual place of residence, migration may be 'long-term' wherein there is total relocation, or 'short-term'. They may have moved from their usual place of residence for a short period of time in search of work, and it may be common among socially and economically weaker categories, such as the Scheduled Castes or Scheduled Tribes with poor educational attainment, and assets and resources.

NSSO is the only national level data source which gives information on short-term migration.

**National Sample Survey:** Short-term migrants are recorded from the 55th round, and the scope was enlarged in the 64th round. NSSO (55th round) had defined persons who stayed away from their villages/towns for 60 days or more for reasons relating to employment as 'persons temporarily staying away for employment'. The scope on short-term movement of the household members was extended in NSS the 64th round, with collection of information on those short-term movements which were undertaken during last 365 days for 30 days or more, but less than 6 months for employment related purpose, including collection of information on destination during the longest spell, industry of work, etc.

Unit level data is available for both the two rounds which make gender-wise estimates possible across many important parameters though the sample size is an important limitation. Reliable data is available from both the rounds on the gender-wise distribution of short terms migrants across usual principal activity status (self-employed, regular employees, casual labour, unemployed, and not in labour force), social category (SC, ST, OBC, Others), general education level, and economic level (MPCE class). The 64th round covered short-term migrants in detail and has brought out *short-term migration rates*, seasonality in the *short-term migration*, destination of the *short-term migrants*, usual activity status of those undertaking *short-term migration*, and industry of work for those who worked during *short-term migration*.

#### **4.1.7 Indicator 7: Gender Gap in Domestic Work Burden**

Women share a disproportionate burden of 'household' or 'reproductive' work which comprises of unpaid domestic work and care activities of the aged, the infants as well as the sick members in the family. This work is not looked upon as productive work though it is well acknowledged that domestic work burden of women imposes severe constraints on women's economic participation as well as their choice of employment. Gender gap in domestic burden could be expressed in two ways. The first is the difference in the participation rate of men and women in house work (unpaid housework and care work), and the second is the difference between men and women on the time spent on such work.

NSS collects data from women who do not report themselves as workers on their status through activity status codes 92 (attended domestic duties only) and 93 (attended domestic duties and was also engaged in free collection of goods, sewing, tailoring, weaving, etc., for household use). However, NSS does not collect data on domestic work for those who are employed or for men. Though one can estimate the number of non-worker women who are engaged in domestic work, no information on their actual time use is available.

The Time Use Survey (TUS) conducted by the CSO (Central Statistical Organization) is the only survey available on house work/care work and its gendering which was conducted in 1998–99. This was a stand-alone exercise, and covered six states (Haryana, Madhya Pradesh, Gujarat, Odisha, Tamil Nadu, and Meghalaya).<sup>33</sup> Data was collected from 18,591 households and 77,593 persons of whom 40,187 were males and 37,406 were females in the age group of 10 years and above. Information was collected on the details of time use for all household members in the selected households in respect of three days during the reference week—a ‘normal’ day, ‘abnormal’ day, and ‘weekly-variant’. The information was collected through three sets of schedules: one for collecting data on household characteristics, the second on individual characteristics, and the third on the time disposition of selected individuals. Though the time division was open ended in the questionnaire, the respondents were asked to list the activities in one-hour slots from 3.00 am in the morning to 4.00 am the next day. Classification of activities provided for 176 activities grouped into nine major groups and 16 two-digit sub-groups. The two major activity categories which provide data on unpaid house work are household maintenance; management and shopping for own households and care for children, elderly, and disabled of own household. Limited disaggregation is possible within these broad categories across sub-categories of work. Both participation rate in household work and gender gap in time spent on house work could be estimated from the TUS data. Since unit data is available, analysis across various household and individual characteristics such as social group, household size, age, employment status, and so on is also possible.

#### **4.1.8 Indicators on ‘Economic Opportunities’: Limitations and Comments**

Data sets on many indicators concerning economic opportunities are limited to NSS and Census data. Except for these, the other sources do not capture women’s work or employment effectively. For example, the sample design of NFHS imposes certain limitations. The emphasis is primarily on health and fertility aspects of ever-married women and aspects related to work are collected only with the aim of giving ‘background information’ of respondents and the sample design is more tuned towards capturing data on various health parameters. Hence, the estimates of work arrived at by the NFHS may not be comparable to Census and NSS.

The data provided by both NSSO and Census on women’s economic opportunities are reliable and the quality of data has improved over time. The Census is a much more reliable source of information with regard to the ‘work participation rate’ in the country than the NSS employment surveys since it is complete enumeration. However, the definition of work followed by Census is an issue with reference to women’s work. The definition of economic activity used in the Census

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<sup>33</sup> The results of a second pilot survey are expected in 2014.

does not cover: (i) growing of plantation crops, vegetables, flowers, and other crops, if done exclusively for home consumption, and (ii) own account production of fixed assets. This under-enumerates women workers. However, since Census 2001, the definition of economic activity has been expanded to include some of the above mentioned activities. Such changes can make times series comparison difficult and appropriate adjustments may have to be performed on the data. Further, the Census data are not able to capture the seasonal and intermittent nature of work characteristics of India (though disaggregation of marginal category in 2011 is useful).

The conceptual aspects as well as depth of information on various aspects of work status of individuals and related variables are more comprehensive in NSS. The NSS definition of work is more inclusive than Census and because of this NSS data is often considered to be the best source of data to capture women's economic opportunities. Thus, with respect to work and female work participation rates, NSS data is regarded as superior. However, the definition of work followed even by NSS under-estimates women's work and the same has been raised by many scholars.

The division between economic and non-economic activity followed leads to under-reporting of women's work, especially that of self-employed women. The gross underestimation is also due to the inherent and overlapping nature of women's work with domestic duties (and also being mostly home-based and therefore invisible), socio-cultural reasons, as well as the 'perception' of what is work. Further, many economic activities carried out for the household such as processing of agricultural products for own consumption and collection of food, water, and fodder are not counted. None of these sources provide information on women's housework which helps in unpacking the intersection between paid and unpaid work. While the Census may have its limitations in terms of collecting detailed information on women's work, NSS being a sample survey could be redesigned to provide basic data on women's work including that of house work. At present, NSS collects some broad information from women who report domestic work as their primary activity. The scope of this could be extended at least in alternate surveys to include housework as a separate activity and related data could be collected from all persons irrespective of their status as a worker or not.

This could be supplemented by time-use surveys which at present are given least priority. Without understanding the housework and its gender dimensions, one cannot fully analyse women's work and its various dimensions. The data needs to be generated at fixed intervals and a gap of 10 years seems practical and which assures continuity in information.

The extent of unpaid work within economic activities is high for women and it is an important indicator of women's independent status (Neetha and Mazumdar 2010). The only source of data currently available to compute and understand the magnitude of unpaid women workers is NSS. Though the Census captures this dimension it does not record or report it separately, which needs to be undertaken in the future.

Data on female migration and work is clearly inadequate as a mono-causal approach without any probing questions is used to elicit information on migration. Since Census captures many demographic dimensions of migration, NSS migration rounds could focus on other dimensions of migration. Though labour migration has been the focus of NSS rounds, female labour migration is largely neglected. Multiple responses may be allowed with regard to reasons for migration to capture primary and secondary reasons of migration. Further, probing questions on

female labour migration such as cost of migration, source of finance, recruitment agencies, etc., could be included in the survey which would reveal gendered dimensions of migration decisions.

An important issue with unpaid housework is the lack of data. Except for 1998-99 TUS survey, there has been no data on this aspect which is a critical variable as far as women's entry into employment and position in the society is concerned. The issue of multiple work and simultaneity in activities are some of the methodological concerns raised in the context of the survey. In case of simultaneous or multiple activities, total time was divided across various activities on the basis of their relative importance as reported by the informant. Given the social understanding of housework and its undervaluation even by women, this approach is prone to underestimation of housework. The priority given to economic work over non-economic activities in its approach adds to this underestimation further. Thus in the case of economic and non-economic activities being performed simultaneously, priority was given to economic activities in deciding their importance.

## **4.2. QUALITY OF WORK**

Workers may be engaged in organized or in unorganized sector, or in formal or informal employment. Many workers in the organized sector avail benefits such as eligibility for paid leave, provident fund (PF), pension, gratuity, healthcare, maternity benefits, etc. In addition, they may also receive the opportunity to upgrade skills through sponsored training, provided with leave and home travel allowance, education support for children, and other benefits which may differ from employers to employees and across industries. In addition to the above mentioned benefits, 'quality of work' is determined by the existence of written contracts, notice period before termination, and specific work hours. But all workers in the organized sector may not be eligible for benefits, particularly workers in the organized sector employed on 'casual' basis, thus indicating that even those working in organized/formal sector may be engaged as workers without benefits. The status of employment, whether self-employed, in regular or in casual work also, to a large extent, determines the quality of work.

### **4.2.1 Indicator 1: Informality Ratio (Women in Informal Employment)**

In the last few decades, the informal sector has become the main avenue for work for all sections of people, particularly for the poor across countries because of lack of employment opportunities in the formal sector. According to National Commission for Enterprises in the Unorganized Sector (NCEUS 2006) definition, 'Informal workers consist of those working in the informal sector or households, excluding regular workers with social security benefits provided by the employers, and workers in the formal sector without any employment and social security benefits provided by the employers'.

In India, informal sector and unorganized sector employment are used synonymously to include both informal non-farm and farm employment. The 'informality ratio' which gives an idea of the extent of women in informal employment can be obtained by dividing women in informal

employment by total women workers. NSSO is a major data source giving data on informal sector employment.

**National Sample Survey:** Till the 55th round of NSS there was no effort to capture informal sector employment separately. The method of estimating informal sector employment was based on the residual method. In the residual method, estimates of employment in the organized sector obtained from the DGET are subtracted from the total employment figures provided by Census or NSS. In this method, though one is able to estimate proportion of women in the unorganized sector, no further disaggregation is possible.

In the 55th round (1999–00) of the NSS survey, data related to informal sector was collected separately. To capture the various dimensions of the informal sector, the survey followed both an enterprise approach and labour force approach.<sup>34</sup> It is possible to estimate the size of informal sector employment from this round onwards. The informality ratio or proportion of women in informal employment can be computed by using NSS data/unit level data following the NCEUS methodology. The ratio can be disaggregated across social and economic groups, and across individual characteristics.

#### **4.2.2 Indicator 2: Proportion of Women in Home Based Work**

According to the International Labour Organization (ILO), Home-based Work (HBW) is the production of goods or provision of services for an employer or contractor under an arrangement whereby the work is carried out at a place chosen by the worker, often the worker's own home, without any direct supervision. It does not refer to unpaid housework or paid domestic work. There are two basic types of home-based workers: the self-employed who work on their own, and those who work for others (mostly industrial outworkers). The latter, termed 'home worker' carry out paid work from their homes and are commonly paid at piece-rates. Conceptual and statistical distinction between the two categories is essential for better policy making and for improving conditions and reducing exploitation of women workers who are increasingly subsidizing production costs across countries.

NSSO is the major national level data source giving data on home-based workers in India. NFHS also gives some information with regard to 'place of work'. It asked employed women who they were working for (for a family member; for someone else; or self-employed) and also their place of work (at home or away from home). But NFHS only covered all ever-married women 15–49 years in its first two rounds and never-married and ever-married in the third round. Thus, many in the working group ages may remain excluded.

**National Sample Survey:** Though NSSO collects information on self-employed in all its employment rounds, no estimation on home-based work separately was possible in the earlier rounds. It was only in the 55th round,<sup>35</sup> when some questions on the location of workers were

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<sup>34</sup> All unincorporated proprietary and partnership enterprises were defined as informal sector enterprises.

<sup>35</sup> In the 55th NSS round certain questions were included which helped to separate home-based workers, home workers and street vendors. This was done through the introduction of questions on the place where the worker

canvassed, that there was a possibility of calculating home-based work separately. However, the same was dropped in the 61st round. These questions were re-introduced in 66th round,<sup>36</sup> but some of them, especially on sub-contracting, were later dropped from the 68th round. Thus, the information available on home based workers is richer in the 66th round in comparison to that of the 68th round.

#### **4.2.3 Indicator 3: Share of Women in Feminine Jobs**

Patriarchal ideologies has created and sustained sexual division of labour and further normalized ‘men’s and ‘women’s work. Some of the dominant occupational choices of women or specific jobs/professions that have been associated with women include those like ‘nursing’, ‘teaching’, and ‘paid domestic work’. Share of women in feminine jobs could be defined as the proportion of women in the total employment for sectors/occupations that are female dominated. The NSSO is the only national level data source from where data on distribution of female workers and their share across occupations and industry groups can be obtained.

**National Sample Survey:** In all EUS rounds the NSSO has brought out data on specific occupations in which male and female workers are engaged. The NSSO gave distribution of usually working (usual status) persons by industry of work and occupation since the 27th round, though the number of specific industry/occupation of work has expanded over rounds with revisions in National Informatics Centre (NIC) and NCO. However, disaggregated data for certain industries/occupations for which no published data is available, such as nursing, can be computed only in later rounds as unit level data is available. Sectors/occupations which have gained visibility and attention are incorporated into the data collection with due changes in the NIC/NCO codes across survey rounds. Hence, concordances across surveys for activity/occupation codes are required for comparison across time. Further, for some sectors/occupations, such as domestic work, comparable data is available only from the 55th round.

Like in the case of any other statistics based on NSS data, disaggregation across a number of variables is possible for rural and urban areas separately, but sample sizes do impose restrictions for multiple disaggregation.

#### **4.2.4 Indicator 4: Gender Wage Gap**

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carried out his/her economic activity, the nature of the contract (if working with in a sub-contract relationship) such as receiving the design, raw material, credit, and equipment along with the order for the product/service.

<sup>36</sup> The 66th round of NSS enquired about locations of workers in principal as well as subsidiary status. Many codes were provided for location of workforce of which ‘own dwelling unit’, ‘structure attached to own dwelling unit’, ‘open area adjacent to own dwelling unit’, ‘detached structure adjacent to own dwelling unit’ are all associated with place of work in home-based work. It enquired as to whether ‘worked under given specifications’ and also who provided credit/raw material/equipments to capture the subcontracting of work.

Workers engaged in similar kind of work with equal skill levels are paid differently across states, and discriminated by gender and by socio-economic categories. Gender wage gap varies between rural and urban regions, and across states. Gender wage gap may be defined as the average wage difference between male and female workers. While there are many sources of data on rural wages, NSS is the only survey based national level data source that provides regular data on wages in India (others like the Labour Bureau provides limited data). Wages and earnings of rural workers are available from four sources in the form of five different estimates. The sources are Agricultural Wages in India (AWI), Rural Labour Enquiries (RLE), NSS, Cost of Cultivation Studies, and finally Wage Rates in Rural India.<sup>37</sup> The concepts and definitions, periodicity of availability, and the level of disaggregation possible differ across these sources.

AWI data is the oldest data, available from the early 1950s. The wage data has been collected since the early 1950s and separate wage rates are available for males, females, and children. But the definition of agricultural labourer as well as the definition of wages is often criticized for lack of clarity. RLE data are available at a gap of five to six years as they are based on NSS quinquennial rounds. This data is considered superior to the AWI data because of their superior sampling frame and consistency in methodology as well as definitions and concepts. Reliable and comparable data is available from 1977–78 onwards. NSS estimates are again based on the same source and the data is made available across activity status which are code 31 (regular/salaried), 41 (casual workers in public works), and 51 (casual workers in other works). Wage Rates in Rural India are published by the NSSO and Labour Bureau which have been collected since 1986–87 and the data is available annually. However, the data has considerable gaps in many states and for many operations, and this is especially the case with female workers. The last source of wage data is from the studies on cost of cultivation undertaken by the Ministry of Agriculture in association with various agricultural universities, and is available since 1971. There are several problems with regard to comparability (number of crops for which data is collected differ) in addition to periodical gaps in data collection. Added to this, wage data is not published regularly. An important aspect of this source is that the data include valuation of various inputs including human labour, which includes attached and casual labour as well as imputed valuation for family labour. Though no data is published separately for women, a lot of gender-sensitive information collected in these surveys needs further analysis.

Though there are many possible sources for estimating the wage gap in rural/agricultural wages, NSS is the only source of data for both rural and urban areas.

**National Sample Survey** in various EUS rounds has brought out gender disaggregated wage data for selected activity status of workers such as regular/salaried, casual workers in public works, and casual workers in other works. From the 38th round (1993–94) onwards, since unit level data is available it is possible to compute gender wage gap for all states and UTs both for rural and urban areas. Average daily wages (in Rs) and gender wage gap for regular wage/salaried and casual workers can be disaggregated by broad industry divisions, level of education (illiterate, literate up to middle, secondary, and higher secondary, graduate and above) social and economic groups, from the unit level data of the NSS. From the 66th round onwards, data on casual work is collected separately for MGNREGA workers.

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<sup>37</sup> The source of RLE and NSS are the same.

The ***Labour Bureau***: The Labour Bureau has conducted Occupational Wage Surveys in six rounds from 1958–59 covering the organized sector. The occupational wage survey rounds were held in 1958–59, 1963–65, 1974–79, 1985–92, 1993–2002, and the sixth in 2002–09 (published in 2010). It has brought out occupational wage differentials by industry in different geographical regions. Average daily earnings by sex and age (of men, women, adolescents, children, and overall) for a number of industries classified under four sectors (manufacturing, mining, plantation, and services) is available.

***Annual Survey of Industries***: The ASI was launched in 1960 with 1959 as the reference year and is continuing since (except for 1972). The ASI extends to the entire country and covers all factories registered under the Factories Act, 1948, that is, those factories employing 10 or more workers using power; and those employing 20 or more workers without using power. The data gives information on the average daily employment of male and female workers as well as wages/salaries per man-day worked for all employees/all workers/male workers/female workers, and contract workers. Though it publishes data on wages of female workers, the data is not disaggregated across contract and regular workers. ASI provides unit level data in the summary format from 1974–75, but detailed unit level data is available only from 1983–84. However, since the focus of the survey is on the enterprise, no personal background characteristics of the workers are available.

#### **4.2.5 Indicator 5: Distance Travelled to Work Place**

Distances travelled for reaching the work place is an important determinant of work participation for women.

***Population Census***: The Census collected information on the distance travelled by a person to his/her work place and also mode of travel for persons engaged in non-agriculture activities for the first time in 2001. In 2011, ‘travel to place of work’ and one way distance from residence to place of work was also collected.

***National Sample Survey***: In the 50th round, NSS collected data on distance to place of work in kilometres (less than 5, 5–20, more than 20 km) across the following categories: in the same village/town, in another village, in another town. However in its later round no such data was captured. In the later rounds it gives data only on place/location of work.

#### **4.2.6 Indicators on ‘Quality of Work’: Limitations and Comments**

Data on quality of employment has improved over time with improvements in NSS concepts and its coverage. The most important aspect is the possibility of directly estimating the size of the informal sector since the earlier residual method had limitations. As it is not mandatory for private enterprises employing 10–24 workers to file information, data on extent of formal employment is clearly incomplete which leads to an underestimation of the organized sector workforce. From the 55th round of NSS it is possible to combine both the sector concept and the employment concept to distinguish the organized/formal from the unorganized/informal. However, since NSS follows a gender insensitive definition of work, underestimation of women



in the informal sector is bound to be high. Further, the methodology followed to estimate informal/unorganized sector is complicated and indirect, which limits the easy estimation of the indicator.

The Annual Survey of Industries provides data on India's factory sector, that is, the organized manufacturing sector. The data on employment are presented under three heads: workers directly employed; workers employed through contractors, and employees other than workers. Among directly employed workers, data are disaggregated by sex. However, the same is not the case for contract workers. Given that contract workers are growing in numbers, and those who are vulnerable and women are likely to form a sizeable proportion of contract workers, it is important that gender-disaggregated data on contract workers be provided. On wages also, there is no disaggregated data by gender in the ASI, which needs to be provided separately for directly employed as well as contract workers.

Though the importance of generating data on home-based workers is well acknowledged, the data pertaining to it is still not adequate. Unless appropriate questions to capture these are canvassed (particularly about existence of contracts, etc., in the case of home workers) one would not get a clear picture of the various dimensions of home-based work. Dropping of question on sub-contracting reduces the scope of home-based work and this should be retained in all the further rounds of NSS surveys.

Sex-based sectoral/occupational disaggregation can be captured effectively from the NSS unit level data at various levels. However, since changes in the labour market are often rapid and the official revision in NIC and NCO takes time, a gap is often felt in documenting these changes which delay required interventions.

Wage data on non-farm informal sector is limited and at present NSS is the only source of data on this sector. NSS does not collect data on the earning of self-employed, though some attempt was made in the recent rounds to capture this dimension. Since self-employment is an important sector of women's employment, regular data on earnings of self-employed across various categories, such as home based workers, subcontract workers, and employers, need to be captured.

At present, no data source captures the actual duration of employment and average working hours. Working hours, though regulated, are rarely enforced. There could be gender difference in average working days and working hours determined largely by socio-cultural and economic factors. For women, enhanced working hours may hinder their entry into employment or lead to breaks in employment. NSS surveys on employment need to pay attention to this aspect. Further, ASI data could also collect data on hours of work a year for men and women workers—directly employed as well as contract workers.

Another field of women's presence in employment, which has been often projected as major outcome with the expansion of the private sector, is women occupying leadership roles or corporate level positions. Micro level insights point to the extreme inequality between the sexes in corporate level positions. However, no data is available on corporate gender gap. Data in respect of board level positions occupied by women is available for publicly listed companies. This data could be collated from various private enterprises.

Many women workers are denied minimum wage,<sup>38</sup> though studies have shown that minimum wage provisions can help in substantially reducing poverty, inequality, and also the gender wage gap. In India, there is no legally binding national minimum wage at present, but only compulsory state-level minimum wages for a number of occupations.<sup>39</sup> No data on the number of women who get minimum wage is available even from NSS data though indirect methods are used to arrive at some estimate, which is open to debate. With the growing importance of casual and contract work for women, there is a need to closely monitor this indicator which is one of the basic rights at work. NSS survey schedules could be modified accordingly.

Career/Job break in women's work life is common given women's lifecycle and their reproductive role. Such breaks often affect their presence and bargaining at workplaces. Average career breaks also gives indications on women's care work burden and can give insights for advocating public provision of institutional care facilities. However, no such data is available at present. This needs to be addressed. NSS can cover this in the section on employed as well as on unemployed.

Distance travelled to the workplace is again an important variable that has gender implications. Though NSS canvassed a question on this in the 55th round, subsequent rounds did not capture this data. NSS needs to include this in the subsequent rounds.

### **4.3. SUPPORT SERVICES AT WORKPLACES AND ACCESS TO SOCIAL SECURITY SCHEMES**

The Indian government has enacted many laws to protect and promote interests of workers but it is relevant only to the organized or formal sector. In the case of the unorganized sector, as per National Commission for Enterprises in the Unorganized Sector (NCEUS), only about 8 % of all workers had any statutory protection against such risks as sickness, maternity, disability, and old age, through various central and state level legislations on conventional social security (NCEUS, 2006).

#### **4.3.1 Indicator 1: Proportion of Women having Access to Long Term Employment and Paid Leave**

More than wages, access to minimum conditions of work are important indicators of quality of employment. Women are known to be employed in precarious jobs with no permanent or regular contract, and access to basic conditions at work such as paid leave.<sup>40</sup> The data on these heads are

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<sup>38</sup> The Minimum Wages Act of 1948 governs the fixation of minimum wage rates on a per day basis. It is extended to the entire country and is revised within a period of not less than five years, with a provision to increase dearness allowance every two years.

<sup>39</sup> Some occupations are still outside the ambit of minimum wage. For example, minimum wage for domestic work is not fixed in many states.

<sup>40</sup> Paid leave means an employee can avail certain number of paid holidays in a year and would still receive for those days the same amount that he/she receives on a regular working day. It includes casual leave, sick leave, maternity leave, etc.

highly limited and NSSO is the only source of data that could be used to get any statistics on these.

**National Sample Survey:** Since its 55th round NSS collects some data on nature of employment. In this round a question was asked to ascertain the status of employment as permanent or temporary. From the 61st round onwards, information on type of job contract was collected; the categories being: no written job contract—1; written job contract: for 1 year or less—2, more than 1 year to 3 years—3, more than 3 years—4. Information on eligibility for paid leave was also collected for all those who were in regular or casual work from the 61st round onwards, and this has been followed in the subsequent survey rounds, and in the 66th and 68th rounds also for persons within industry groups 012, 014, 015 and divisions 02–99 and within this for codes 31, 41 and 51 which represented ‘formal sector employment’. Eligibility for paid leave can be computed for male and female regular and casual workers across industry groups. Since unit level data for all these rounds are available, it is possible to disaggregate the data across many socio-economic variables.

#### **4.3.2 Indicator 2: Percentage of Women with Crèche Facilities at Work Place**

Child-care facilities are an essential support service for a woman who ventures out for work. Following the ILO conventions, Indian labour laws lay an obligation on employers in factories, mines, and plantations to provide maternity benefits and crèche facilities to women workers. According to Section 48 of the Factories Act, 1948, every factory, wherein more than 30 women are ordinarily employed, should provide and maintain a suitable room for the use of children under the age of six years of such women workers. This means that the right to crèche facilities is applicable only to 3–4 % of women workers in the organized sector. National level data source covering all working women with/without crèche facilities at work places is currently not available. The only information pertains to administrative data collated as part of the Factories Act.

**Labour Bureau:** in its *Statistical Profile on Women’s Labour* publishes data on crèche facilities based on the annual returns filed under the Factories Act. In each of its reports, it has provided annual data on the number of factories providing crèche facilities across states and industry groups.

NFHS across its three rounds has asked questions to married women to ascertain who takes care of the youngest child of a woman who is working away from home. These include ‘husband’, ‘older boys’, ‘older girls’, ‘other relatives’, ‘neighbours’, ‘friends’, ‘servants/hired help’, ‘child is in school’, and institutional child care’. Institutional care comprises a range of institutions which could be outside the workplaces and hence cannot be used to generate any statistics related to workplace provisions.

#### **4.3.3 Indicator 3: Percentage of Women with Social Security Benefits**

Workers in the organized/formal sector may be covered under certain social security benefits or a combination of few benefits. However, many workers in the unorganized sector do not have access to many benefits, with a good proportion having no social security at all. Broadly, social security benefits can be classified as provident fund, gratuity, healthcare benefits, maternity cover, and pensions.

*National Sample Survey* is the only national level data source which gives information on coverage under social security benefits. NSS has captured data on provident fund availability since its 55th round. On provident fund, the following categorization was canvassed whether covered under Provident Fund: yes: GPF-1, CPF-2, PPF-3, combination of GPF, CPF and PPF-4 and -5. These questions were refined from the 61st round and information was collected on the following; eligible for: only PF/pension (i.e., GPF, CPF, PPF, pension, etc.) -1, only gratuity -2, only healthcare and maternity benefits -3, only PF/pension and gratuity -4, only PF/pension and healthcare and maternity benefits -5, only gratuity and health care and maternity benefits -6, PF/pension, gratuity, healthcare and maternity benefits -7; not eligible for any of above social security benefits -8, and not known -9. Thus, if a woman worker is not covered by at least one of these benefits then she can be taken as one not receiving any social security benefits which could makes it possible to compute the percentage of women workers with social security benefits. This statistics can be computed across industry groups for regular and casual workers and which can be disaggregated across social and economic variables.

#### **4.3.4 Indicators on Support Services at Workplaces and Access to Social Security Schemes: Limitations and Comments**

Though it is well acknowledged that many women are concentrated in the informal sector, the differential employment conditions within the informal sector are still poorly captured. Terms of work differ tremendously across different industry and segments of informal sector, and mostly women are over represented in the lower segments. The data on terms of work is not given adequate importance in the NSS employment rounds, though some data was made available recently. To address this limitation of the existing data, occasional special surveys with emphasis on the employment aspects of informal sector may be useful. No national level data covering all working women with/without crèche facilities at work places is currently available. The *Labour Bureau* provides some information, but does not cover all women workers in the organized sector and not even all factory workers, as the data is dependent on individual factories filing returns. It is recommended that a question on child-care facilities should be included in NSS surveys in the section covering social security benefits and availability of paid leave.

Even on social security, though some data is available, various approximations and calculations have to be made for ascertaining percentage of women with social security benefits. The disaggregate analysis is affected by the small size of women workers. Further, the data on social security at present merely gives the availability status and no information is available on the quantum of such benefits which has critical gender implications. It is important to capture the details of maternity benefit provision, as it is a major issue for women workers. NSS could collect detailed information on these, at least in alternate rounds.

#### 4.4. FINANCIAL AND OTHER FORMS OF ECONOMIC INDEPENDENCE

Economic status of women is interlinked with her financial independence and autonomy. However, data on these dimensions are absent or are highly limited.

##### 4.4.1 Indicator 1: Proportion of Women Having Access to Bank Accounts

Access to formal sector credit and savings facilities was outside women's radar for close to 50 years after independence resulting in their economic and social deprivation. The financial inclusion push in recent years has led to certain positive and women friendly policy measures.

Presently, none of the national level data sources give concrete data on percentage of women having access to bank accounts. NSSO gives data on number of households having accounts as well as number of accounts per household, but does not specify whether the account is in the name of males or females in the house. The Reserve Bank of India (RBI) is the only source that gives regular information on accounts of women through its Basic Statistical Return and the Small Borrowal Account Surveys. NFHS also has some data on women's access to bank accounts. NFHS-3 has collected information on whether the woman had a bank or savings account that she herself accessed. But the data is available only for women in age group 15–49 years.

**Reserve Bank of India:** *Basic Statistical Returns (BSR)* published by RBI makes it possible to calculate loan accounts for both men and women. The RBI began to publish data on women in the Basic Statistical Returns (published annually from early 1980s) from 1996 onwards.

The *Small Borrowal Account (SBA) Surveys* was initiated in 1997 and by 2008 seven SBA surveys had taken place. The BSR is based on an annual sample survey on composition and ownership pattern of credit and deposits in scheduled commercial banks. These surveys are conducted to obtain a profile of small borrowal accounts (accounts each with credit limit of Rs.2 lakh or less forming 88% of the number of loans) for which account-wise details are not collected through the BSR system. Information is available on an annual basis on the following heads:

(i) Number of deposit/loan accounts (and amount outstanding therein) in the name of women at the all-India, regional, and state level and (ii) Number of deposits/loan accounts (and amount outstanding therein) in the name of women at various types of branches (rural, semi-urban, urban, and metropolitan branches) and types of banks (public sector, private sector, foreign, and Regional Rural Banks).

Apart from this, on a periodic basis information is provided on (i) number of SBAs (and amount outstanding therein) in the name of women at the all-India level; (ii) number of SBAs (and amount outstanding therein) in the name of women belonging to Scheduled Castes, Scheduled Tribes, and other Backward Classes; (iii) number of SBAs (and amount outstanding therein) in the name of women under types of loan schemes (IRDP, Prime Minister's Rojgar Yojana, and

SGSY); (iv) occupation-wise distribution of credit taken by women in SBAs (agriculture, industry, trade, finance, and other professional services); (v) classification of credit taken by women in SBAs by size class of rate of interest; (v) number of SBAs (and amount outstanding therein) in the name of women under Kisan Credit Cards and other types of loans, from 2008 onwards.

#### **4.4.2 Indicator 2: Proportion of Women Having Control over Own Income**

Financial independence is determined by the extent of control one has over cash earnings/income. Despite participating in paid work, many women may have zero control over it as it may belong to the household. All decisions on expenditure may be taken generally by the male members of the family or head of the household. The only data source that gives some data on 'control over own income' is the NFHS.

**National Family Health Survey:** NFHS-2 for the first time collected data on women's autonomy with regard to the income earned by her. For women earning cash incomes, NFHS asked how and who decided the usage of money they earned. Those who decided spending of women's income were classified as (a) woman herself, (b) husband only, (c) woman with her husband, (d) decided by others in the household, and (e) woman with others in the household.

NFHS-2 gave percentage of ever-married women having access to money according to background characteristics for India and all states. The NFHS-3, apart from women's status, captured relative autonomy for understanding '*empowerment within marriage*'. Hence data was collected from male respondents also across categories: mainly wife, wife and husband, mainly husband, others. This allowed male– female comparison by background characteristics like age, residence, education, number of living children, household structure (nuclear, non-nuclear), religion, caste/tribe, and wealth index.

#### **4.4.3 Indicator 3: Percentage of Women Having Control over Consumption Expenditure**

Many women may have no voice in household decisions including major consumption expenditures like those pertaining to purchase of land and other assets, durable goods, education of children, and so on.

**National Family Health Survey:** The NFHS is the only data source that gives data on control over consumption expenditure. NFHS-2 gives data on percentage of ever-married women having some control over consumption expenditure from daily spending to other expensive items. NFHS determined control over consumption spending based on responses to who made decisions (only woman, only husband, jointly with husband, others in the household, and jointly with others in household) with regard to '*what items to cook*', '*obtaining healthcare for self*' and '*purchasing jewellery, or other major household items*'; NFHS-3 also covered the same information, but information was collected only from currently-married women.

#### **4.4.4 Indicator 4: Percentage of Women having Freedom to Support Natal Family**

Many women are unable to monetarily extend support to natal family after marriage even if they are employed and earn cash incomes. None of the national level data sources give explicit information with regard to this aspect.

NFHS-2 and NFHS-3 have a question '*are you allowed to have some money set aside that you can use as you wish*' which we can decipher as absolute freedom for spending including freedom to support natal family.

#### **4.4.5 Indicator 5: Ownership of Land/Agricultural Land by Women**

Ownership of land or having a piece of land in their name may give women a sense of security and independence. Hence, there were various debates on the necessity of independent land rights to women in recent years. The decennial Land and Livestock Holding surveys of the NSSO collect data on area of land owned and operated by households. Estimates of agricultural land and homestead can be separately obtained in the most recent survey (2003). The All India Debt and Investment surveys provide estimates of the net value of land owned by household. However, both these surveys consider a 'household' as the primary unit. Hence, there is no information on area or value of land legally owned by female members of a household. The only estimate that can be computed from unit-level data is the land area owned and operated, and value of land owned by female-headed households.

The other important source of data on land is the Agricultural Census. This uses data consolidated from the land revenue surveys of most states, and considers operational holdings as the primary unit. Hence, there is no disaggregated data for male and female title holders, as all land held by any member of a household constitutes a single operational unit.<sup>41</sup>

#### **4.4.6 Indicator 6: Ownership of other Assets like House/Property**

The second most important asset after land is housing. Data on housing are collected by the Census of India, NSSO Surveys, and National Family Health Surveys (NFHS). The Census of India collects data on ownership status of houses (NSSO and NFHS do not collect data on this variable), but the response is given as 'owned/rented/other. There is no information on the owner: whether it is singly or jointly owned and whether the women in a household have any ownership rights. Asset data is also available from the All India Debt and Investment Surveys (AIDIS) collected decennially by the NSSO but do not give asset ownership by gender but only of the household. NFHS-3 has also collected information on assets of the households and not the individual women. Certain smaller surveys have attempted to give an idea of asset ownership among women.<sup>42</sup>

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<sup>41</sup> Agriculture Census provides gender disaggregated information on operational holdings which include number and area of operational holdings (gender-wise data available for all social groups: Scheduled Castes and Schedules Tribes) by size classes. The state-wise distribution of number of operational holdings and area operated (gender disaggregated data for all social groups: Scheduled Castes and Schedules Tribes) by size classes is also available.

<sup>42</sup> *The Karnataka Household Asset Survey (KHAS)* conducted by IIM Bengaluru for the first time in India, collected asset ownership information at the individual level for an entire state (in both rural and urban areas of the state, and

#### **4.7. Indicators on ‘Financial and other Forms of Economic Independence’: Limitations and Comments**

Though BSR gives some data on women’s financial aspects, there are some heads on which gender disaggregated information is still not available. The BSR does not provide information on credit taken by women, either by occupation or by size class of interest rate. There is a need to widen the scope of the BSR and ensure that it provides gender-based information under all major heads. As discussed for certain heads on which annual information is not available from the BSR, some periodic information is available from the Survey of SBAs. However, the latter is published with considerable lags, which needs attention.

Data on land and assets is the most important missing data that can give insights into the economic independence of women. Given the need for women to have independent collateral and for asset security in general, some information on the status of property ownership status among females needs to be collected in future. It is possible to obtain data on land titles held by women from official land records. However, there has been no effort to consolidate or publish such data. It may be an extremely difficult task since land records for the whole nation are not yet digitized. Further, in the land title recording system the responsibility of mutation and registration of land titles lie with the land holder. Land records are often outdated and inaccurate when land holders do not report transfers in land title.

An attempt needs to be made to document ownership of assets among women. The NSSO should undertake a pilot survey on women’s ownership of assets, including land and housing drawing lessons from the Karnataka Household Asset Survey (KHAS).<sup>43</sup> Yet another data that is missing and important for understanding women’s position is the data on the ownership of livestock. A pilot survey on women in the livestock economy of India is suggested.

Data on decision-making and control over income and resources by women is highly inadequate and it is difficult to capture these through questionnaire based perception surveys which are large. Though NFHS gives some statistics on these, the reliability of this data is often an issue. To address this data gap, pilot women centric surveys with well-developed design and methodology may be undertaken to capture these dimensions occasionally.

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also the metropolis of Bengaluru). A stratified random sampling method was followed with Census 2001 as the sampling frame. A total of 7,185 individuals from 4,110 households were interviewed.

<sup>43</sup> The KHAS collected asset ownership information at the individual level for the entire state (in both rural and urban areas of the state and also the metropolis of Bengaluru). The KHAS socio-economic estimates (demographics, asset incidence and access to amenities) in rural areas were largely similar to those of other state representative surveys such as the NFHS-3. It surveyed two respondents from each household (as far as possible, one of each sex) to capture both men’s and women’s views on asset ownership. It obtained information on all the physical assets including residence, agricultural land, other forms of real estate, livestock, agricultural tools and equipment, non-farm business activities, and consumer durables.



## **CHAPTER V**

### **VIOLENCE AGAINST WOMEN**

Violence against women is of undoubted importance in the context of assessing women's status. The UN defines violence against women as 'any act of gender-based violence that results in, or is likely to result in, physical, sexual or mental harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life.' Violence is one of the most potent tools of control and domination.

The power structures within the households are manifested in everyday social life creating gender hierarchies. Violence against women differs in terms of nature and forms of violence which are broadly classified into physical, sexual, or emotional violence. Over time violence against women has shown an increase with increased complexity and is argued to be rooted in the male dominated socio-economic, legal and political order (Mukherjee *et al.* 2001).

Studies show that increasing participation and presence of women in work and public sphere (especially at the grass roots level) is making them more vulnerable to crime and other forms of violence. Moreover, attempts to control and intimidate women associated with decision-making processes are also leading to violence. Most crimes against women go unreported for understandable reasons: attached social stigma, distrust in legal mechanisms, fear of retaliation, and so on.

Violence against Women can be discussed under the following two sub-themes:

- *Crime Against Women*
- *Domestic Violence.*

The indicators are given in Chapter 1, Table 1.1.

### **DATA SOURCES**

Accurate and comparable data on violence are required to strengthen advocacy efforts, help policy makers understand the problem and guide the design of interventions. In India, the only and most important source of data on overall crimes against women is the data published by the National Crimes Record Bureau (NCRB) of the Ministry of Home Affairs. Another major source of data which gives information on various aspects of domestic violence is the NFHS.

## **5.1. CRIME AGAINST WOMEN**

### **5.1.1 Indicator 1: Rate of Crimes against Women**

Crimes involve rule breaking and hence have to be defined against the legal provisions and are cognizable crimes. The NCRB defines rate of crime against women as number of crimes against women per one lakh population of women.

NCRB data is the only source of data that is available on crime against women. Although, women could be victims in any of the crimes such as ‘murder’, ‘robbery’, ‘cheating’, or any other, the crimes in which only women are the victims and which is directed specifically against women are characterized as Crime against Women by NCRB. Though the data on crime is available since 1953, data on Crimes against Women is available only since 1971. There have been many changes in terms of its scope and coverage over time, and hence trend analysis on crime rates against women needs to be done with caution. State level data as well as data across various types of crime is available which permits disaggregation. Apart from state-wise data, it also gives data for select cities. The data is available for 23 cities since 1992, 35 since 2001, and 53 since 2011. Age-wise data is available since 1992 across age categories : >10, 10–16, 16–30, and 30<. From 1999, the age categories was expanded and the new age groups were upto10, 10–15, 16–18, 19–30, 31–50, and above 50 years. In 2001, the age groups were refined further. Thus, the current age groups are: upto10, 10–14, 14–18, 18–30, 30–50, and above 50 years.

Since NCRB does not give any data on the household and individual particulars of the victim, no further disaggregate analysis is possible. Further, the data is based on registered FIRs alone, and other sources of information particularly unregistered complaints, are overlooked completely. Hence NCRB data may be huge underestimates. No other source of data is available on crimes. Since its second round NFHS collects data on violence experienced by women, which include both crimes as well as other violence. However, no differentiation is made between the two in the survey.

### **5.1.2 Indicator 2: Nature of Crimes against Women**

NCRB classifies ‘Crime against Women’ under two categories, that under IPC and that under special laws. The crimes identified under the Indian Penal Code (IPC) are : Rape (Sec. 376 IPC); Kidnapping & Abduction for different purposes (Sec. 363 – 373 IPC); Homicide for Dowry, Dowry Deaths or their attempts (Sec. 302/ 304-B IPC); Torture, both mental and physical (Sec.498-A IPC); Molestation (Sec. 354 IPC); Sexual harassment (Sec. 509 IPC, referred to in the past as eve-teasing); and Importation of girls (up to 21 years of age) (Sec. 366-B IPC).

Various crimes are identified under special and local laws (SLL), enacted from time to time to deal with specific social and economic problems affecting women. The SLLs covered by NCRB data are: Commission of Sati (Prevention) Act, 1987; Dowry Prohibition Act, 1961; Immoral Traffic (Prevention) Act, 1956; Indecent Representation of Women (Prohibition) Act, 1986.

NCRB since the beginning collated data on Kidnapping & Abduction'. From 1971, it has been providing data on rape and culpable homicide not amounting to murder. 'Crime against Women' was included as a chapter in NCRB from 1992 where crime data from 1990 under six heads (Rape, Kidnapping, Dowry deaths, Torture, Molestation, and Eve-Teasing) are available. From 1994, four more crime data heads relating to SLL (Importation of girls, Sati Prevention Act, Immoral Trafficking, Indecent Representation of Women) were added. Sexual harassment data is provided since 1995. In 1996, NCRB included the Dowry Prohibition Act in its report and provided data from 1994. From 2011, the category torture was replaced by Cruelty by Husband and Relatives. Data related to SLL (Importation of girls, Sati Prevention Act, Immoral Traffic, Indecent Representation of Women) are also available from 1995. State-wise data is available across all crimes while age-wise and city-wise data is limited to a few.

There has been an addition to the laws on violence against women which has been added by the Criminal Law Amendment Act, 2013, like gang-rapes, acid attacks, stalking, etc. Data on these would be available only later.

### **5.1.3 Indicator 3: Conviction Rates on Crimes against Women**

Conviction rates can be defined as the proportion of convicted cases to total number of cases. The conviction rates for crimes against women are found to be poor. NCRB gives data on total FIR registered cases and conviction for various IPC crimes from 2008.<sup>44</sup> Data is available across all the individual crime heads that are reported under Crimes against Women though disaggregation across age is not available.

### **5.1.4 Indicator 4: Incidence of 'Honour'<sup>45</sup> Crimes**

One of the worst forms of violence against women is that of 'honour' crimes, where women are subjected to violence in the name of protecting the 'honour' of the family and caste/community. Honour crimes are on an increase, and cut across racial, religious, cultural, and regional divides. Such crimes can range from assault, confinement, imprisonment, interference with choice in marriage, declaring her to be a minor or insane, to that of brutal murder. The exact extent of 'honour' crimes, which are still not recognized by law, remains unknown, though few brutal cases may get registered under the IPC. No aggregate data is available on such cases under the IPC. Further, a number of cases also go unreported for fear of reprisals or cascading effects. Given the gravity and extent of the issue, immediate attention needs to be paid to collate data on reported cases of 'honour killings' annually across states. Demographic and social background of the victim could also be collected.

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<sup>44</sup> It gives data on Cases registered (cr), cases charge sheeted (cs), cases convicted (cv), persons arrested (par), persons charge sheeted(pcs), and persons convicted (pcv) under rape (Section 376 IPC) .

<sup>45</sup> The UN states that the term risks 'reinforcing discriminatory misperceptions that women embody the "honour" of the male and the community'. Alternative suggestions are family femicide, shame killings, and patriarchal killings.

### **5.1.5 Indicator 5: Complaint Rates of Crime against Women**

Complaint rates of crime are an important indicator not only because it provides insights on the actual magnitude of crimes, but also an indication on the agency of women in dealing with violence against them. The NCRB data is based on FIR cases and not on total complaints. There could be many cases which may not have been converted to FIRs. NCRB does not publish the data on complaints as many states do not report the total number of complaints received as well as those converted into FIRs. Analysis of a state for which this data is available shows less than 40 % conversion of complaints into FIR. Given the low conversion rate, NCRB needs to strictly collate the data from different states and publish it regularly.

### **5.1.6 Indicators for ‘Crime against Women’: Limitations and Comments**

The major source of data on crimes is the annual report titled *Crime in India* published by the National Crime Records Bureau (NCRB) of the Ministry of Home Affairs. Over time, it has succeeded in providing timely annual data on the crime against women and there has been much improvement in the quality of data. However, many limitations continue.

NCRB data is based on statistics provided by law enforcement agencies. Accordingly, only crimes reported to law enforcement agencies and recorded by them are collated. As a result, there may be many incidents and types of violence that are not in the statistics because they are not reported or recorded. Further, under Crimes against Women only certain sections of the IPC are included, but women are also victims of other crimes under other sections of the IPC. This data is not easily available nor can it be easily compiled from NCRB data. Even the data on crimes registered under the SC–ST Prevention of Atrocities Act is not classified by gender.

The data on crime against women do not give any other socio-economic category-wise data which is a major limitation for any disaggregate analysis and related interventions. Disaggregate data across social groups, age, marital status, etc., are critical indicators and this could be compiled easily by NCRB. Thus, there is a need to review existing parameters and develop new parameters for reporting crime data.

Further, no data is provided on the disposal of cases of crime against women, or the number of persons arrested, and so on. The published data provides only state level information, though it is possible to collate such information from the Bureau. Efforts to make available district level data public would increase the utilization of such data for analysis and interventions at the grass root level.

Another factor that needs to be considered by NCRB is that most criminal incidents often involve more than one crime and FIRs often invoke multiple IPC sections. Figures provided by NCRB are segregated into fixed templates of rape, murder, kidnapping, etc., because only the most serious charge mentioned in a FIR is taken into account. Due to this, an incident of rape and murder is recorded as murder, because murder is a more serious offence in law than rape. As a result, heinous rapes would also be classified under murder, thereby not giving the real nature of crimes.

The form and nature of crimes have changed over time and hence the data provided by the NCRB does not give the actual scenario prevalent in the country. Crime among live-in relations, sexual harassment, honour killings, marital rape/violence, cyber crime, cyber bullying, are among those crime that have risen but there is no data available on these. NCRB has classified cyber crime into 15 categories under the IT Act and IPC. No data is available on pornography which is being reported frequently. An urgent review of existing statistics on Crimes against Women is required to see the possibility of capturing these crime heads. Detailed subdivisions within important categories such as rape and sexual harassment<sup>46</sup> could be thought of. Additionally, the extent of numerous other crimes that were recognized by the Criminal Law Amendment Act, 2013, like gang-rapes, acid attacks, stalking, etc., needs to be provided soon.

It is imperative to supplement police records with survey data to give the true picture of the issue since all violence/crime is reported. Further, in the absence of any detailed data from NCRB on the socio-economic and other characteristics of the victims (and perpetrators) of violence, a nationally representative survey is required covering all critical information.

No data exists on workplace related violence except sexual harassment. Apart from sexual harassment and sexual violence, there are many other forms of violence that women are subjected to which could be physical or emotional. It is well noted that women are concentrated in many of the higher-risk occupations, essentially as teachers, social workers, nurses, other healthcare workers, and domestic workers. Many women in informal sector employment such as domestic work are subject to physical and emotional violence and no data exists on these. Apart from these, there are also occupation related hazards and injuries which are also not captured in any of the data sources except administrative data on workers who have been given compensation under the Workmen's Compensation Act. Other sources of data that can be used to generate data on work-related violence are police records, compensation records of insurance companies, crime records, court records, hospital records, etc. However, the scope of administrative sources is too limited as many cases of violence do not get reported or compensated. Further, it does not represent all possible forms of violence and usually only cases of violence that are physical in nature are captured.

Though labour force survey could cover this issue as well which will enable the analysis across individual, household characteristics, as well as that of work related data, a comprehensive household survey covering different forms of violence may be a required since it is not easy to gauge information on violence as part of a survey on employment due to the social dimensions and understanding of the issue.

## **5.2. DOMESTIC VIOLENCE**

Violence against women within the four walls of the house (in the capacities of daughter, sister, wife, and mother) is widely accepted and legitimized under the patriarchal order. This violence has a tendency to explode in various forms such as physical, sexual, or emotional. Domestic

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<sup>46</sup> Sexual harassment at the workplace has risen and data needs to be collected under detailed sub-divisions of the new law.

violence is recognized as a significant barrier to the empowerment of women, with serious consequences on her health. In 1983, domestic violence was recognized as a specific criminal offence by the introduction of section 498-A into the IPC.

### **5.2.1 Indicator 1: Rate of Domestic Violence against Women**

Domestic violence rates against women can be defined as the proportion of women reporting domestic violence to total number of women. No data is available on the incidence of domestic violence separately from NCRB though some gets reported under various IPC categories under crimes against women such as Homicide for Dowry, Dowry Deaths or their attempts (Sec. 302/304-B IPC); and Torture, both mental and physical (Sec.498-A IPC). As discussed earlier, the data is based on FIR cases and not complaints and hence are hugely underestimated. Apart from these, there are many cases for which no complaint or FIR may be registered at all but women are subjected to violence. The only source of data on the domestic violence is NFHS.

***National Family Health Survey:*** Since its second round, NFHS collects data on domestic violence. In NFHS-2, a few questions were canvassed and in NFHS-3 a separate module was used to collect detailed information on domestic violence. In NFHS-2, respondents were asked three questions: whether they had been physically mistreated by anyone since the age of 15, who perpetrated the violence, and how frequently they had experienced violence in the 12 months prior to the survey. The survey covered women in the reproductive age group (15–49 years).

The approach taken to measuring domestic violence in NFHS-3 is sufficiently different from that taken in NFHS-2 which precludes any possibility of comparison of the domestic violence across two surveys. In NFHS-3, domestic violence is defined to include violence by spouses as well as by other household members. Thus, information was obtained from ever-married women on violence by husbands and by others. The questions were asked with reference to the current husband for women currently married and with reference to the most recent husband for women formerly but not currently married. Various types of violence broadly captured under three heads such as physical, sexual, and emotional were listed where women could respond ‘yes’ or ‘no’ to each item. In each instance of a ‘yes’ response, women were asked about the frequency of the act in the 12 months preceding the survey. Note that widowed women, like other ever-married women, were asked the questions related to the ever experience of spousal violence; however, unlike other ever-married women, they were excluded from the questions on violence in the past 12 months. In addition to the questions asked only of ever-married women, all women, regardless of marital status, were asked about physical violence from persons other than the current or most recent husband. Women who responded ‘yes’ to this question were asked who had done this to them and the frequency of such violence during the 12 months preceding the survey. Since many background characteristics of the respondents are also collected, it is possible to disaggregate the data across demographic, social and wealth indices apart from locations.

### **5.2.2 Indicator 2: Nature of Domestic Violence against Women**

More than the incidence of domestic violence, the nature of violence is an important aspect which provides insights into the severity of the issue. NFHS-3 is the only source of data which provides insights into this dimension.

**National Family Health Survey:** As discussed earlier, NFHS collected information on domestic violence under three heads, physical, sexual, and emotional.

NFHS captures spousal physical and sexual violence using the following set of questions:

(Does/did) your (last) husband ever do any of the following things to you:

- a) Slap you?
- b) Twist your arm or pull your hair?
- c) Push you, shake you, or throw something at you?
- d) Punch you with his fist or with something that could hurt you?
- e) Kick you, drag you or beat you up?
- f) Try to choke you or burn you on purpose?
- g) Threaten or attack you with a knife, gun, or any other weapon?
- h) Physically force you to have sexual intercourse with him even when you did not want to?
- i) Force you to perform any sexual acts you did not want to?

A 'yes' response to one or more of items (a) to (g) above constitutes evidence of physical violence, while a 'yes' response to items (h) or (i) constitutes evidence of sexual violence. Emotional violence among ever-married women was measured in a similar way, using the following set of questions:

(Does/did) your (last) husband ever:

- a) Say or do something to humiliate you in front of others?
- b) Threaten to hurt or harm you or someone close to you?
- c) Insult you or make you feel bad about yourself?

All women, regardless of marital status, were asked about physical violence from others with the question: From the time you were 15 years old, has anyone [other than your (current/last) husband] hit, slapped, kicked, or done anything else to hurt you physically? All women were also asked: At any time in your life, as a child or as an adult, has anyone ever forced you in any way to have sexual intercourse or perform any other sexual acts?

Thus, for married women it is possible to arrive at the incidence of three types of crime perpetuated by their husbands. However, for other perpetrators data is available only for physical and sexual violence. Given other background information on respondents, it is possible to disaggregate the data across demographic, social, and wealth indices apart from locations.

### **5.2.3 Indicator 3: Perpetrators of Domestic Violence**

The relationship between the perpetrators of violence and the respondents is an important variable which provides an understanding of the power relationship within families. Again, the only source of data is NFHS. Both NFHS-2 and NFHS-3 give information on perpetrators, though the two rounds follow a different approach in capturing violence against women

**National Family Health Survey:** NFHS-2 provides data on perpetrators of violence in general for ever-married women of age 15–49. However, the categories of perpetrators are limited to husband, in-laws, and others. Information on perpetrators across types of violence is available in NFHS-3 and it provides data separately for spousal violence as well as violence from others for women aged 15–49. Sexual violence across a number of perpetrators are captured such as current husband ; former husband, current/former boyfriend, father, step father, other relative, in-law, own friend/acquaintance, family friend, teacher, employer/someone at work, police/soldier, priest/religious leader, stranger, and other. Since background characteristics are available, disaggregate analysis is possible.

#### **5.2.4 Indicator 4: Proportion of Women with Alcoholic Partners**

Given the patriarchal power relations and their acceptance, the chances of under-reporting of violence and domestic violence are very high, even if special attempts may be made to capture these. In this context, an indicator which could give an indirect estimate of domestic violence is the addiction to alcohol among husbands. The positive relationship between alcohol use and violence against women is well established. The only source of data again on this dimension is the NFHS.

**National Family Health Survey:** NFHS 3 provides data on alcohol use and its intensity which was collected as part of general health part of the health module. The categories to capture alcohol consumption are: does not drink, drinks/never gets drunk, gets drunk sometimes, and gets drunk often. The data can be generated for women across age, education level, marital status, religion, caste, and characteristics of their households, such as the type of family and wealth status.

#### **5.2.5 Indicator 5: Sharing and Assistance Rates**

Many women do not share instances of violence and take assistance even from family members due to various reasons. The rates of sharing incidence of violence and taking assistance on violence render important insights on women's agency and position within the family as well as society. The sharing and assistance rates are defined as the proportion of women who have shared and taken assistance to total number of women who have encountered violence. NFHS-3 is the only data that provides some data on the sharing and help seeking behaviour of women.

**National Family Health Survey:** In NFHS-3, all women (married, formerly married, and never-married) who reported physical or sexual violence were asked a series of questions about whether and from whom they sought help to try to end the violence. First, women were asked if they had ever sought help; then, the women who said they had sought help, were asked from



whom they had sought help. Women who said they had not sought help were asked whether they had ever told anyone about any of the violence they had experienced. Since NFHS distinguishes between spousal and other sources of violence, it is possible to disaggregate the statistics across these as well as nature of violence. Availability of background variables permits further disaggregation across age, education, and family, social, and economic categories.

#### **5.2.6 Indicators for ‘Domestic Violence’: Limitations and Comments**

Notwithstanding the fact that NFHS3 (through its separate module) gathered detailed information on domestic violence, there are many doubts still on the quality of data due to the specificity and sensitivity of the issue. Collecting valid, reliable, and ethical data on domestic violence is argued to pose particular challenges such as subjectivity (what constitutes violence or abuse varies across cultures and individuals), and the culture of silence that surrounds domestic violence. To overcome this, NFHS-3 uses a series of multiple choice questions. Questions are asked about the experience of specific acts of violence, rather than about the experience of violence in general. This, it is argued, has the advantage of removing from the measurement of violence, the effect of variations in the understanding and interpretation of what constitutes violence. However, multiple choice questions cannot in itself address the problem which is deeply entrenched in patriarchal relations other than limiting responses.

Further, the possibility of under-reporting of violence, particularly of sexual violence, is still very high given the structure of our society. This affects the quality of any indicators related to overall prevalence of violence as well as its specificities. The fact that many of the findings of NFHS matched with the stereotypical understanding of violence among groups points to some of these problems. For example, NFHS finds the poor, illiterate, and rural women justifying wife beating, whereas micro level studies on the other hand have shown that because of consideration of social status many middle class and upper class literate women conceal domestic violence though the issue is severe among them. NFHS data gives information on women of a specific age group. However, the issue of violence spans across the life cycle of women and hence there is a need to collect data from women of all age groups. The focus of NFHS was not on domestic violence but on health, and the data on violence was a by-product of the survey which would have affected the quality of data as investigators may not be well equipped to collect such sensitive data. An important area for women on which no data exists is that of mental or emotional violence. Such violence is on the increase with changing lifestyles and changes in family structures. However, there has been so systematic data available on it though NFHS-3 collected some limited data.

Strengthening of NCRB data alongside conduct of special surveys at regular intervals on various forms of violence, with specific and focussed questions, seem to be the only way to collect reliable information, given the intensity and dynamic nature of the issue.

## **CHAPTER VI**

### **CRITICAL DEMOGRAPHIC, SOCIAL AND POLITICAL ASPECTS OF WOMEN**

Given the multidimensional nature of women's issues there are many interconnections that can be drawn across themes, dimensions, and indicators. Some of the indicators that could be classified broadly as social or demographic are thus listed and discussed in the previous chapters. However, there are many other critical indicators which are not covered in the earlier chapters which need detailing. Further, political participation of women is a critical concern. Accordingly, in the present chapter some of the critical demographic, social, and political dimensions of women's status are discussed.

Under the theme of Demographic, Social and Political Status of Women, we have the following five sub-themes:

- *Male bias*
- *Vulnerable Women*
- *Women with Special Needs*
- *The Institution of Marriage*
- *Participation in Political and Collective Space*

The indicators of these sub-themes are detailed in Chapter 1, Table 1.1.

#### **DATA SOURCES**

There are several data sources that provide information on the demographic, social, and political status of women in India. A considerable amount of data reflecting the male biasness of the society are available with sources such as the Population Census, NFHS, NSSO, SRS, CRS, AHS, and DLHS. In addition, some crucial information on vulnerability of women is available from the (NCRB. The Election Commission of India and Ministry of Panchayati Raj provides crucial information with regard to women's participation in democracy and electoral politics, both as voters and as representatives. The Labour Bureau is yet another source, which provides some information on the women's participation in trade union activities (from the annual statutory returns submitted as per Trade Union Act, 1926).

#### **6.1. MALE BIAS**

Many societies show mild but mostly undetectable degree of son preference, but in India the same is more apparent across regions and among all socio-religious and economic categories. Alongside son preference in many societies there is female foeticide and infanticide, and

indifference to girls as children as well as adults. The demographic indicators of such discriminatory practices are skewness observed in sex ratios at birth, childhood and in adolescent years.

### **6.1.1 Indicator 1: Sex Ratio at Birth**

‘Sex ratio at birth’ is defined as the number of girls born for every 1000 boys. The comparison of observed sex ratio at birth with normal sex ratio at birth (SRB) gives an idea of girls missing at birth. It is an important and useful indicator to assess relative excess or deficit of men or women in a given population at that point of time.

The major sources of data on sex ratio at birth are the Population Census, SRS, CRS, NFHS, and the AHS.

**Population Census:** The sex ratio at birth is available from Census disaggregated by rural/urban, religious groups (Hindu, Muslim, Christian, Sikh, Buddhist, Jain, and others), social groups (SC/ST/others), age of the mother (below 15 years, 15–19, 20–24, 25–29, 30–34, 35–39, 40–44, 45–49, 50+), educational level of mother (illiterate to graduate, etc.). Though information on ‘children born alive during last one year’ to currently-married women was collected and tabulated in earlier Censuses, it was tabulated by sex for the first time in 2001. However, Census being a decennial exercise, the data is available only every 10 years and is available even at the district level.

**Sample Registration System:** SRS estimates are the most frequently used source of sex ratio at birth in India. Since sampling errors for annual estimates could be large, the SRS gives three-year moving averages of the sex ratio at birth rather than annual estimates. Reliable estimates are available from 1981 onwards (1981–83, 1982–84...) for India and major states.

**Civil Registration System:** It makes available sex ratio at birth based on registration records at the district level, disaggregated by sex and region (rural/urban), but is dependent on the ‘level of registration’ which varies from state to state (particularly low in states like Uttar Pradesh and Bihar).

The **National Family Health Survey** estimates sex ratio at birth based on a nationally representative sample. As the first NFHS was carried out in 1992–93, it does not have data to support the trends in sex ratio before 1991. NFHS-2 (1998–99) and NFHS-3 (2005–06) give sex ratio at birth according to the living, dead, and total children across all states and UTs surveyed, and also calendar year ratio for children still alive at the time of the survey (L), children who died by the time of the survey (D), and total children (T) by calendar year (weighted). In NFHS-3, calendar year ratios is available for 1997, 1998...2006; in NFHS-2, calendar year ratios are available for 1988, 1989, 1990...1999; and in NFHS-1, calendar year ratios are available from 1982, 1983...1993.

**Annual Health Survey:** Data from AHS is available from 2010–11 (and also for 2011–12, 2012–13) and gives district level data on sex ratio at birth across the eight EAG states and Assam.

### **6.1.2 Indicator 2: Child Sex Ratio**

The Child Sex Ratio is defined as the number of females per thousand males in the age group 0–6 years. There has been a decline in this ratio over the last few decades, with certain states experiencing comparatively larger decline than others. The major data sources for child sex ratio are the Population Census, NSSO, SRS, AHS and the NFHS. While Census, NSS, and NFHS give data for 0–6 age group, SRS and AHS data is limited to the age group of 0–4.

**Population Census:** The Census has been publishing child sex ratio since 1961. It gives sex ratio down to the village and ward level across all states and UTs. By social groups (SC, ST), the data is available from 1981. Sex ratio of age group (0–4 years) is available from 1901 onwards from Census across states, to district, and sub district levels.

**National Sample Survey** provides distribution of persons by age groups from which female to male ratio for the age group 0–6 years can be computed, across socio-religious, and economic categories from the unit level data for the last few rounds. For the earlier rounds for which unit level data is not available, NSS gives distribution of population by five-year age groups (0–4, 5–9, 10–14, ... and all ages) from which female to male ratio in the age group 0–4 years can be computed across socio-religious and economic categories for rural and urban areas for India and states/UTs.

**Sample Registration System** estimates of child sex ratio are for the age cohort (0–4) and are available from 1996 onwards for India and all major states.

**Annual Health Survey** also gives estimates of child sex ratio for the age group (0–4) for all districts across the eight EAG states and Assam annually from 2010–11.

**National Family Health Survey** gives estimates of child sex ratio (0–4 ages) in rural and urban areas for India and states across its three rounds (1992–93, 1998–99, and 2005–06). Since raw data is available, it is possible to calculate sex ratios for age group (0–6) from the survey data. NFHS also makes it possible to look at child sex ratio according to background characteristics of the mother (age group, education, caste group, religious group, wealth index).

### 6.1.3 Indicator 3: Male Child Preference

The cultural influence makes many women wish the next child to be a male, particularly in rural areas where the status of the woman is proportional to the number of male children she has given birth to. NFHS is the only data source that has captured this aspect.

**National Family Health Survey:** across its three rounds, has given preference of ever-married (1992–93, 1998–99) and currently-married (2005–06) women in the age group 15–49 whether she preferred the next child to be a boy or a girl, or it did not matter. This data is available according to background characteristics of the mother (age group, education, caste group, religious group, wealth index) and across states. NFHS-3 also gives the percentage that preferred sons than daughters in the case of both males and females.

**District Level Household Survey** in its second (2002–04) and third (2007–08) rounds gave data with regard to the sex preference (son, daughter, does not matter, up to God) of a desired

additional child according to the number of surviving children (0, 1, 2, 3, 4+) based on responses of currently-married women in the age group 15–49.

Data on sex preference is available according to background characteristics of the mother (age group: 15–19, 20–24, 25–29, 30–34, 35–39, 40–44, 45–49; residence: rural, urban; education: not literate, less than 5 years, 5–9 years, 10 or more years; religion: Hindu, Muslim, Christian, Sikh, Buddhist/neo-Buddhist, Jain, others; caste group: SC, ST, OBC, Others; wealth index: poorest, second, middle, fourth, richest); and for all surveyed districts across states and UTs.

#### **6.1.4 Indicator 4: Adolescent Sex Ratio**

Adolescence is a period of rapid transition from childhood to adulthood, and is accompanied by physical and psychological changes. The adolescent sex ratio is defined as the number of females per 1000 males in the age group 10–19 years. There has been a decline in this ratio over the last few decades, with many states experiencing comparatively larger decline in this ratio in comparison to child sex ratios.

Adolescents can also be bifurcated into ‘younger’ and ‘older’ adolescents according to age group (10–14 being younger and 15–19 as older).

The major data sources from where adolescent sex ratios can be computed are the Population Census, NSSO, AHS, and the NFHS.

***Population Census*** gives the number of males and females in the age group 10–14 and 15–19 years from which adolescent sex ratio can be computed. Adolescent sex ratios for age group 10–19 years can be worked out from Census data from 1981 (as five-year age groups were made available only since then).<sup>47</sup> With regard to social groups (SC and ST), adolescent sex ratios can also be computed from 1981 and for religious groups from 2001 (Hindu, Muslim, Christian, Sikh, Jain, Buddhist, Others). Adolescent sex ratios can be computed down to the village and ward level across all states and UTs.

***National Sample Survey*** provides data on members of household including age and sex from which adolescent (10–19 years) sex ratio (also for ages 10–14 and 15–19 years) can be computed, across socio-religious, and economic categories from early rounds (38th round) for rural and urban areas for India and states/UTs.

***Sample Registration System*** gives distribution (%) of estimated population by five-year age groups by sex and residence from the beginning (1970). Though percent distribution of population in adolescent ages is available (10–14 and 15–19 years), sex ratios by age cannot be computed from the SRS published results because only distribution (%) for the sample registration areas are available, but there is no information on absolute numbers of the population.

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<sup>47</sup> Prior to 1981 Census, the age groups were broadly 0–4, 0–14, 15–34, 35–54, 55+, 15+.

*Annual Health Survey* has data on household members according to sex, age, religion, social group, marital status, etc., for all districts across the eight EAG states and Assam from 2010–11. It is therefore possible to work out adolescent sex ratio.

*National Family Health Survey* gives percent distribution of household population by age, according to sex and residence from which it is possible to work out adolescent sex ratio (10–14 and 15–19 ages) in rural and urban areas for India and states across its three rounds (1992–93, 1998–99, and 2005–06). Since background characteristics are also collected from every household, socio-economic disaggregation is possible though sample size is an issue.

### **6.1.5 Indicators for ‘Male Bias’: Limitations and Comments**

The Indian Census is the principal and more reliable source of data on population sex ratios, which provides estimates right up to the district or sub-district level. However, Census being a decennial exercise the data is available only every 10 years. Census gives district level estimates for sex ratio at birth, but there are some specific methodology differences which may limit completeness and accuracy. Since the question is asked only to the currently-married women, the births occurred to others are bound to be left out. Also, in addition to the question on netting this information is retrospective (hence, possibility of omissions due to inaccuracies in date of births and age reporting) the data on births in the preceding year collected here are of women who were alive on date of enumeration, and therefore total number of births in that year may exclude children whose mothers were not alive. For mid-term estimates for sex ratio at birth, one has to rely on SRS data which are limited to national and state level estimates. SRS data is limited by the fact that it comes from a sample and the sampling frame is changed only once in every 10 years; also, there is no data at the district and sub-district levels, which is the level at which targeted policy interventions and programme implementation takes place. District and sub-district level data can be made available by improving the coverage of birth registration under the civil registration system at all administrative levels. Sex ratio at birth estimates, worked out from Census data, are available across districts and social group divisions, while SRS data does not provide social group-wise data.

Though child sex ratios can be estimated from other data sources such as AHS and NFHS, their coverage and reliability are issues. NFHS data though has an advantage in terms of possibilities for disaggregate analysis; the extent of such analysis is limited by the size of the sample.

Census, alongside the SRS, and other periodic demographic surveys with their known limitations are able to provide a broad picture of the gendered demographic transition. However, no information is available on what were/are the preferences of men and women with regard to the sex of their child, either already born, carrying/planned. Though NFHS gives sex preference of women for their next child, across rounds it does not capture such information from men until the third round, which has provided insights into the gender differences in the preference for male children.

## 6.2. VULNERABLE WOMEN

Vulnerability of women depends on a number of factors and varies across socio-economic categories, marital status, and age groups. Under the theme of *vulnerable women*, the sub-themes discussed are proportion of women in houseless households, number of women in old age and destitute institutions, number of women in prisons, number of women trafficked, and proportion of women who are displaced migrants.

### 6.2.1 Indicator 1: Proportion of Women in Houseless Households

Houseless refers to those who are inadequately housed—without even basic shelter over their head, not even a ‘kuccha’ (unfinished) slum or shanty house. It is an important factor that increases the vulnerability of women. A substantial number among the houseless are women, either single or those with small children and therefore the most vulnerable. Majority of the houseless are found living in places such as roadsides, pavements, drainage pipes, under staircases, or in the open, temple premises, railway platforms, etc. ‘Proportion of Women in Houseless households’ can be computed by dividing the number of women in houseless households by total persons in houseless households. The only source of data on houseless households in India is the Population Census.

**Population Census:** Households which do not live in buildings or Census houses but in the open or roadside, pavements, in Hume pipes, under flyovers and staircases, or in the open in places of worship, mandaps, railway platforms, etc., are treated as houseless households by the Census. Census house refers to ‘a structure with roof.’ Even in Census, the number of houseless are under-enumerated and under-reported. Comparable gender disaggregated data on houseless households is available from 1981. Data on houseless households (no. of households, total houseless males, total houseless females, houseless person, also separately for SC and ST categories, and for children below 0–6 years) is available for India, states, and districts with rural urban disaggregation.

### 6.2.2 Indicator 2: Proportion of Women in Old-Age and Destitute Institutions

Many elderly women in India, particularly widows, suffer from poverty, isolation, and extreme social exclusion. Some are even denied basic necessities such as food and healthcare, and there have been many cases of old women being thrown out of homes by close family members. Elderly can be defined as those 60 years and above.<sup>48</sup> The Census, SRS, and the NSSO give data on the elderly whose absolute numbers have increased substantially. NSSO is the only data source that provides information on proportion of elderly women in old age homes.

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<sup>48</sup> The WHO defines those belonging to 60 -74 years as elderly. The UN in 1980 recommended 60 years as the age of transition for the elderly segment of the population.

**National Sample Survey:** Based on its 60th round (2004) survey, NSSO has published data on type of living arrangements of elderly from where proportion of women in old age institutions can be worked out. Living arrangements of women were categorized under living alone (as an inmate of old-age home, not as an inmate of old-age home), living with spouse, etc.. NSSO makes it possible to compute proportion of women in old-age institutions out of all elderly women for rural and urban areas for India and all states/UTs.

The reliability of the data is an issue as it may be difficult to capture information on this issue following traditional survey methodologies as households may not divulge such information easily (because of socio-cultural traditions and expectations as well as laws like the *Maintenance and Welfare of Parents and Senior Citizens Act, 2007*, and other personal laws in the country stipulating that children should care and provide for parents).

### **6.2.3 Indicator 3: Proportion of Women in Prisons**

Women may get imprisoned for serious crimes like homicide where they may remain incarcerated for years and also for minor crimes in which case the period of imprisonment may be only for few months. The NCRB is the only data source that gives information on women in prisons. The proportion of women prisoners out of total prisoners according to sentence and age group can be computed from the data.

**National Crime Records Bureau** has published annually *Prison Statistics India* (from 1995 onwards). It gives state-wise information with regard to those in prisons, separately for males and females. It gives data on number of women prisoners according to age groups (16–18 years, 18–30 years, 30–50, and above 50 years), categories (convicts, under-trials, detenues, others) serving prison term according to type of punishment (capital punishment, life imprisonment, 10–13+ years, 7–9+ years, 5–6+ years, 2–4+ years, 1 less than 2 years, 6 months < 1 year, 3–6 months, and less than 3 months) for all states and UTs.

### **6.2.4 Indicator 4: Proportion of Women among Displaced Migrants**

There are many reasons that compel women to migrate from their place of usual residence, or the place of their birth wherein they undergo social and cultural assimilation. Displaced migration is different from other forms of migration as these are forced migration in the event of natural disasters, displacement by development project or due to social and political problems. The major data sources on migration in India are the Population Census and the NSSO.

**Population Census** gives data on migration and distribution of migrants (males and females separately) across reasons. Question on ‘Reason for migration’ was introduced in 1981. Under the reasons, apart from marriage and employment related reasons, the reasons captured are natural calamities like draughts, floods, etc. The pattern adopted in 1991 remained same, except that from 2001 onwards ‘Natural Calamities’ as one of the reasons for migration in 1991 was excluded and a new reason ‘Moved at birth’ added. Thus, at present, Census data is not available to capture this aspect.



*National Sample Survey* gives distribution of migrants (males and females) across reasons for migration.<sup>49</sup> NSS give many reasons for migration which has changed over rounds. In 1983, two reasons were specifically captured which could be termed as distress migration which are *political change/lack of security or social adjustment* and *due to natural calamity*, and the same continued in 1987–88. In 1993, housing problems was added and natural calamity was taken out. Instead of political change/lack of security or social adjustment, a new categorization social/political problem was added and the same continued in 1999–00 also. However, 2007–08 survey added and specified many reasons which include specific heads such as ‘natural disasters’, social/political problems, displacement by development project, and housing problems. From NSS unit level data, these reasons by broad age groups, education, caste, religion, wealth class, employment status (‘before’ and ‘after’ migration), etc., can be computed.

### **6.2.5 Indicator 5: Number of Women Trafficked**

Trafficking is a serious crime committed against women, most often for commercial sexual exploitation. Often it is women and girl children from lower income groups who become vulnerable and fall into the trap of organized trafficking gangs. The NCRB is the main data source which gives information on trafficking.

*National Crime Records Bureau* publishes official data on trafficking from 2006 (data from 2002 is available), but from the data it is not possible to work out the proportion of women trafficked in the total population.

Under NCRB, trafficking of women for immoral purposes is identified as offences punishable under the special social enactments to specifically safeguard women and their interests. Under various crime heads of NCRB, data on reported cases related to trafficking (and also importation of girls, kidnapping, and abduction) in the year are recorded. But NCRB has only reported cases which, though showing an increase over the years, capture only a small fragment of the issue.

### **6.6 Indicators for ‘Vulnerable Women’: Limitations and Comments**

Vulnerability of women depends on a number of factors of which houselessness is an important factor. It is often acknowledged that lack of housing increases women’s vulnerability to violence, both as a reason and outcome. Even in the Census, the number of houseless is under-enumerated and under-reported. Further, among houseless women there are two categories of women: one that stays with her family and the other who is without any family; and those women without any family are amongst the most vulnerable. However, Census data does not provide any such disaggregation. Apart from Census data on houseless women, there is a need to design targeted

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<sup>49</sup> As discussed in the previous section on economic status, NSS integrated collection of migration data with regular quinquennial EUS rounds from the 38th round (January 1983–December 1983), and followed in the 43rd round (July 1987–June 1988), 55th (July 1999–June, 2000,) and in the 64th round (July 2007–June 2008). Data on migration was also collected in the 49th round (January–June 1993). Of the above, three were migration specific rounds in 1993, 1999–2000, and 2007–08.

surveys on regular basis of houseless population covering various gender dimensions and issues of houseless women which would help in the planning of required intervention strategies.

Another group of vulnerable women are the old and destitute, who may comprise a considerable proportion of the homeless. Many such women are also found in old age and destitute institutions but no data is available on the number of such women, though NSS captures some limited data. Since Census covers all institutions and individuals, a question on individual's residential status can give data on this dimension which will be much more reliable than NSS because of its larger coverage. Targeted sample surveys may also be taken up to capture various gender dimensions of the issue.

Another dimension of vulnerability that needs serious attention in terms of data generation is the number of displaced women migrants. There is a need to collect regular data on displacement related migration and the present NSS categories may be followed consistently both by NSS and Census.

Another major black hole in the data on vulnerable women is trafficked women. NCRB data gives statistics on cases that are registered but detailed analysis of some of the cases under trafficking and kidnapping have shown that some of them are cases of eloped marriages. Women are trafficked into a variety of sectors of the informal economy, including prostitution, domestic work, agriculture, the garment industry, and even street begging. But no data on these aspects are available at present. Collection of reliable data on this issue is however a challenge as it raises both conceptual as well practical issues.

### **6.3. WOMEN WITH SPECIAL NEEDS**

Under this sub-theme, the indicators are: Proportion of female-headed households, percentage of elderly women living alone, and access to welfare schemes/programmes

#### **6.3.1 Indicator 1: Proportion of Female Headed Households**

Surveys generally ask respondents to specify whether the household is male- or female- headed. For women, holding the title of 'head' within the marital union may indicate status and equality with the husband which may be a rarity. Data on female-headed households is available from the Population Census, NFHS, DLHS, and NSSO.

*Population Census* defines 'head of household'<sup>50</sup> as one who is recognized as the head by the household. It has given data on proportion of female-headed households in the population and has also given cross tabulations by age, marital status, religion, and size of households. Data is available up to the district level.

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<sup>50</sup> As per the definition followed in Census, 'household' is usually a group of persons who normally live together and take their meals from a common kitchen and the 'head' is generally the person who is mainly responsible for managing the affairs of the household and taking decisions on behalf of the household. The head need not necessarily be the oldest male member or an earning member, but may be a female or a younger member of either sex.

*National Family Health Survey* gives the distribution (%) of households by various characteristics of the household head including sex from which proportion of female-headed households is made available across its three rounds (1992–93, 1998–99, and 2005–06) for all states and India. As in the case of other indicators based on NFHS, this indicator can also be disaggregated by demographic, social and economic characteristics.

*District Level Health Survey* also gives percentage of female-headed households out of total sample households across all three rounds for all the districts surveyed. Since the focus of DLHS is on health, the background information available is limited for detailed disaggregate analysis.

*National Sample Survey* collects data on demographic particulars of household members like name, relation to head, age, sex, and marital status from its early rounds, and has given proportion of female-headed households out of total surveyed households from the beginning. The data can be disaggregated across demographic, educational, employment, and other social and economic dimensions at the national level.

### **6.3.2 Indicator 2: Percentage of Elderly Women Living Alone**

The *National Policy on Older Persons* adopted by GOI in January, 1999 defines ‘senior citizen’ or ‘elderly’ as someone who is of age 60 years or above. The data sources giving some information on the proportion of elderly women living alone are the Population Census and the NSSO.<sup>51</sup>

*Population Census* in 2001 gave data on single member elderly (60+) households and also all households with at least one elderly. It also gave gender disaggregated data on single member elderly households, from which percentage of elderly women living alone can be worked out. The percentage of elderly living alone, across religious groups can also be worked out for India and states, even up to the district level.

*National Sample Survey:* In its 60th round (2004), NSS published data on type of living arrangements of elderly for the first time. Living arrangements include: living alone (as an inmate of old age home, not as an inmate of old-age home); with spouse only; with spouse and other members; without spouse (but with children, with relations, or with non-relations). It is possible to compute percentage of elderly women living alone from the distribution of elderly women by type of living arrangement for rural and urban areas for India and all states/UTs. It is possible to disaggregate the data by social and economic dimensions taking into account the sample size.

### **6.3.3 Indicator 3: Proportion of Women Availing any Welfare Scheme**

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<sup>51</sup> The population above 60 years is available from Population Census, NSSO, NFHS, DLHS, and AHS, but data related to whether the elderly live alone, with spouse or someone else is not available except in the case of the first two. Across all its rounds, NFHS gives estimates of elderly population, including their marital status from where it is clear that a substantial number of elderly women are widows; but it is silent on their living arrangements, that is, whether they are living alone or with someone.

Women are targeted beneficiaries in a number of state sponsored welfare programmes and schemes in India.<sup>52</sup> But data on the number of women in the population who is availing some scheme or the other is not available from national level survey sources and therefore we cannot get a true national/state level picture with regard to proportion of women availing any welfare scheme. What is available at present is programme level data on the number of beneficiaries who have availed benefits under a particular scheme/targeted intervention of the Central and State governments separately. The number of women beneficiaries under various schemes (of ministries at the central government as well as independent schemes by State governments) is available from official data/site of the implementing agency. However, no attempt has been made to compile such information over time on any regular basis. The AHS is the only data source giving information on beneficiaries under a scheme.

**Annual Health Survey** The AHS has recorded mothers who had availed financial assistance under Janani Suraksha Yojana (JSY) in rural and urban areas across all districts of EAG states and Assam from 2010–11 based on responses of ever-married women aged 15–49 years (for last two outcomes of delivery resulting in live/still births during the reference period, 2008–10). AHS gives percentage of mothers who availed financial assistance for delivery, for institutional delivery, and institutional delivery under JSY.

NSSO has collected the number of households having MGNREGA job card (but not specifically whether the job card holder is male or female member of the family) in its recent employment rounds.

There were attempts in NFHS-1 and in NFHS-2<sup>53</sup> to capture total beneficiaries in programmes (but not gender disaggregated) in the village (collected through the Village Questionnaire). NFHS-3 (2005–06) tried to look at the extent of penetration of health schemes and captured the same through a relevant question in its household questionnaire, ‘whether any household member is covered by any kind of health insurance’. Similarly, in DLHS-3 (2007–08) data on villages having beneficiaries under the *Janani Suraksha Yojana* (JSY) is recorded.

### 6.3.4 Indicators for ‘Women with Special Needs’: Limitations and Comments

The data on female headed households as provided by the Census and NSS is based on ‘recognition approach’ in contrast to a ‘functional approach’.<sup>54</sup> It has often been highlighted

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<sup>52</sup> Some of these are MGNREGA, the *Indira Gandhi Matritva Sahyog Yojana*, the Conditional Maternity Benefit plan (CMB), Rajiv Gandhi Scheme for Empowerment of Adolescent Girls (Sabla scheme), Widow pension, *Rashtriya Mahila Kosh* (national credit fund for supporting women in lower income groups), and the Mother and Child Tracking System (MCTS), etc.

<sup>53</sup> In NFHS-1, the Village Questionnaire had a question on the number of beneficiaries in the village under the Integrated Rural Development Programme (IRDP), National Rural Employment Programme (NREP), Training Rural Youth for Self Employment (TRYSEM), and Employment Guarantee scheme (EGS). In NFHS 2, in addition to the above, DWACRA was also included.

<sup>54</sup> The definition of the term ‘head of household’ given in the ‘*Instruction Manual for Filling up the Household Schedule*’ reads as follows: the head of household for Census purposes is a person who is recognized as such by the household. She or he is generally the person who bears the chief responsibility for managing the affairs of the household and takes decisions on behalf of the household. The head of household need not necessarily be the oldest

through field level surveys that such data on female-headed households do not signify anything other than the absence of a male household member as a good proportion of women were found to be widowed women or single women. However, the data is often used to signify women's empowerment, for which at present this data is an underestimate. Though many women may not be recognized socially as household heads, they may be the household head for many functional and economic purposes, which at present are not taken into account in defining the head of the household. This suggests the need to redefine the concept of household in the data sources if it is to make any insights into the agencies of women.

No data is available on women living alone though such data is extremely important which may be an indicator of vulnerability as well as that of women's agency. Such data correlated with demographic, social, and economic parameters could reveal insights into the vulnerability as well as agency aspects of women.

Women are part of many schemes and programmes, but the data on women beneficiaries under various Central and State government schemes are not compiled regularly or systematically. No information is available even on women-specific schemes such as pensions for widows or maternity benefits for women employees. Programme based data is available for Central as well as State schemes, and administrative compilation of such data is possible though there could be many limitations.

At present, data are only provided on two national schemes and no information is provided on other government schemes including women-specific schemes, for instance, the number of pregnant women using ICDS. There are a variety of women-specific schemes across states. Data on the coverage of women-specific schemes in different states should be compiled by the respective state governments and should be made available annually.

#### **6.4. INSTITUTION OF MARRIAGE AND FAMILY**

Marriage is central to societal standing and acceptance for a majority of Indian women, and is subject to strict rules and even prohibitions. Early and arranged marriages have been the social practice and girls did not exercise any choice in marriages. In addition to the burden of early and forced marriage, many have to adjust to occupying a subordinate position in marital homes with restrictions in movement, paid work, etc.

Under the *Institution of Marriage*, the indicators covered are: percentage of women married below the legal age of marriage; age at co-habitation, percentage of divorced women; proportion of remarried women to total married women; proportion of women having access to modern

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male member or an earning member, but may be a female member or a younger member of either sex. It may be remembered that there are female-headed households and in such a case the name of the female head should be recorded.

family planning; proportion of women having freedom to visit natal family and social networks; and freedom to make routine household decisions.<sup>55</sup>

Apart from these indicators, there are many indicators that were proposed but not covered due to unavailability of data. These include prevalence of early and forced marriages; prevalence of cross-regional marriages; percentage of inter-caste marriages; percentage in polygamous marriages; percentage of love marriages; percentage of married women who have given dowry; and percentage of women who have freedom in decisions related to marriage. Most of these issues are widely prevalent in the country and across many states. For instance, polygamous marriages and relationships are common (in spite of personal laws and even national laws banning the practice), similarly the practice of dowry continues to remain alive among all major communities across the country but macro data is not available.

#### **6.4.1 Indicator 1: Percentage of Women Married below the Legal Age of Marriage**

The prestige and other social aspects of early marriage often lead to child marriages, though various laws have been enacted to prevent child marriages. At present, the Child Marriage Restraint Act of 1978, stipulates the legal age at marriage as a minimum age of 18 years for women and 21 years for men.

The percentage of women married below the legal age of marriage (18 years) can be calculated by dividing females married below 18 years (including all those who may be separated, widowed, and divorced) by the total women in the population below 18 years of age. The major data sources giving marital status of women by age groups and from which percentage of women married below the legal age of marriage could be calculated are the Population Census, SRS, NFHS, NSSO, DLHS, and the AHS.

*Population Census* has data on marital status of the population beginning from 1881. The percentage of women married below the legal age of marriage (18 years) can be computed by dividing ever-married females married below 18 years (total of married + widowed + divorced + separated) by total women in the population below 18 years of age. Data is also available for caste groups (SC and ST since 1981) and religious groups (Hindu, Muslim, Christian, Sikh, Buddhist, Jain, and others since 2001).

From 1881 to 1931, the population was classified into married, unmarried, widowed or widower; from 1901-1931 there was no distinction between divorced and widowed, and only from the 1941 Census they were recorded separately. From the 1951 Census, the marital status of the persons was recorded as unmarried, married, widowed, and divorced. In 1961, 'unmarried' was replaced by 'never married' and 'separated' was added with 'divorced'. The marital status of the prostitutes was recorded as declared by them. In 1971, the marital status of a person was recorded under the following heads: never married, married, widowed, and separated or divorced, and has continued so. The Census first introduced a direct question on age at marriage

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<sup>55</sup> Household decisions related to economic dimensions were discussed in the section on economic status.

in 1971, when all currently married women were asked to state the age at which they got married. This was followed in 1981 and 1991.

From 2001, both men and women who were 'ever-married' were asked the age at which they had married. Census gave data on marital status under four heads in 2001 (never married, married, widowed, separated/divorced) of males and females by age group (0–9, 10–14, 15–19, 20–24, 25–29, 30–34, 35–39, 40–44, 45–49, 50–54, 55–59, 60–64, 65–69, 70–74, 75–79, 80+, all ages, less than 18, less than 21) for rural and urban areas up to village and ward levels across all states and UTs. In 2011, marital status was recorded under five heads: 'never married', 'currently married', 'widowed', 'separated' and 'divorced'.

**Sample Registration System** The SRS makes available distribution of population (per cent) by sex (male, female) marital status (never married, married, widowed/ divorced/separated) and age groups (<10 years, 10–14, 15–19, 20–24, 25–29, 30–34, 35–39, 40–44, 45–49, 50–54, 55–59, 60–64, 65–69, 70–74, 75–79, 80–84, 85+, all ages) from 1991 for rural and urban areas for India and bigger states<sup>56</sup>.

SRS first gave data on mean age at marriage for females in 1990. Since then, it has also provided data on the number of females who got effectively married during the reference period of six months of each half-yearly survey and also mean age at effective marriage in rural and urban areas. SRS gives the percentage of females by age at effective marriage (<18 years, 18–20, 21+) in rural and urban areas for India and bigger states.

**National Family Health Survey:** NFHS across all three rounds gave data related to girls marrying below legal age (below 18 years) for both rural and urban areas in all states. Percentage of girls married before specific ages cross classified by current age can be calculated from all the NFHS rounds data separately for rural and urban areas, disaggregated by background characteristics (residence, education, religion, caste/tribe, wealth index, and states).

**District Level Household and Facility Survey:** DLHS across all three rounds (1998–99, 2002–04 and 2007–08) gave data on girls marrying below legal age (below 18 years).

DLHS 3 (2007–08) gave percentage of marriages taking place below the legal age in all districts (rural and urban) across states and UTs. It also gave percentage of currently married women (20–24 years) who were married before the legal age.

**National Sample Survey** data on marital status is available from early rounds, where marital status of each household member was recorded as never married, currently married, widowed/divorced/separated. Unit data in NSSO also makes it possible to get marital status across socio-economic groups. Comparable data is available from the 38th round. NSS gave the distribution of persons in various age groups (10–14, 15–19, ... 55–59, 60 & above) by their marital status (never married, currently married, widowed, separated/divorced) from which percentage marrying below legal age can be worked out.

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<sup>56</sup> Andhra Pradesh, Assam, Bihar, Chhattisgarh, Delhi, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, and West Bengal.

**Annual Health Survey :** The mean age at marriage as well as the proportion of marriages among females below the legal age (based on marriages of usual residents/members of household that had taken place in the past two years) is available for rural and urban areas across all districts in the EAG states and Assam from 2010–11. AHS also gives the percentage of currently married women aged 20–24 years marrying before legal age.

#### **6.4.2 Indicator 2: Age at Co-habitation**

The prevalence of marrying young, in some cases even before puberty and the setting of menarche, has led to the age at marriage and age at co-habitation being different for many women (and men). This has also led to the tradition of *gauna* ceremony which is performed after the bride becomes ‘mature’ and is ‘ready’ to co-habit with the husband. The difference between age at first co-habitation and the age of formal marriage may be large for child brides. The age at first co-habitation is significant for women, and determines their reproductive behaviour and outcomes, including the number of children, birth intervals, and adoption of family planning methods. The major data source having data on age at co-habitation is NFHS. DLHS and AHS provide some related data. DLHS-3 does not give age at co-habitation but has data on proportion of women who (married but *gauna* not performed) had not co-habited with spouse (under marital status of household members according to age categories (10–14, 15–19, 20–24, 25–29, 30–44, 45–59, 60+). Neither do the previous rounds of DLHS nor the AHS give data on age at co-habitation, but the latter has data on marital status of household members which include: never married, married but *gauna* not performed, married and *gauna* performed, remarried, widow/widower, divorced, and separated.

**National Family Health Survey:** The NFHS across its three rounds has data on age at first co-habitation with husband. Data on women who started living with husband before specific exact ages (13, 15, 18, 20, 22, 25) is available in NFHS 1, while NFHS-2 and -3 give cohabitation data by exact ages. From this information it is possible to calculate median age of cohabitation which is available in the respective reports by current age and residence for India and states (NFHS-1 & 2 for all women ages 25–49 years and NFHS-3 for all women 20–49 years).<sup>57</sup>

#### **6.4.3 Indicator 3: Percentage of Divorced Women**

Dissolution of marital relationship may take place through divorces, desertions, and separations. Desertion of the married partner for a period of time is considered and accepted by judicial courts for granting divorce/legal separation. It is also common to find couples who may not have legally separated/divorced, but are separated (do not live together). Though each mode of the above marital dissolutions is different, many data sources club them under one single category. The data on divorced/separated women is made available by the Population Census, SRS, NSSO, NFHS, AHS, and DLHS but percentage of divorced women can be worked out only from Population Census, NFHS, and AHS. SRS and DLHS gives widowed/divorced/separated as a

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<sup>57</sup> NFHS-3 also gave median age at first sexual intercourse among women age 20–49, by current age, according to background characteristics (residence, education, religion, caste/tribe, and wealth index).



single marital category. NSSO categories are never married, currently married, widowed, and divorced /separated. Thus, it clubs divorced and separated as one category.

**Population Census:** Until 2011, percentage of females who were divorced/ separated was clubbed together. The earlier data on marital status pertains that of never married, married, widowed, divorced /separated. The data for divorced/separated is available across age groups (all ages, 0–9, 10–14, 15–19, 20–24, 25–29...70–74, 75–79, 80+) across sex. Census also gives marital status according to social groups (SC, ST, others) from 1981 and also of religious groups (Hindu, Muslim, Christian, Sikh, Buddhist, Jain, others) from 2001. From 2011, it is possible to get the percentage of ‘divorced’ women separately according to age, social, and religious groups.

**Annual Health Survey:** In all rounds beginning from 2010–11, the AHS recorded marital status<sup>58</sup> of household members (usual residents) irrespective of their age from which percentage of divorced women in all districts of EAG states and Assam can be worked out.

**National Family Health Survey:** Across all three rounds, NFHS gives data on marital status and proportion of divorced women. NFHS-2 &3 give data for deserted apart from divorced and separated also. The data can be disaggregated across background characteristics such as age, social groups, and economic status.

#### **6.4.4 Indicator 4: Proportion of Remarried Women to Total Married Women**

Socio-cultural traditions of India historically prohibited remarriage, particularly those of upper caste women though similar restrictions were not applicable in the case of men. Today, remarriages of widowed, separated, and divorced women has increased, but restrictions and taboos, particularly in rural areas, continue to remain strong. The only national level survey that has data with regard to women’s remarriage is the NFHS.

**National Family Health Survey:** To ascertain the proportion of women who may have remarried, NFHS-1 asked ever-married women whether they were married ‘once’ or ‘more than once’. It also asked the age of the woman at the time of first marriage, age at the time of dissolution of marriage, and also the age when she entered into the current marriage. NFHS-2 and NFHS-3 also collected similar data through the women’s questionnaire from which the proportion of women who has remarried across socio-economic and religious categories for India and states can be calculated.

#### **6.4.5 Indicator 5: Proportion of Women having Access to Modern Family Planning**

Family planning has a significant impact on women’s lives. Knowledge and access to family planning methods helps in improving control over one’s life, specifically regarding limiting and spacing children. Proportion of women (15–49) having access to family planning could be defined as those who had used at least one family planning method at any time in their life to the

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<sup>58</sup> The detailed categories have been mentioned earlier.

total number of women in the age group. This gives us an idea about accessibility of family planning method.

The major sources of data that give information on the proportion of women having access to family planning methods are the NFHS, DLHS, and AHS.<sup>59</sup>

**National Family Health Survey:** Across its three rounds NFHS has data on ever use of family planning methods<sup>60</sup> according to age (15–19, 20–24, 25–29, 30–34, 35–39, 40–44, 45–49) and residence, for India and states. Data is also available according to background characteristics (residence; education; religion; caste/tribe; standard of living index; number and sex of living children).

**Annual Health Survey:** From its first survey in 2010–11, AHS has data on whether family planning method was used any time in the past in rural and urban areas of all districts in the EAG states and Assam. AHS asked currently married women (15–49) who were not using any family planning method whether she or her husband had used any method in the past and had discontinued it. The methods in AHS were divided into modern (tubectomy, vasectomy, copper T/IUD, pills (daily), pills (weekly), emergency contraceptive pill, condom/nirodh, other modern methods, and traditional (contraceptive herbs, rhythm/periodic abstinence, withdrawal, lactational amenorrhoea method, other traditional method).

**District Level Household Survey:** DLHS 3 gives data on ever use of contraceptive method of currently married women (15–49 years) according to background characteristics (age: 15–19, 20–24, 25–29, 30–34, 35–39, 40–44, 45–49; no. of living children: 1, 2, 3, 4+; residence: rural, urban; education: non-literate, less than 5 years, 5–9 years, and 10 + years; religion: Hindu, Muslim, Christian, Jain, Sikh, Buddhist/neo-Buddhist, others; caste/tribe: SC, ST, OBC, Others; wealth index: lowest, second, middle, fourth, highest) for all districts. DLHS-1&2 gave ever use of family planning by women (15–44 years) by background characteristics (age group: 15–19, 20–24, 25–29, 30–34, 35–39, 40–44; surviving children: 0, 1, 2, 3+; surviving sons: 0, 1, 2+; surviving daughters: 0, 1, 2+, etc.).

#### **6.4.6 Indicator 6: Proportion of Women having Freedom to Visit Natal Family and Public Places**

Women face many restrictions after marriage and a major restriction relates to visits to natal family. NFHS is the only data source giving information on women's freedom to visit friends or relatives and involvement in decisions regarding staying with parents/siblings. In addition to freedom to visit, data on freedom to stay, as well as days of stay with natal family (after marriage) would give a better picture with regard to real marital freedom.

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<sup>59</sup> Different aspects of contraceptive use were covered by both the NFHS and DLHS. These included awareness, status of ever use, and current contraceptive status. Current use of contraceptives or the contraceptive prevalence rate is already covered under the theme of health.

<sup>60</sup> The specific contraceptive methods were: any method, any modern method (pill, intra-uterine device (IUD), condom/nirodh, female sterilization, and male sterilization), any traditional method (rhythm, safe period, withdrawal, any other method). In NFHS-2 & NFHS-3 modern contraceptive methods also included female condom, emergency contraception, and injectables. Further, folk method was added under traditional methods.

*National Family Health Survey* attempted to capture freedom of ‘movement’ since the second round. NFHS-2 provided data on ever-married women who had freedom to ‘*go to the market*’, ‘*visit friends or relatives*’ and ‘*stay with parents/siblings*’.

NFHS-3 (2005–06) provides information on currently married women aged 15–49 who usually made decisions on visiting natal family either independently or jointly with their husbands. The data for all the rounds can be disaggregated by background characteristics addressing issues of small sample size.

#### **6.4.7 Indicator 7: Freedom to Make Routine Household Decisions** (major economic decisions have been covered under economic status).

Many households do not allow women to take even routine decisions (like what to cook for a meal) independently without approval of either the husband or an elder in the marital home. NFHS is the only data source having some information on women’s autonomy with respect to routine household affairs and purchases.

*National Family Health Survey:* NFHS-2 and NFHS-3 tried to measure women’s freedom with regard to routine household decisions based on how decisions with regard to making purchases for daily household needs was done by currently married women (15–49 years). Based on women’s responses, it gave the proportion having freedom to take decisions independently, took decision jointly with husband, decision was taken solely by husband, and by someone else. It also asked women ‘who took decisions’ with regard to ‘what item to cook’; whether it was independently decided by her, the husband, jointly with husband, others in household, or jointly with others in household. The data for all the rounds can be disaggregated by background characteristics addressing issues of small sample size.

#### **6.4.8 Indicators for ‘Institution of Marriage and Family’: Limitations and Comments**

Data on marriage, especially age at marriage, could be unreliable. Many marriages even now are not officially registered and parents at times may falsify girls’ ages (which is easier in rural areas where birth certificates are almost non-existent). This increases the possibility for errors at source. Data on girls who get married below the age of 15 is highly problematic as households are secretive due to the legal restriction on age at marriage.

Many women under patriarchal pressure are forced to marry irrespective of their wishes. Though the number of forced marriages is clearly very high with growing complexities and violence associated with them, no data is available on forced marriages. Though NFHS has some question on women’s decision making-in marriage, it does not provide any data on forced marriages. Prevalence of cross- regional marriages, percentage of inter-caste marriages, and percentage of love marriages gives insights into the struggles and freedoms that women have in decisions related to marriages. These estimates are also equally important to analyse the changing patriarchal structures and caste driven power relations within families and communities. A national level survey on marriage, related practices, and customs may be desirable.

No data is available on number of remarried women subsequent to divorce, separation, or death of the husband, though now data on separate heads for divorced and separated women are available even from the Census.

Reproductive freedom is an issue that many women face, though reliable data on this is difficult to collect. NFHS, over the years, has improved their coverage and scope which could be further modified to provide reliable data on these aspects.

Apart from whether women visit their natal family or not, the average number of visits and days of stay at natal family are important indicators of women's freedom after marriage. Though NFHS gives data on women's freedom to visit natal family and providing them financial help, it does not capture the above dimension without which the data is incomplete. Decision-making is often not a simple and straightforward process but depends on a variety of factors. This is especially true in the context of daily decisions and hence it is not easy to capture these in terms of multiple response/choice based queries. The social understanding of decision-making may also influence their choice of answers and hence reliability and use of a simple questionnaire survey based data is problematic.

## **6.5. PARTICIPATION IN POLITICAL AND COLLECTIVE SPACE**

Access to political and collective spaces is denied for large number of women across all socio-economic categories. Political participation of women and their engagement in the electoral process is an important marker of equality and freedom. India has seen low levels of unionization of workers and very low levels of women's participation in unions. However, there are numerous cases where participation in trade unions and other collectives has helped many women to access public space, and contribute to individual and social empowerment of women.

Under the sub-theme of *political participation*, the specific indicators are participation of women in collective institutions; gender gap in voter turn-out, number of women candidates in elections, number of elected women representatives (PRIs, Assembly, and Parliament), proportion of women members in political parties, and proportion of women in leadership positions in major political parties. Proportion of women members in political parties and Proportion of women in leadership positions in major political parties are two indicators for which the data availability is very bleak.

### **6.5.1 Indicator 1: Participation of Women in Collective Institutions**

Women collectives, particularly the popularization of the self help group (SHG) movement as well as community-based organizations has helped many women to access public space in the past few decades. There are many forms of collective organizations of which the most important are trade unions and the SHGs. Women's participation in trade unions is well below the desired level in contrast to SHG's of which more than 90% are women only SHGs. NABARD has information on the number of SHGs based on data on SHG-bank linkage programme (through

commercial banks, regional rural banks and cooperative banks) since 1992–93. But NABARD data does not include all SHGs, particularly those nurtured by government programmes and microfinance institutions; nor does it include active SHGs who had not availed bank loans. Because of this lacuna, we do not have clarity on the actual number of loans/SHGs or the average number of loans a woman may have availed as member of different SHGs from banks/micro finance institutions as well as from government schemes. Thus, though women are increasingly participating in SHGs and similar forms of collectives like joint liability groups (JLGs), national level data is not available from any secondary sources.

Participation in trade unions or labour unions helps women to negotiate for their rights and bargain for better wages and working conditions. National level data is available on union participation from the Labour Bureau and the NSSO.

**Labour Bureau:** The Rules Framed under the Trade Unions Act, 1926, impose obligation on the registered Trade Unions (Workers & Employers) to submit annual statutory return in the prescribed format to the Registrar of their respective states/UTs. These state/UT authorities in turn furnish the consolidated data in respect of the entire state/UT. to the Labour Bureau. The Labour Bureau compiles and disseminates these statistics at the all India level. The data is not reliable as even among registered unions, the response rate of unions submitting annual returns is generally less than 5%. There are no data available regarding unregistered unions. The coverage of statistics is also incomplete due to the fluctuating response rate from year to year. In order to overcome the difficulties of the unreliability of these data, the Chief Labour Commissioner (Central), under the direction of the Ministry of Labour and Employment, conducts verifications of membership of trade unions affiliated to Central Trade Union Organizations. These general verifications of membership of trade unions are carried out irregularly and hence the data availability is irregular. The latest data available is for 2008 and it gives sex-wise data.

**National Sample Survey:** The NSSO has made available data on union membership of women workers since the 50th round. The 50th and 55th rounds of NSS had only two questions on unions: *Is there any union/association in your activity*<sup>61</sup> and *Whether a member of union/association*. In the 61st round, the concept was defined for better collection of data. It defined union/association as any registered/ recognized body whose membership was open to a section of those engaged in a specific activity or trade, and whose main objective was to look after the interests of its members. The proportion of usual status workers (male and females) who had no union/association in their activities was also recorded in the recent rounds. The 68th round in addition to the above also specified that besides the usual trade unions, this category also covered the association of owners and self-employed persons, etc. The data like other statistics from NSS can be disaggregated across activity status and industry, apart from social and demographic variables.

## 6.5.2 Indicator 2: Gender Gap in Voter Turn-Out

Exercising voting rights and contesting for elections are also important elements determining women's access to public space. The Election Commission of India provides data on women voters (and also of men) across *Assembly* and *Parliament (General)* elections.

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<sup>61</sup> In the 50<sup>th</sup> round it was trade union/association.

*The Election Commission of India (EC)* provides data on percentage of female voters out of total eligible voters across elections. The EC also gives state-wise data on registered women electors (%), votes (%) polled by women out of total votes, and women voters (%) out of registered women electors. Similar data is also available for males from which gender gap in voter turn-out can be worked out from 1957 onwards. State-wise gender gap can also be worked out both for Assembly and Parliament elections.<sup>62</sup> The EC has data on total number of male and female voters as well as the proportion who cast their votes in all elections except for the first which took place in 1951. There are no possibilities of any disaggregate analysis.

State assembly data on contestants and voters is available from the year of first election to Legislative assembly, for instance for Karnataka from 1957, for Arunachal Pradesh from 1978, and so on.

### **6.5.3 Indicator 3: Participation as Candidates and Elected Representatives**

The 73rd and 74th Amendment to the Constitution of India through affirmative action (one-third of seats in urban municipalities and the village *panchayat* became reserved for women) created both the space and opportunity for women to participate in local politics and governance structures. The ‘quota’ system has ensured representation of women in local self-government institutions (*gram panchayat* at the village level, *Janapad Panchayat* at the block level, and *Zila Panchayat* at the district level), but women’s participation in both assembly (across states and UTs) as well as the parliament elections continue to remain low.

The EC gives data on women and men candidates as well as those who are elected in political bodies for parliament and state legislative assembly elections. For local bodies, the data is provided by the *Ministry of Panchayati Raj* for local self government institutions.

*Election Commission of India (EC)* has published state/UT-wise number of seats, women/men contestants, and number of women/men elected from which we can calculate the gender gap in those elected to parliament. Similarly, it has data on state/assembly elections. Data on number of women candidates contesting (as well as total seats) and seats won by them are available from the second general elections. Data on women members in Rajya Sabha is also available from 1952 onwards. The EC publishes data on number of women candidates who participated in the parliamentary elections and the number that were elected from various national political parties (BJP, BSP, CPI, CPM, INC, NCP, and RJD). The EC also has data on number of women candidates who contested and won elections representing national parties, state parties, registered (unrecognized) parties, and as independents. There are no possibilities of any disaggregate analysis.

*Ministry of Panchayati Raj* gives state-wise data for women representatives in the three tiers of local self government (LSG), that is, *gram panchayat*, *intermediate panchayat*, and the *district*

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<sup>62</sup> There have been 16 general elections since independence. The first general election took place in 1951, followed by 1957, 1962, 1967, 1971, 1977, 1980, 1984, 1989, 1991, 1996, 1998, 1999, 2004, 2009, and 2014.

*or zila parishad*.<sup>63</sup> It also gives the total number of representatives at each level from which gender gap among representatives in LSGs can be worked out. However, no data is available on the number of women who contested, which is an important indicator of women's political participation. Information is available from the early 2000s.

#### **6.5.4 Indicators for 'Participation in Political and Collective Space': Limitations and Comments**

The exclusion of women from positions of power seriously affects the ability to challenge the subordination of women in all its manifestation. Political participation means not only exercising the right to vote, but also power sharing, active role in decision and policy making at all levels of governance. Political participation of women can be measured in three different dimensions: their participation as a voter, their participation as an elected representative, and their participation in the actual decision making process. While data is available on two of these aspects little is known on their contribution to policy making, which is the most crucial aspect of understanding women's political empowerment.

An important limitation of the data at the panchayat level is the non-availability of statistics on women contestants. In the context of reservation for women, their number among the elected representatives is bound to go up. But, whether the increased number of women representatives in panchayats have facilitated more women to contest in non-reserved seats as well, is another interesting dimension. However, no data is available on the number of women contestants in the non-reserved seats.

Women's participation in political and collective spheres is limited due to various socio-cultural barriers as well as levels of exclusions practiced by patriarchal leaderships. Another dimension, equally or more important than the number of elected women representatives, is the data on membership of women in political parties. Currently, this data is not available in the public domain. Further, data is missing with regard to the number of women occupying leadership or key positions in political parties as well as the numbers engaged in active campaigning.

Data on women's participation in collective institutions such as trade unions and women's collectives are also not collated or collected regularly. Though data on union membership is collated by the Ministry of Labour disaggregated across male and females, this data is highly irregular and unreliable. Neither are data available on women in leadership level/proportion occupying leadership positions in these trade unions.

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<sup>63</sup> The Act is yet to be extended to Jammu and Kashmir and is not applicable to Meghalaya, Mizoram, and Nagaland as they have traditional councils.

## **CHAPTER VII**

### **CONCLUSION**

The proper measurement of gender inequality and women's status is an extremely important issue that must be addressed in order to monitor the situation of women and the degree to which policies in general as well as those specific to women's development are achieving their goals. For those who are concerned with redressing inequalities, gender disaggregated data and indices are important as it provides indications on the status and specific dimensions of various issues that they should address. The purpose of gender sensitive indicators is to generate specific sets of information which could help in the identification of areas for intervention to achieve gender equality. Further, without such data, it is impossible to monitor the effectiveness of any intervention. Thus, gender disaggregated data and indices are tools that can be used to identify gender inequalities, determine priority issues and steps to redress them, provide feedback on interventions, and re-prioritize allocation of resources.

An important challenge faced by many who want to highlight specific issues of women or advocate for a gender sensitive policy is the lack and inadequacy of gender specific statistics. Though various data sources exist which provide information on a diverse set of variables, little is known on the possibilities and limitations of these statistics. Further, for many critical indicators either data sources do not exist or are of limited use. An overview of different data sources alongside providing an outline of the specificities of these are thus of utmost relevance.

The exercise uses the individual indicator approach as against composite index, which allows for considering a number of indicators. The approach to identifying specific indicators in the study was through an issue-based approach taking into account the various dimensions of a particular theme. The report has examined five broad themes, namely Health Status, Educational Status, Economic Status, Violence against Women, and Demographic, Social, and Political Status.

There are various dimensions of each theme and indicators for each of these dimensions are discussed in the report. The range of gender equality related indicators are numerous, and the list presented in the report has been arrived at through a Brainstorming Session involving experts and policy makers, apart from a review of exiting studies. The feasibility of calculating or measuring some of the indicators quantitatively is limited by availability of data.

#### **7.1. DATA GAPS**

The review exercise clearly brings out the vast range of current data and the richness of such data on monitoring various spheres of women's life. Clearly there are many aspects of women's lives that are now reasonably well captured, but which does not in any case rule out possibilities of further improvement. However, there are some critical dimensions and indicators which were currently out of the statistical data collection process completely. Further, though data on some indicators were available from the existing data sources, they were found highly inadequate due



to conceptual issues, limited scope or poor coverage. Another set of data, though reliable, do not provide scope for much disaggregate analysis, which is critical in the context of multiple identities in terms of region, religion, caste or class, or even age groups. The data gaps and way forward are thematically explained below.

### **7.1.1 Health Status**

The most important limitation of existing data is that while reliable data on many of the issues such as fertility and mortality are available at the national and state level, data at the district level is not available. Failure to have gender informed infant mortality indicators for diverse regions within states is a major handicap in carrying out analysis and making interventions.

Data on immunization and nutrition gap is limited even at the state level and comparability across data sets are issues. District level data is an issue with all the indicators, though AHS and DLHS do give limited insights into these dimensions. However, both AHS and DLHS do not allow for disaggregating the disparity that may exist across households and individuals. Averages often mask the wide disparity between extremes which could be either across regions, social groups; economic categories, and between males and females. Though some background information is collected in AHS surveys these are not completely or regularly analysed.

The NFHS data is clearly the most useful research data for many of the indicators of health as it provides for many levels of disaggregation. However, the quality of data is an issue. Underestimations of deaths are noted to be severe in the neo-natal stages and the quality of data also varies across different rounds.

Estimates of maternal mortality and its consequences are built on relatively limited data. An important issue with this indicator is that even large-scale surveys can not provide accurate estimates of maternal mortality at the sub-national level owing to sample size.

Since a larger section of women are still outside the coverage of basic reproductive programmes of safe birthing and related care, morbidity data is a crucial indicator of maternal health much more than that of mortality. Though rough estimates on maternal morbidity are available from SRS and AHS data, the quality of maternal morbidity data is a cause of concern. Data on maternal morbidity is highly unreliable and inaccurate as none of the existing sources capture the complex dimensions of maternal morbidity which ranges from physical to emotional issues.

The demand for healthcare has received relatively little attention, particularly because of the non-availability of representative household-level data sets. Though NSS health surveys provide the household aspects of the issue, not much information is available on the facilities for healthcare from NSS. Aspects like affordability, time, work, distances to be travelled, and faith in the abilities of the health provider are critical variables for women which are not given due consideration and continue to be a major limitation.

Data on women with fatal diseases like TB, Cancer and HIV is at present limited given the poor reporting of health status of women in general and the inability of the existing surveys to capture these. Though a few sources exist, data on reproductive and sexual health including HIV is a

cause of concern due to the known reasons of under-reporting. Age specific information is critical as sexual health of adolescent women impact maternal mortality and morbidity.

In the context of large-scale withdrawal of the state from the health sector and given the possible gender biases that accompany individual and private health insurance coverage there is a need to collect gendered data on health insurance at the national level.

Though surrogate motherhood is growing in India, there is no official/national level data available owing to many reasons. Generating data based on household sample surveys on such an issue is complex as the level of secrecy involved in surrogacy is high coupled with the prevalence of few cases which such surveys cannot capture adequately.

Data on disability is yet another area of concern. The concept and categories of disability covered in the data sources on disability are limited and problematic though there has been a broad change in the approach followed over years. The definitions followed especially on mental disabilities are vague and much is left to the individual and social perceptions which surely have a gendered impact. Besides, there are also specific indicators on disability that are important from a gender sensitive perspective. The most important of these indicators is old-age disabilities.

### **7.1.2 Educational Status**

A number of challenges and problems continue to constrain data on women's education. Quality and reliability of data collected is an issue given the wide discrepancy across sources of data. Indicators on enrolment, attendance, and drop-out vary considerably between the official source and NSS, clearly reflecting the methodological, definitional, and conceptual issues in these surveys.

No cross-checking or validation of data is done which makes the official data highly unreliable. Though the higher education data provided by MHRD is comprehensive, issues exist in term, reliability, representativeness, and delay. Under-reporting of enrolment alongside the massive expansion of private and unrecognized institutions which are outside the purview of this source makes the statistics under-estimates. Gender biases and gaps are bound to be pronounced at a greater scale in these private schools which are market driven. No information is available on the social characteristics of the students except SC, ST, and others which limit its usefulness in terms of providing a disaggregate picture. Even for DISE, which is computerized data, misreporting by schools is an issue.

Though completion rates are available from different sources, the quality of data is definitely an issue. Alongside completion rates, repetition rates and grade transition rates are important variables that need to be captured for a gendered analysis of schooling. None of the sources give data to capture these dimensions.

No reliable data on the division between drop-out and never-enrolled is available. NSS, Census, Education departments and other household surveys give some division between drop-out and never-enrolled but the data vary across sources suggesting unreliability. These are important

gender indicators as many girls may not get enrolled at all even though drop-outs may be less. This data gap needs immediate consideration.

Yet another dimension that needs attention is the distribution of students by medium of education, as in many parts of the country girls are sent to vernacular medium schools as against boys who are put in English medium schools. Except for DISE, no information is available on the gender-wise distribution across medium of education. Since a large number of English medium schools are in the unrecognized category, DISE data is not reliable.

The data generated from institutional sources does not shed light on student and household socio-economic characteristics such as caste, religion, occupation, income, etc., while the household surveys do not contain information pertaining to educational institutions.<sup>64</sup>

Collection of regular data on achievement (quality of education) is not part of the national official data system. Official data generation on this is a priority concern. The National Achievement Survey (NAS) conducted by NCERT among Class V students is limited to government and government-aided schools. No enrolment and attainment data is available for the Non Formal Education (NFE) centres, though there are a large number of such centres in the country. No gender data is available on these institutions.

Pre-primary education or early childhood education is yet another area where availability of data is highly inadequate. Gender-wise data on enrolment, fees, male/female teachers, etc., of these pre-primary schools could reveal interesting dimensions of discrimination.

Data on basic infrastructure which has significant implications on girls' education is limited and unreliable. Though DISE and ASER collect data on these at the school level, the coverage of these surveys is limited. NSS data on the other hand is based on household survey where the chances of misreporting on facilities in school are high, as in many cases it is the perception of the respondent and not the experience of the student that gets captured.

Though the higher education data provided by MHRD has improved over time, there are issues of delay, reliability, and representativeness. In the case of higher education, unlike that of school education, under-reporting of enrolment is an issue as many institutions are constrained by sanctioned strength. Further, there has been a massive expansion in private institutions and unrecognized institutions which are outside the purview of this source and, as discussed earlier, are bound to have gender implications. Further, only limited information is available on the social characteristics of the students which restricts its usefulness to study gender informed social group inequalities in higher education.

Most of the data sources provide only a generalized picture and are inadequate in providing a disaggregate picture. NSS data which allows such analysis is limited by its focus on households and by its sample size. No information is available on aspects such as enrolment in self-financing institutions/courses, quality of the institutions, performance in terms of grades/class, or marks obtained in the examinations which are critical issues for gender sensitive analysis.

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<sup>64</sup> ASER is the only data source that collects information from both sources.

There is a real dearth of data on vocational and training programmes and its details, as bulk of these are in the informal sector. No systematic data is available even on vocational and training courses imparted by state institutions like the ITIs. With changing demands in the labour market and given the gender-based occupational segregation, certain trades are bound to be dominated by women while in many others they could even be absent.

### **7.1.3. Economic Status**

Data sets on many indicators on economic opportunities are limited to NSS and Census data. Except for these, there are few and varied sources but they do not capture women's work or employment effectively. The data provided by both NSSO and Census on women's economic opportunities are reliable and the quality of data has improved over time.

Under-reporting of women's work has been an issue with both these data sources which is also due to the inherent and overlapping nature of women's work with domestic duties. Further, many economic activities carried out for the household such as processing of agricultural products for own consumption and collection of food, water, and fodder are not counted as economic activity. None of these sources provide information on women's housework which helps in unpacking the intersection between paid and unpaid work.

Though the importance of generating data on home-based workers is well acknowledged, the data pertaining to this dimension is still not adequate. Unless appropriate questions to capture the specificities of home-based work are canvassed (particularly about existence of contracts, etc., in the case of home workers) one would not get a clear picture of the various dimensions of home-based work. The quality of wage data needs to be improved. Data on earnings for the self-employed and its various categories needs to be captured in the NSS surveys by appropriately redesigning the schedule.

At present none of the data sources capture the actual duration of employment and working hours, which in the current context are bound to show sharp gender differentials. Further, no data is available on gender-gaps on many employment related aspects in the corporate or other private sectors.

Data on female labour migration is clearly inadequate, as a mono-causal approach without any probing question is used to elicit information on migration. The above issue has already been raised but changes are yet to take place.

Data on gender differences in employment contracts, rights at work, access to social security, and other benefits are critical in the current context, with increased informalization of employment. Statistics on these would help in explaining the tendencies of withdrawal and intermittency of women's employment. Though the recent round of NSS EUS surveys has incorporated some of these concerns, the data is still limited.

An important gender limitation of the existing statistics is that of absence of data on ownership of land and other assets. This can be addressed to a large extent if all the data that are collected at the household level could be gender disaggregated. On critical variables such as earnings, ownership of land and assets, and debts the data should be collected separately for men and

women. The NSSO could also undertake a pilot survey on women's ownership of assets, including land and housing drawing lessons from the Karnataka Household Asset Survey (KHAS).

The data on women's financial aspects is in its nascent state and there is a need to widen the scope of the BSR by providing gender-based information on all major heads. A critical gender gap is in relation to decision-making and control over income/ resources.

#### **7.1.4 Violence against Women**

Over time, timely annual data on crime against women is available from official sources and there has been much improvement in the quality of data. However, many limitations still exist. An important limitation which is bound to exist with the official source of data is its limited coverage since only those that are reported to law enforcement agencies are covered.

Further, since NCRB segregates crimes under fixed categories. There are cases which involve multiple crimes, however they get reported only under one crime based on the seriousness of various charges. As a result, heinous rapes are often classified under murder thereby not giving the real nature of crimes.

Under crimes against women only certain section of the IPC are included, but women are also victims of other crimes under other sections as well. This data is not easily available nor can it easily be compiled from NCRB data.

No socio-economic category-wise data is available from NCRB, which is a major limitation for any disaggregate analysis and related interventions. District level data is required which would increase the utilization of such data for analysis and interventions at the grass root level. Further, no data is provided on the disposal of cases of crime against women, or the number of persons arrested, and so on. There is a need to review existing parameters and framework, and develop new systems for reporting crime data.

The form and nature of crimes have changed over time and hence the data provided by the NCRB does not reflect the reality. Crime among live-in relations, honour killings, marital rape/violence, cyber crime, cyber bullying are among those crime that have been on the rise but there is no data available on these. An urgent review of existing statistics on crimes against women is required to see the possibility of capturing these crime heads.

Existing data on sexual harassment at the workplace touches only the tip of the iceberg with increasing cases being reported from various quarters. Sexual harassment at the workplace has risen and data needs to be collected under detailed sub-divisions of the new law. Further, no data exists on workplace related violence except sexual harassment.

No statistics are available for the entire gamut of non-cognizable offences which are very important for knowing the overall crime situation and for designing policy interventions. Thus, it

is imperative now to supplement official data with survey data to give the true picture of the issue.

Data on domestic violence is poor and is a neglected area by statistical agencies. Collecting valid, reliable and ethical data on domestic violence is a challenge and special focused surveys are needed which capture the various dimensions of domestic violence both the physical and emotional aspects.

Strengthening of NCRB data alongside conduct of special surveys at regular intervals on various forms of violence with specific and focussed questions seem to be the only way to collect reliable information on intensity and dynamic nature of the issue. A comprehensive household survey covering different forms of violence is of immediate need.

### **7.1.5 Social, Demographic, and Political Status**

Census alongside the SRS and other periodic demographic surveys with their known limitations are able to provide a broad picture of the gendered demographic transition.

Statistics on vulnerable women is scanty whether it is related to houseless women, destitute women, displaced, or trafficked women. With suitable mediations some of the concerns can be addressed through existing data collection mechanisms. Though Census collects data on the houseless, the needed gender sensitive information is not collected. Another group of vulnerable women are the old and destitute, of whom some would be in old-age and destitute institutions, but no data is available on the number of such women. Since Census covers all institutions and individuals, a question on individuals' residential status can give data on this dimension.

Another major black hole in the data on vulnerable women is trafficked women. NCRB data gives statistics on cases that are registered but captures only a small fragment of the issue. Given the growing complexity of the issue, the need for reliable data is high but designing methods to measure these would be a challenge.

The data on female-headed households as it is provided by the Census and NSS is based on 'recognition approach' in contrast to a 'functional approach' which has been pointed out by many experts. Given the limitations of such an approach, it is necessary to redefine the concept of the household. Statistics on women who are living alone is also an extremely important indicator of women's status. No reliable data is available on this dimension at all.

A dark hole as far as data on social indicators are concerned is that of marriage. On many aspects of marriage, no data is available such as forced marriages, cross-regional marriages, inter-caste marriages, love marriages, and decision-making in marriages. Though data is available on few dimensions, these are highly unreliable. Even data on age at marriage is unreliable due to poor registration of marriage and reporting errors. No data is available on number of remarried women whether it could be because of divorce, separation, or death of the husband. These indicators are also important to analyse the changing patriarchal structures, and power relations within families and communities.

The data on women's political participation is also extremely limited. While data is available on women voters and elected representatives, little is known on their contribution to policy making, which is the most crucial aspect of understanding women's political empowerment. Further, no gender analysis incorporating social and demographic aspects is possible from the existing data.

An important limitation of the data at the Panchayat level is the non-availability of statistics on women contestants. An important dimension, which is equally or even more important than number of elected women representatives, is the data on membership of women in political parties. No data is available in the public domain on this dimension. Further, data on the number of women in leadership or key positions in political parties or as campaigners is completely missing. Data on women's participation in collective institutions such as trade unions and women's collectives are also not collated or collected regularly.

## **7.2. WAY FORWARD: POSSIBILITIES FOR IMPROVED GENDER DATA**

The analysis clearly brought out many gender gaps in statistics which can be addressed by gendering existing household and administrative sources, enlarging its scope or by developing new data bases. There are many ways in which existing data can be modified or used to provide better information on women's status. Existing databases can also be enriched by adding specific modules on women- specific issues or by redefining its sampling frame and samples. The need to relate indicators to women's specificity in terms of age, religion, caste, marital status, income, and other related characteristics is important as outcomes can vary substantially by these variables. In the following subsections, some of the possibilities of improving gender based data both by improving existing statistics as well as undertaking fresh surveys/compilation is discussed. The same has also been given in a tabular form.

### **7.2.1 Health Status**

**Existing Sources:** For vital statistics related to births and deaths, the only feasible way to improve existing statistics on women is to strengthen the civil registration system. The AHS, which is relatively a fresh initiative, has a large enough sample size to obtain district level estimates on many indicators. AHS is a good source for gender-based health indicators including maternal mortality. However, the coverage could be expanded to other states and background data should be collected regularly. The raw data may be made available which will permit further analysis.

The only way to plug some of the limitations on data pertaining to key indicators at the district level is to widen the scope of the DLHS survey which at present focuses on indicators pertaining to maternal health and child welfare programmes. Consistency and comparability are to be ensured across DLHS rounds and nutrition aspects should be part of all DLHS surveys. However, since the survey does not provide background characteristics in all its rounds, it is important to design periodic household surveys.

NSS health surveys should be redesigned to make them more gender sensitive. Concepts and definitions related to many dimensions such as immunizations, morbidity, disability, etc., needs to be revisited and modified alongside reference periods. Sexual and reproductive health should also be captured adequately. The growing importance of insurance schemes calls for regular data not only across sex, but also other socio-economic and demographic variables which the NSS health rounds could capture if modified suitably. NFHS could revisit some of its concepts such as nutrition, morbidity, and maternal care to bring in consistency. There is also a need to expand coverage of certain issues such as nutrition and morbidity to all women, irrespective of the women being in the reproductive age group or otherwise.

Poor data exists on the sexual and reproductive health of women. The DLHS-3 provides extensive data on this dimension which should be continued in the future rounds also. Data on sexual and reproductive health needs to be collected from all women irrespective of their marital status.

Uniformity in the definition of various concepts such as immunization, prenatal and ante-natal care, institutional delivery, hospitalization, out of pocket expenditure, disability and so on, across data sources and various rounds is required..

***New Surveys/Data compilation:*** Regular surveys on nutrition are required and the possibility of NNMB revamping earlier surveys on nutrition may be explored.

Since large surveys are bound to under-report prevalence of sexual health issues, there is a need to design smaller surveys targeting different segments of the population taking into account social, demographic, and economic aspects.

Data on women beneficiaries of various health schemes needs to be compiled which could be undertaken by the Ministry of Health and Family Welfare and Ministry of Women and Child.

Data on surrogacy is not available and sample surveys are not a viable option to collect the data. The state machinery should generate regular data based on records from hospitals/reproduction centres which could be published periodically.

Data availability on health parameters are poor in the context of institutionalized persons, the homeless, refugees, or nomadic populations where many women may be found. These institutions need to be specially targeted for generating good gender sensitive data.

### **7.2.2 Education Status**

***Existing Sources:*** Cross-checking and validation of all official data sources such as MHRD, DISE, and AISES is required on a priority basis. Official data formats could be revisited and necessary changes could be made to collect basic data on household characteristics of students. There is a need to enlarge the data collected from the institutions by collecting additional information on students' socio-economic characteristics. A system of 20% sample data collection along with collection of education data may be introduced. The diversity of the educational



systems should be captured by making it mandatory for all education institutions to report basic information irrespective of their status.

Data on non-formal education should be collated regularly as in the case of formal education. The ministry can develop a separate format for collating this information. There is a real dearth of data on women's education in vocational and training courses, and no systematic data is available even from public sector institutions. DGET needs to collate data from ITIs and ITCs systematically and regularly.

Data to be collected on drop-out rates, out of school children, repetition rates, grade transition rates, completion rates, and quality of education on a systematic basis after addressing definitional and conceptual issues around these dimensions. On single-teacher schools across states, gender disaggregated information may be given in both DISE and AISES. On facilities there is a need to collect data not only on availability, but also on its use both by DISE and AISES.

The scope of the National Achievement Survey (NAS) conducted by NCERT among Class V students could be expanded to cover all schools. This alongside ASER surveys can give some insights on the quality of education aspect.

Considering the rapid changes that are taking place in higher education and being the only survey that provides information at the household level for both rural and urban areas and also on net enrolment rates and private cost of education, periodicity of NSS survey has to be improved. It can be conducted on or quinquennial basis like the Employment Unemployment Surveys. Despite the large volume of information collected by NSS, the sample design and sample size impose constraints for bringing out reliable estimates of gender-wise patterns and changes. This needs to be addressed by reviewing existing sample design and methodology. On gendered vocational education, the efforts by NSS in its recent rounds may be continued.

Though DGET at present provides statistics on technical education, the data is partial and highly irregular. There is a need to collate data from ITIs and ITCs systematically and regularly disaggregated by sex and other possible divisions/categories.

Consistency across data sources should be maintained in the definition of various concepts across sources, which help in cross checking the reliability of different data sources.

***New Surveys/Data compilation:*** A one-time survey of pre-primary education institutions is required for providing a base for understanding core issues. This would require detailed planning and designing.

There is a need to expand the coverage of ASER to urban areas where changes have been drastic, as it is the only survey which captures various dimensions of schooling and its gendering both through household and institutional level data.

A national level survey on higher education institutions mapping the structure and layers, courses offered, student profile (information on sex, age, religion, caste, and economic status), teacher profile, etc., is critical to map the canvas as well as for designing periodic surveys in future.

### **7.2.3 Economic Status**

**Existing Sources:** There are many suggestions put forth by experts working on the theme for a comprehensive accounting of women's work by revising concepts and adding new dimensions. The concept of work is to be revisited in both Census and NSS to make it more gender sensitive. The scope of data collection of NSS on domestic duties could be extended at least in alternate surveys to include housework as a separate activity and related data could be collected from all persons irrespective of their status.

NSS survey schedule needs revision on questions on home-based work. Appropriate questions should be developed to capture the specificities of home-based work (particularly about the existence of contracts, etc., in the case of home workers). Data on earnings of the self-employed and its various categories such as home-based workers, subcontract workers, and employers needs to be captured in the NSS surveys by appropriately redesigning the schedule. NSS employment and unemployment surveys should be modified to collect data on basic rights and social security coverage at the workplace, including maternity benefit, crèche at workplace, career/job break, distance travelled to workplace, availability and mode of transport, and so on.

With regard to female migration the available data sources, that is, the Population Census and NSSO are inadequate. The survey schedules of these sources need review and revision so that multiple responses are captured alongside the diverse issues and dimensions of migration. Migration related information could also be included in all the quinquennial rounds on employment for generating regular and reliable data.

On financial aspects, there is a need to widen the scope of the BSR and ensure that it provides gender-based information for all major heads.

**New Surveys/Data compilation:** Conduct of time-use surveys should be a priority not only for measuring women's economic contribution, but also for understanding gender inequalities in house work. The data needs to be generated at fixed intervals and a gap of 10 years, given the extensive field work requirement, seems practical which assures continuity in information. TUS can give better estimates of women's work, both paid and unpaid work, and its various dimensions including formal and informal work.

A special survey to capture gender gap in the corporate sector is recommended. Occasional surveys on specific sectors/industries which employ women in reasonable numbers could be focused to begin with.

It is difficult to capture dimensions of decision-making and control over income/resources through questionnaire based large surveys and hence pilot women-centric surveys may be undertaken to capture these dimensions occasionally.

An attempt is needed to document ownership of assets among women. NSSO should undertake a pilot survey on women's ownership of assets, including land and housing, drawing lessons from the Karnataka Household Asset Survey (KHAS).

#### **Karnataka Household Asset Survey (KHAS)**

The survey was undertaken across eight districts of Karnataka. Some critical features of the survey and instrument design are given below:

- Contrary to conventional survey practices of interviewing the household head, a primary respondent identified as the household member best aware of the household's economic circumstances, specifically household assets, was interviewed.
- If the primary respondent identified was married, then her or his spouse was interviewed as the secondary respondent. If unmarried, then another adult household member was selected as the secondary respondent based on a set of protocols.
- As far as possible, the respondents within a household were of the opposite sex to capture both men's and women's views on asset ownership.
- The survey obtained information on all the physical assets including residence, agricultural land, other forms of real estate, livestock, agricultural tools and equipment, non-farm business activities and consumer durables.
- Information on asset values was collected as well. For immovable property (house, land, other real estate), different types of values including the sale, lease, and replacement (for built-up property) values were obtained. For all other assets, only sale values were recorded.
- Data on modes of asset acquisition which can be used to uncover institutional and other barriers to individuals' asset acquisition was also obtained.

#### **7.2.4 Violence against Women**

**Existing Sources:** There is a need to review existing parameters and framework of NCRB and develop new systems for reporting crime data. It is suggested that there should be a provision to report a case under multiple IPC heads to capture the complexity of the issue. Also, data across all IPCs should be segregated by gender. Crimes registered under the SC -ST Prevention of Atrocities Act should also be provided by gender. There is a need to report basic demographic and social backgrounds in the case of all crimes against women for obtaining a holistic picture.

NCRB data formats should be reviewed to cover the changing form and nature of crimes. Crime among live-in relations, sexual harassment, honour killings, marital rape/violence, cyber crime, and cyber bullying, are some of the crimes which are increasing. An urgent review of existing

statistics on crimes against women is required to see the possibility of capturing these crime heads. Detailed sub-divisions within important categories such as rape and sexual harassment should be thought of. Additionally, data on numerous and increasingly common crimes that were recognized by the Criminal Law Amendment Act, 2013, like gang-rapes, acid attacks, stalking, among others should be provided soon.

***New Surveys/Data Compilation:*** In the absence of any comprehensive statistics on violence against women, a national level survey on violence is an immediate requirement. It is imperative to supplement NCRB data with this survey data to give the true picture of crime/violence against women. Such surveys should also cover all workplace related violence apart from sexual harassment which may be physical, emotional or both. These surveys may also incorporate special components to capture domestic violence which could be developed using the international definition of violence. It is suggested that NFHS-3 modules on violence may also be reviewed and adequately modified.

Apart from a national level survey there is a need to conduct special surveys at regular intervals on various forms of violence with specific and focussed questions which may be the only way to collect reliable information on specificity and changing dimensions of various forms of violence.

### **7.2.5 Critical Demographic, Social, and Political Aspects**

***Existing Data:*** Definition of household head to be changed taking into account the functional criteria both in Census and NSS is a major suggestion. The definition of household followed in KHAS may be reviewed for this purpose.

Census modules should be adequately modified to record the specificity of houseless women with regard to their family status. Further, since Census covers all institutions and individuals, a question on individual's residential status could be included in the Census schedule to capture data on women in old-age and destitute institutions.

Compilation of programme based data on women beneficiaries under various schemes/programmes of state and central government are required, which may be taken up with different implementing ministries. Administrative compilation of such data is possible though there could be many limitations. The final integration, compilation, and publication of data could be undertaken by WCD.

There is a need to cross-check data on age at marriage for all existing sources to reduce error at source. Additional questions such as age of the first child, etc., could be included in the survey schedule. Reproductive freedom is an issue that many women face though reliable data on these are difficult to collect. NFHSs over the years have improved their coverage and scope which could be further modified to provide reliable data on these aspects.

Since NFHS covers many issues related to decision-making and marriage, it could also collect data on forced marriages through questions on women's decision making and marriages.

The scope of data provided by the Election Commission and Ministry of Panchayati Raj could be relooked at and adequately modified to allow for further gender-based analysis. It is suggested that the Ministry of Panchayati Raj should provide data on women contestants in non-reserved seats also.

***New Surveys/Data compilation:*** There is an urgent need to generate basic data on vulnerable women. Towards this, targeted sample surveys at specific intervals may be taken up on houseless and trafficked women. It is also important to develop and formulate innovative methodologies and targeted surveys for generating better data on single women.

In the absence of any data on the institution of marriage, which is the critical institution that influence women's lives, a national level survey on marriage, related practices, and customs is an immediate requirement. This should cover cross- regional, inter-caste, inter-religious and other love marriages.

Holistic data on women in SHGs and other collective organizations are required which can be compiled administratively state-wise; Special surveys on elections with a gender focus are also suggested; these could be developed on the lines of Lokniti programme<sup>65</sup> of CSDS, New Delhi.

### **7.2.6 Integrated Data Initiatives**

There are definitely merits for focused surveys covering an issue or specific aspects of the selected theme. However, focused surveys limit the possibility of understanding complex interactions and entwining of issues which are important in analysing gender-based discriminations and women's status. Since NSS undertakes surveys on diverse issues such as employment, education, and health, apart from other social and demographic aspects, there is a possibility to supplement data on a theme by other surveys if they cover the same households. This will help in analysing the complexity of issues and unveiling some of the broader questions that may be difficult to capture by looking at one source alone.

There have been few attempts to capture various dimensions/aspects through a single survey (which are non-official data sources) by organizations at the national level. The Indian Human Development Survey (IHDS) of NCEAR is an important initiative in this regard.<sup>66</sup> The survey had covered a wide range of issues, and data is available on different dimensions of human development which include child care, child rearing, demographic characteristics, disposable income, education, employment, extended families, family background, fertility, gender roles,

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<sup>65</sup> Lokniti is a research programme of the CSDS established in 1997. The programme has carried out various national- and state-level cross-sectional surveys as part of its research on electoral patterns. This includes landmark studies such as a series of National Election Studies (NES) (1967–2009), a series of State Assembly Election Studies (1995–2011), State of the Nation Surveys (2006–11), the State of Democracy in South Asia Study (2005–07) and a series of Studies of Indian Youth (2007–11).

<sup>66</sup> Till now two surveys have been undertaken and the first round (IHDS-1) was undertaken in 2004–05 covering 41,554 urban and rural households in all states and union territories of India (except Andaman/Nicobar and Lakshadweep). During 2011–12, the second round (IHDS-II) re-interviewed the same households. Comparative time series analysis is possible with the two sets of data. The data of the first round is available, and the second round data is scheduled to be made public by 2015.

gender stereotypes, health, housework, housing, income, marital status, parents, social status, and socioeconomic status. The large coverage of issues facilitated analysis of associations across a range of social and economic conditions.

National Survey of Household Income and Expenditure also titled ‘Living in India Survey’ (2012),<sup>67</sup> is another initiative from NCAER which is a stand-alone survey that captures the socio-economic and demographic characteristics of households, with a particular focus on income and expenditure, savings and debt, and other aspects of household life such as amenities and dwelling details, water usage, and health.

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<sup>67</sup> The survey covered 514,000 households and was conducted in two rounds.

7.3. LOOKING AHEAD: POSSIBILITIES OF IMPROVED GENDER DATA	
Health Status	<p><b>Existing Data Sources</b></p> <p><i>CRS should be strengthened.</i></p> <p><i>AHS data: Possibility of expanding it to other states to be examined; should collect background data which should be analysed; raw data to be made available.</i></p> <p><i>DLHS to be strengthened; nutrition aspects to be covered across all rounds of DLHS; sexual health data to be continued as in DLHS-3; consistency and comparability should be ensured across rounds; terminology and definition to be relooked at to bring uniformity; periodic surveys at regular intervals required; background information to be captured.</i></p> <p><i>NSS health surveys need redesigning; concepts such as immunization, morbidity, disability, etc., should be revisited; Sexual health problems of women to be given attention.</i></p> <p><i>Modification of NSS health schedule to include insurance related information.</i></p> <p><i>NFHS concepts need reworking to ensure consistency and comparability; data from all women required for specific issues such as nutrition, morbidity, sexual health; possibility of increasing sample size to be explored .</i></p>
	<p><b>New Surveys/Data Compilation</b></p> <p><i>Regular Surveys on Nutrition Required: Possibility of NNMB revamping earlier surveys on nutrition to be explored.</i></p> <p><i>On sexual health issues, design smaller surveys targeting different segments of the population taking into account social, demographic, and economic aspects.</i></p> <p><i>Compilation of data on women beneficiaries of various health schemes: Could be undertaken by the Ministry of Health and Family Welfare and Ministry of Women and Child.</i></p> <p><i>Data on Surrogacy: State machinery should generate regular periodic data based on records from hospitals/reproduction centres/fertility clinics.</i></p> <p><i>Data on institutionalized persons, the houseless, refugees, or nomadic populations to be generated through special targeted surveys.</i></p>

Educational Status	<p><b>Existing Data Sources</b></p> <p><i>Cross-checking and validation of all official administrative data: MHRD, DISE, and AISES; consistency across data sources should be maintained; data formats of all to be revisited to include basic data on household characteristics of students; a system of 20% sample data collection along with collection of education data required; reporting of basic information to be made mandatory for all educational institutions, irrespective of their status.</i></p> <p><i>DISE to collect data on drop-out rates, out-of-school children, repetition rates, grade transition rates, completion rates, and quality of education on a systematic basis after addressing definitional and conceptual issues around these dimensions.</i></p> <p><i>On single-teacher schools, gender disaggregated information should be given in both DISE and AISES.</i></p> <p><i>On facilities, there is a need to collect not only data on availability but also on its use both by DISE and AISES.</i></p> <p><i>Data on non formal education should be collated by the MHRD- should develop separate formats.</i></p> <p><i>Periodic data to be collated on women's education in vocational and training courses for both public and private sector; DGET should take the initiative.</i></p> <p><i>Periodicity of NSS surveys on education to be improved- quinquennial surveys required; the sample design and sample size to be reviewed and reworked to facilitate gender disaggregate analysis by background characteristics; consistency across rounds and other data sources should be maintained; on gendered vocational education, efforts by NSS in its recent rounds may be continued.</i></p> <p><b>New Surveys/Data Compilation</b></p> <p><i>A onetime survey of pre-primary educational institutions to provide base for understanding core issues, planning and designing periodic surveys in the future.</i></p> <p><i>ASER to expand its coverage to urban areas.</i></p> <p><i>A national level survey on higher educational institutions mapping their structure and various layers of institutions, courses offered, students profile (information on sex, age, religion, caste, and economic status), teachers profile, etc., is critical.</i></p>
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<p><b>Economic Status</b></p>	<p><b>Existing Sources</b></p> <p><i>The concept of work is to be revisited in both Census and NSS; the scope of data collection of NSS on domestic duties could be extended at least in alternate surveys to include housework; NSS survey schedule needs revision on questions on home-based work and its specificities.</i></p> <p><i>Data on earnings for the self-employed and its various categories to be captured in the NSS surveys by appropriately redesigning the schedule. Additional modules/questions to be included to collect data on basic rights and social security coverage at the workplace including maternity benefit, crèche at workplace, career/job-break, distance travelled to workplace, availability and mode of transport, etc.</i></p> <p><i>The survey schedules on migration of Census and NSS need review and revision to capture multiple responses and various dimensions of gendered migration; data on migration to be part of all quinquennial rounds on employment.</i></p> <p><i>Scope of the BSR to be widened to provide gender-based information under all major heads.</i></p> <p><b>New Surveys/Data Compilation</b></p> <p><i>Conduct of time use surveys should be a priority; data to be generated at fixed intervals. Special surveys to capture gender gap in corporate sector required; occasional surveys on women specific sectors/industries could be attempted in the beginning.</i></p> <p><i>Pilot women-centric surveys need to be undertaken to capture decision-making in economic and financial matters.</i></p> <p><i>NSSO should undertake a pilot survey on women's ownership of assets, including land and housing.</i></p>
<p><b>Violence against Women</b></p>	<p><b>Existing Sources</b></p> <p><i>Review existing parameters and framework of NCRB and develop new systems for reporting crime data; provision to report a case under multiple IPC heads required; data across all IPCs should be segregated by gender; crimes registered under the SC-ST Prevention of Atrocities Act to be provided by gender; basic demographic and social background for all crimes against women required.</i></p> <p><i>NCRB data formats to include crime among live-in relations, sexual harassment, honour killings, marital rape/violence, cyber crime, cyber bullying; detailed subdivisions within rape and sexual harassment to be included; data on crimes that are recognized by the Criminal Law Amendment Act, 2013, like gang-rapes, acid attacks, stalking, etc., should be provided soon.</i></p>

	<p><b>New Surveys/Data compilation</b></p> <p><i>A national level survey on violence is an immediate requirement; survey to cover all crime and its various dimensions; a special component on domestic violence to be developed.</i></p> <p><i>Special targeted surveys at regular intervals on various forms of violence with specific and focussed questions.</i></p>
Critical Demographic, Social and Political Aspects	<p><b>Existing Data</b></p> <p><i>Definition of household head to be reviewed taking into account the functional criteria.</i></p> <p><i>Census modules should be adequately modified to record the specificity of houseless women; a question on individuals' residence could be included in the Census schedule to capture data on women in old-age and destitute institutions.</i></p> <p><i>Compilation of programme-based data on women beneficiaries under various schemes/programmes to be taken up by different implementing ministries.</i></p> <p><i>Cross-check data on age at marriage for all existing sources to reduce error at source.</i></p> <p><i>NFHS module/questions on reproductive freedom could be further modified to provide reliable data; since NFHS covers many issues related to decision-making and marriage, it could also collect data on forced marriages through questions on women's decision-making and marriages.</i></p> <p><i>The scope of the data provided by the Election Commission and Ministry of Panchayati Raj could be relooked and modified to provide gender perspective. Panchayati Raj ministry should provide data on women contestants in non-reserved seats also.</i></p>
	<p><b>New Surveys/Data Compilation</b></p> <p><i>Targeted sample surveys at specific intervals may be taken up to capture data on vulnerable women.</i></p> <p><i>A national level survey on marriage, related practices, and customs is an immediate requirement which should cover cross-regional marriages, inter-caste marriages, and various types of love marriages.</i></p> <p><i>Holistic data on women in SHGs and other collective organizations are required which can be compiled administratively across states.</i></p> <p><i>Special surveys on elections with a gender focus are required.</i></p>

## 7.4. LIMITATIONS

This exercise does not claim to be comprehensive in terms of themes, its dimensions and indicators covered, and sources of data. Discussion has been purely restricted to macro level data sources and here again data collected by different ministries and departments are not covered unless these are regularly published. Many of these dimensions has been extensively examined in recent years by many scholars and the analysis draws on these writings heavily. Another issue which has often been raised is that of gender sensitive methods of data definition and collection which are still concerns. Issues of gender sensitivity in the collection of data and related issues such as including women investigators in data collection, asking questions to female respondents in the absence of male members or elderly women, etc., are not delved upon as these are extensively highlighted in many discussions on the issue.

Though the report gives a range of indicators under each theme, the intention is not to suggest measurement of all indicators. One could do a selection of indicators across various dimensions of a theme depending on the objective of the exercise as well as availability of data. The selection needs to be based on the objectives and goals of measurement as well as to identify the aspects/ changes that are required to measure or capture these goals. Choice of indicators need to be based on these exercises and should be those which enable capture of status and its changes well. It is true that the number of indicators to measure each dimension should be small though this does not rule out using many measures to examine a particular theme.

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## Appendix 1

**TableA1:** An Overview of Sources of Health Statistics in India and Their Usability

Source	Periodicity	Major Estimated Parameters	Area/ Availability	Usability
SRS	From 1970, Annual	Fertility (ASFR, TFR) and mortality indicators (Of the 8 MDGs: IMR, U5MR, and MMR, also ASMR); proportion of institutional deliveries	India and State level estimates for bigger states.	Representative sample; regular availability and reliable source of fertility and mortality statistics
Census	10 years: From 1881	Population count by age, sex, and area. Child mortality, fertility; population with mental and physical disabilities	Population counts: Down to village level. Mortality: District level	Population data, reliable & valid, available within about 2 years. Fertility and indirect mortality estimates have about 8 year time lag. Comparable data on many indicators available later (for some since 1981)
CRS	Annual: Since 1958	Fertility and Mortality Indicators (IMR, ASMR); proportion of institutional deliveries, distribution across reasons of death	District level and large cities with more than 1,00,000 population.	Less than 50% of deaths are registered; Wide interstate variation; average time to publication is about 45 months until 1994 after which regular reports were missing for some years. Now regular and available from ORGI from 2009
NSSO	About 9 years, though not fixed, 42nd (1986–87). 52nd (1995–96) and 60th (Jan–June 2004)	Immunization gap, morbidity, hospitalization gap, women with mental and physical disabilities	State level estimates; also for all UTs.	Representative sample; though not conducted at shorter and regular intervals as the EUS surveys, health aspects are covered in detail and regularly as part of NSSO's social consumption survey (35th round) but comparable data from 42nd round
NFHS	6 years: NFHS-1(1992–93), NFHS-2 (1998–99), NFHS-3 (2005–06)	Mortality (IMR, U5MR, MMR) Fertility (ASFR, TFR), Immunization, maternal care indicators, institutional deliveries, access to toilets, modern fuel use, early child bearing, contraceptive prevalence rates, etc.	State level estimates. sample size is large but not enough for district level estimates. NFHS-2 gave estimates additionally for three metro cities of Chennai, Kolkata, and Mumbai and separately for slum areas of Mumbai. In NFHS-3 estimates of indicators for slum and non-slum population for 8 cities	Sample only had women of ages 13–49 and 15–49 (ever-married) in NFHS-1 & 2. The third round also estimates of more than 50 key indicators on health, family welfare, and nutrition. Quick estimates are available within a year of the survey. IMR and fertility indicators, cross tabulated by socio-economic variables
DLHS	4–5 years: From 1998–99	Maternal morbidity, Immunization gap,	District level estimates; 611	DLHS-2 (2002–04) and 3 (2007–08) have more comparable data.

		contraceptive prevalence rates, proportion of institutional deliveries, access to toilets, modern fuel use, etc.	districts in DLHS-3	First two rounds were part of reproductive and child health project. Some aspects like reproductive morbidity covered in detail only in the 3rd round
AHS	Annually: From 2010–11	161 indicators are available; Some of the critical indicators are fertility; mortality and morbidity, ante-natal and post-natal care indicators, access to support, immunization, early child bearing, contraceptive prevalence rates, proportion with disability etc.	284 districts in 8 States (Bihar, Jharkhand, Uttar Pradesh, Uttarakhand, Madhya Pradesh, Chhattisgarh, Orissa and Rajasthan) and Assam. District level rural/urban estimates possible	2010–11 baseline survey, first updation round in 2011–12, second in 2012–13 give comparable data
<p>(a) SRS: Sample Registration System, operated by the Registrar General, India (RGI); (b) Census: Population Census from the Office of RGI; (c) CRS: Civil Registration System, operated by local bodies, managed by state governments, tabulation, publication and national coordination by the RGI; (e) NFHS: National Family Health Survey and (f) District Level Household and Facility Survey by the International Institute of Population Sciences, Mumbai; (g) AHS: Annual Health Survey from the Office of RGI.</p> <p>(b) The above Table has been modified from P. Mahapatra (2010), An Overview of the SRS in India, paper presented at the Prince Mahidol Award Conference &amp; Global Health Information Forum 2010.</p>				

**Table A2: Quinquennial Survey Rounds for Employment and Unemployment**

Rounds	Year: from	Year: To	Reference- Urban	Reference- Rural	Concept Used		
					Usual Principal Status	Current Weekly	Current Daily
					Unemployed primarily, lately working & expected to work in future = Employed	1 hr or 1 day of the week	>4hrs
27	1972	1973	Long. Prd in the past (say 1-Year & likely to continue)+1- week+1-Day	Long. Prd in the past (say 1-Year & likely to continue)+1- week+1-Day			
28th–31st							
32	1977	1978	1-Year+1- week+1-Day	1-Year+1- week+1-Day	Unemployed primarily, lately working & expected to work in future= Unemployed	1 hr or 1 day of the week	>4hrs
33rd–37th							
38	1983		1-Year+1- week+1-Day	1-Year+1- week+1-Day	„	„	„
39th–42nd							
43	1987	1988	1-Year+1- week+1-Day	1-Year+1- week+1-Day	„	„	„
44th– 49th							
50	1993	1994	1-Year+1- week+1-Day	1-Year+1- week+1-Day	„	„	„
51st–54th							
55	1999	2000	1-Year+1- week+1-Day	1-Year+1- week+1-Day	„	„	„
56th– 60th							
61	2004	2005	1-Year+1- week+1-Day	1-Year+1- week+1-Day	„	„	„
62nd–65th							
66	2009	2010	1-Year+1- week+1-Day	1-Year+1- week+1-Day			
68	2011	2012	1-Year+1- week+1-Day	1-Year+1- week+1-Day	„	„	„

**Table A3: Changes in Concept of Work and Worker in the Population Census**

Years	Employed	Unemployed	Out of labour force	Concept	Reference period
1951	<b>Self-supporting person:</b> One who earns income & it is enough to support to him or her	<b>Earning dependent:</b> One who earned income But not sufficient to support one self.#	<b>Non-earning dependent:</b> Ones who didn't earn and depended on other entirely	<b>Income</b>	
	<b>Workers</b> <b>Non-Workers</b>			<b>Work</b>	1 hr a day for the Length of the working Season
1961	<b>Seasonal work:</b> > 1 hour a day, through the greater part of the working season <b>regular employed:</b> if employed on any one days fifteen days prior to survey day	> A previously unemployed person but seeking employment for the first time > A person employed before but now out of employment and seeking employment	Not engaged in any economic activities		15 days
1971	<b>Seasonal work:</b> If working throughout the greater part of the working season <b>Regular employed:</b> if employed on any 'one day' fifteen days prior to survey day		Work: Primary & secondary		1 year 7 days
1981	<b>Main Worker:</b> Worked in economic activity for more than 183 days <b>Marginal Worker:</b> Worked in economic activity for less than 183 days <b>Non worker:</b> Did not work at all at any time				1 year 1 year 1 year
1991	Same as 1981, Definition of work specified to include unpaid economic activity				
2001	Same as 1991				