

Social Infrastructure, Employment and Human Development

Economists have long known that people are an important part of the wealth of nations.

T.W.Schultz

To engineer an inclusive and sustainable growth for India, the social infrastructure like education, health and social protection are being given utmost priority by the Government. The Government has been enhancing the expenditure on human capital along with adopting measures to improve the efficiency of expenditure by convergence of schemes. Several labour reform measures including legislative ones, are being implemented for creation of employment opportunities and for providing sustainable livelihoods for the population who are largely engaged in the informal economy. Bridging the gender gaps in education, skill development, employment, earnings and reducing social inequalities prevalent in the society have been the underlying goals of the development strategy to enhance human capabilities.

10.1 Investment in human capital is a pre-requisite for a healthy and productive population for nation building. Being a developing economy, there is not enough fiscal space to increase the expenditure on critical social infrastructure like education and health in India. However, given the limited resources, the Government has consistently prioritized strengthening the educational and health profile of the population. As India is poised to grow as one of the leading knowledge economies, education, skill development and health will remain priorities for the Government.

TRENDS IN SOCIAL SECTOR EXPENDITURE

10.2 Public investment in social infrastructure like education and health is critical in the development of an economy. However, the expenditure on social services by the Centre and States as a proportion of GDP has remained in the range of 6 per cent during 2012-13 to 2014-

15. There has been a marginal decline to 5.8 per cent in 2015-16 which has further moved up to 6.6 per cent in 2017-18 (BE) (Table.1). The data of 29 States, sourced from *State Finances: A Study of Budgets of 2016-17* (RBI) have shown upward movement in expenditure on social services (as a percentage of GSDP) from 6.0 per cent to 6.9 per cent during 2014-15 to 2016-17 (BE).

EDUCATION FOR ALL

10.3 The Government of India is committed to achieving the Sustainable Development Goal (SDG- 4) for education – “Ensure inclusive and quality education for all and promote lifelong learning” by 2030. With a view to achieve the goal of universalization of elementary education, the Right to Free & Compulsory Education (RTE) Act, 2009 had been enacted in 2010 that provides a justiciable legal framework entitling all children between the ages of 6-14 years free

Table 1: Trends in Social Services Expenditure by General Government (Centre and States)

Items	2012-13	2013-14	2014-15	2015-16	2016-17 RE	2017-18 BE
	(₹ in lakh crore)					
Total Expenditure	26.95	30.00	32.85	33.78	40.60	43.96
Expenditure on Social Services	6.58	7.46	7.68	7.90	9.84	10.94
i) Education	3.13	3.48	3.54	3.31	3.95	4.41
ii) Health	1.26	1.39	1.49	1.52	2.26	2.25
iii) Others	2.20	2.59	2.65	3.07	3.63	4.27
As percentage to GDP						
Total Expenditure	27.1	26.7	26.4	24.7	26.7	26.4
Expenditure on Social Services	6.6	6.6	6.2	5.8	6.5	6.6
i) Education	3.1	3.1	2.8	2.4	2.6	2.7
ii) Health	1.3	1.2	1.2	1.1	1.5	1.4
iii) Others	2.2	2.3	2.1	2.2	2.4	2.6
As percentage to total expenditure						
Expenditure on Social Services	24.4	24.9	23.4	23.4	24.2	24.9
i) Education	11.6	11.6	10.8	9.8	9.7	10.0
ii) Health	4.7	4.6	4.5	4.5	5.6	5.1
iii) Others	8.2	8.6	8.1	9.1	8.9	9.7
As percentage to social services						
i) Education	47.5	46.7	46.1	41.9	40.2	40.3
ii) Health	19.1	18.7	19.4	19.2	22.9	20.6
iii) Others	33.4	34.7	34.6	38.9	36.9	39.1

Source: Budget Documents of Union and State Governments, Reserve Bank of India.

Notes: 1. Social services include, education, sports, art and culture; medical and public health, family welfare water supply and sanitation; housing; urban development; welfare of SCs, STs and OBCs, labour and labour welfare; social security and welfare, nutrition, relief on account of natural Calamities etc.

2. Expenditure on 'Education' pertains to expenditure on 'Education, Sports, Arts and Culture'.

3. Expenditure on 'Health' includes expenditure on 'Medical and Public Health', 'Family Welfare' and 'Water Supply and Sanitation'.

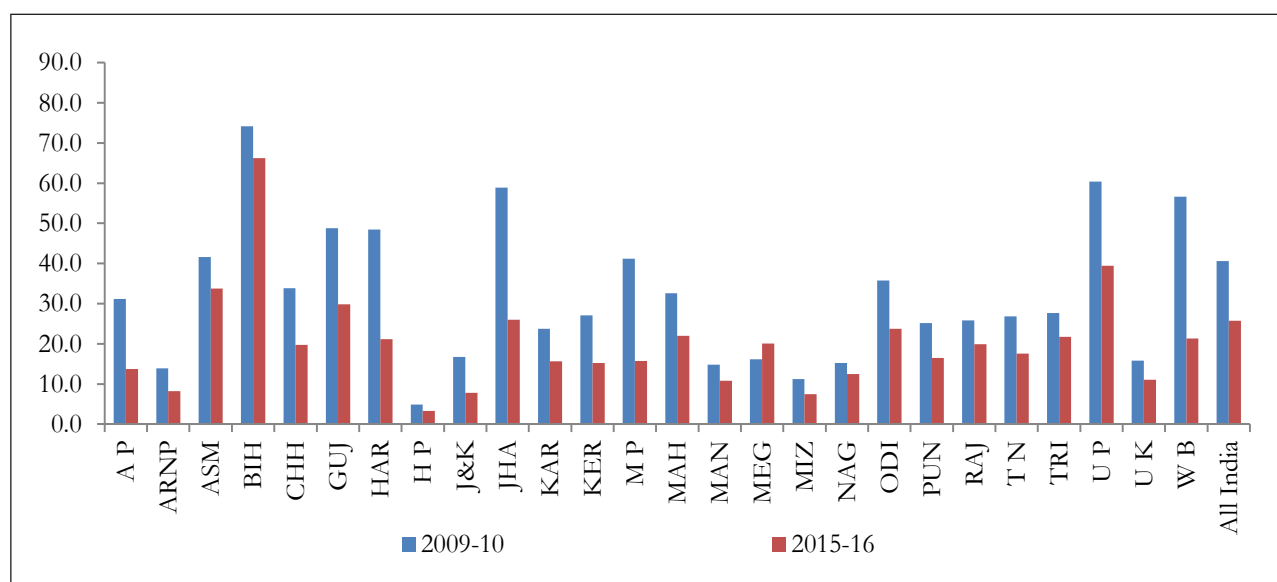
4. GDP data from 2011-12 are as per the new base year 2011-12. GDP for 2016-17 and 2017-18 are provisional estimates and advance estimates respectively.

5. Data pertains to Union Government and 26 states.

and compulsory admission, attendance and completion of elementary education. It provides for children's right to an education of equitable quality, based on principles of equity and non-discrimination.

10.4 India has made significant progress in

quantitative indicators such as enrolment levels, completion rates and other physical infrastructure like construction of school buildings/class rooms, drinking water facilities, toilet facilities and appointment of teachers etc. at elementary school level.

Figure 1: State-wise Primary Schools with Student Classroom Ratio >30 (per cent)

Source: Elementary Education in India and Flash Statistics (UDISE)

10.5 In addition to quantitative indicators, the quality of education also needs to be monitored and assessed. The learning outcomes are assessment standards indicating the expected levels of learning that a student should achieve for that particular class. Towards improving the learning outcomes at elementary school level, Central Rules under the RTE Act have been amended in February, 2017 to include the defined class-wise, subject-wise learning outcomes.

10.6 The RTE Act, 2009 lays down the guidelines for maintaining the norms and standards relating inter alia to Pupil Teacher Ratios (PTRs), buildings and infrastructure, school-working days, teacher-working hours in both primary and upper primary schools. The impact of PTR on learning achievement is widely discussed with some studies claiming that school participation and grade attainment are positively influenced by Student Classroom Ratio (SCR) and PTR. The following section looks at some of the selected indicators such as SCR, PTR and Gender Parity Index (GPI) to assess the effectiveness and inclusiveness of the schooling system.

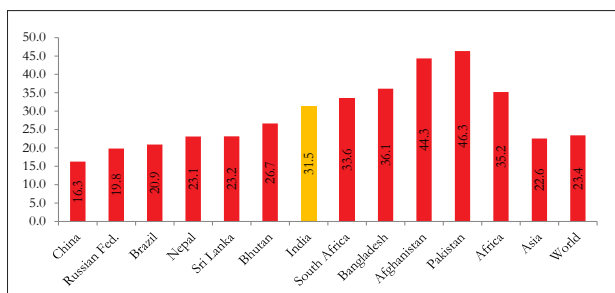
Student Classroom Ratio

10.7 SCR is defined as average number of pupils (students) per classroom in a school in a given school-year. The ideal size should be at 30 students per classroom. At all India level, percentage of schools with SCR greater than 30 students declined from 43 per cent in 2009-10 to 25.7 per cent in 2015-16. Though, SCR improved in almost all of the States, there are variations in the improvement across States (Figure 1).

Pupil Teacher Ratio

10.8 At primary level and upper primary level, the PTR should be 30:1 and 35:1 respectively. As per Unified District Information System for Education (UDISE), the PTR at national level for primary schools is 23:1 in 2015-16. Globally, there are variations in the optimum number of students taught in a particular class and as such the data is not uniformly comparable. Data from the UNESCO Institute of Statistics on PTR in primary schools shows that India has a national PTR comparable to countries with similar socio-

Figure 2 : PTR in Primary Education 2015



Source : Data extracted from <http://data.uis.unesco.org/> on 18 January, 2018

Note : 2014 data used in respect of Bhutan, Brazil, Russian Federation and South Africa

economic indicators (Figure 2).

10.9 Figure 3 highlights that most of the States reported an improvement in schools complying with PTR norms of RTE Act during 2009-10 to 2015-16. However, despite improvement in number of schools complying with PTR norms, States like Bihar, Jharkhand, Madhya Pradesh, and Uttar Pradesh have higher percentage of schools with PTR >30 compared to other States. There is a need to assess whether higher number of schools having PTR>30 in above 4 States is owing to the shortage of teachers or deployment

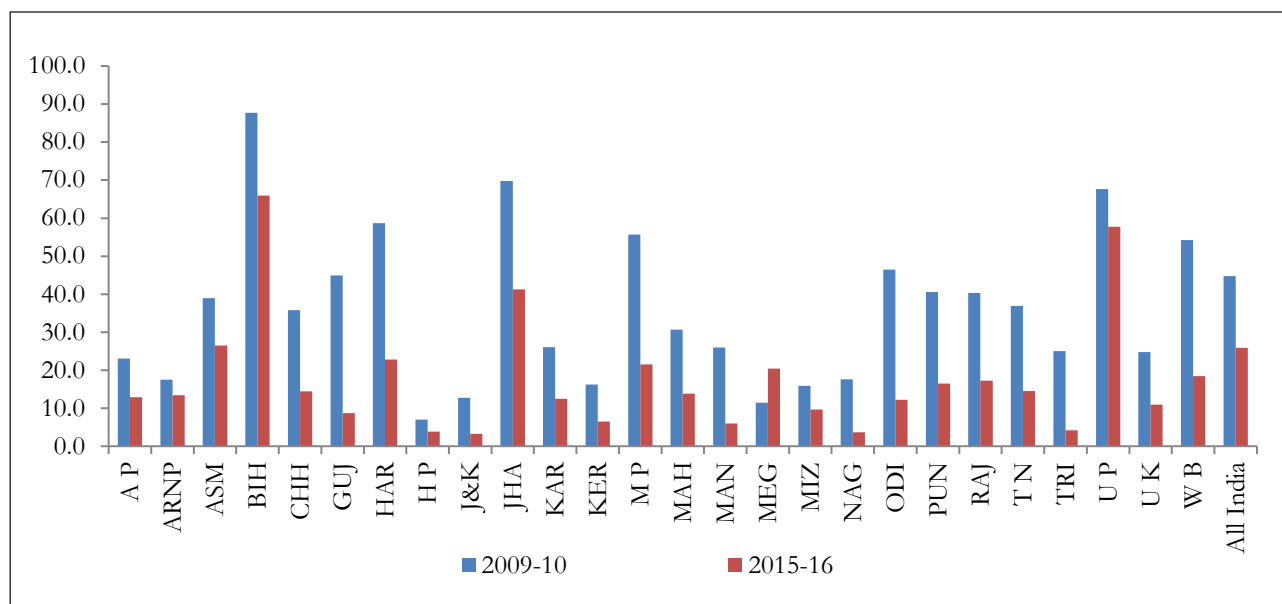
issue of teachers.

10.10 The recruitment, service conditions and redeployment of teachers are primarily in the domain of respective State Governments and UT Administrations. However, the Central Government through the flagship programmes of Sarva Shiksha Abhiyan (SSA) at elementary level and Rashtriya Madhyamik Shiksha Abhiyan (RMSA-Integrated) at secondary level provides assistance to the State Governments and UTs for additional teachers to maintain appropriate PTR as per the prescribed norms for various levels of schooling. The Central Government has been consistently pursuing the matter for expeditious recruitment and redeployment of teachers with States and UTs at various fora.

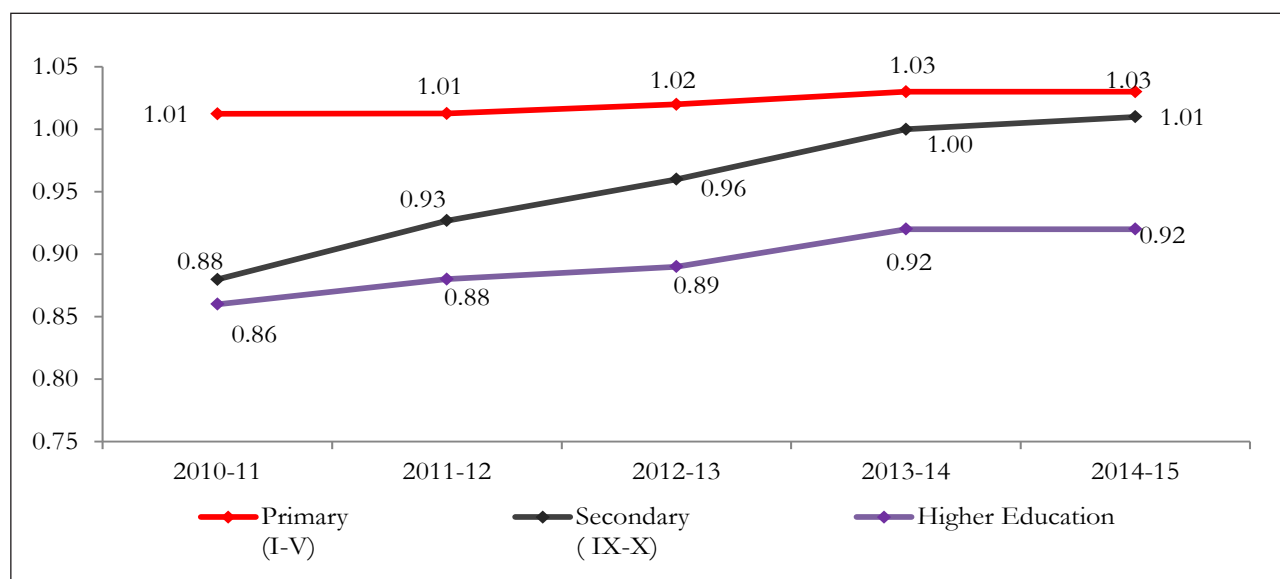
Gender Parity Index (GPI)

10.11 Gender Parity Index (GPI) in education is a valuable indicator which reflects the discrimination against girls in access to educational opportunities. In higher education, gender disparities still prevail in enrolment for which continuous efforts are being made by the Government to improve net

Figure 3. State-wise Primary Schools with PTR > 30 (per cent)



Source: Elementary Education in India and Flash Statistics (UDISE)

Figure 4: Gender Parity Index in Enrolment

Source: Educational Statistics at a Glance, 2016, Ministry of Human Resource Development, Government of India (website: <http://mhrd.gov.in/statist>)

Note: *Figures related to School Education are provisional.

intake rate for women in higher education. With consistent efforts by the Government through programmes like *Beti Padhao*, *Beti Bachao*, the GPI has improved substantially at the primary and secondary levels of enrolment (Figure 4).

10.12 *Beti Bachao Beti Padhao (BBBP)* scheme has been introduced for promoting survival, protection and education of girl child. It aims to address the issue of declining Child Sex Ratio (CSR) through a mass campaign targeted at changing social mind set and creating awareness about the criticality of the issue. The scheme launched in 2015 is a tri-ministerial, convergent effort of Ministries of Women and Child Development, Health & Family Welfare and Human Resource Development with focus on awareness and advocacy campaign, multi-sectoral action in select 161 districts (100 districts in Phase-1 & 61 districts in Phase-II), enabling girls' education and effective enforcement of Pre-Conception & Pre Natal Diagnostic Techniques (PC&PNDT) Act.

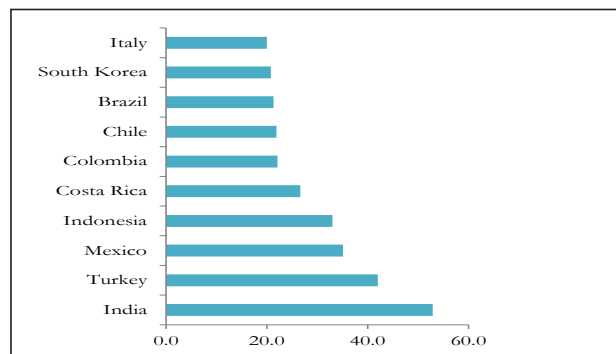
The Scheme has been approved for expansion to cover all 640 districts in the country.

PROGRESS IN LABOUR REFORMS

10.13 The Government is in the process of rationalizing 38 Central Labour Acts by framing relevant provisions of existing laws into 4 labour codes viz Code on Wages, Code on Safety and Working Conditions, Code on Industrial Relations, and Code on Social Security and Welfare. The draft Code on Wages Bill 2017 has been introduced in Lok Sabha in August 2017 and referred to the Standing Committee on Labour for examination. The other three Codes are at pre-legislative consultation stage. The codification of the labour laws is expected to remove the multiplicity of definitions and authorities leading to ease of compliance without compromising wage security and social security to the workers.

10.14 The Government has undertaken numerous technology enabled transformative initiatives such as Shram Suvidha Portal, Ease

Figure 5: Gender Gap (percentage points) in the Labour Force Participation Rate 2015 (15-64 year olds)



Source: The Pursuit of Gender Equity: An Uphill Battle, OECD 2017.

of Compliance to maintain registers under various Labour Laws/Rules. The Universal Account Number have been effected in order to reduce the complexity in compliance and to bring transparency and accountability for better enforcement of the labour laws. Further, the Government initiated the National Career Service portal (www.ncs.gov.in) by linking all employment exchanges of the country to facilitate online registration and posting of jobs for job-seekers and to provide employment related services like career counselling, vocational guidance, information on skill development courses and internships.

10.15 Further, the Employee's State Insurance (ESI), Act has been extended to all 325 complete districts as well as 93 district headquarters area. The scheme is also partially available in centers in 85 districts. Arrangements are being made for further extension of the scheme across the country by 2022. Under the scheme, insured persons are entitled to various cash benefits in the event of abstention from work due to sickness, temporary disablement, permanent disablement, dependent benefit, unemployment allowance, maternity benefit etc. The family members of the insured persons are also entitled to medical benefit. As on 31.03.2017, the number of insured persons

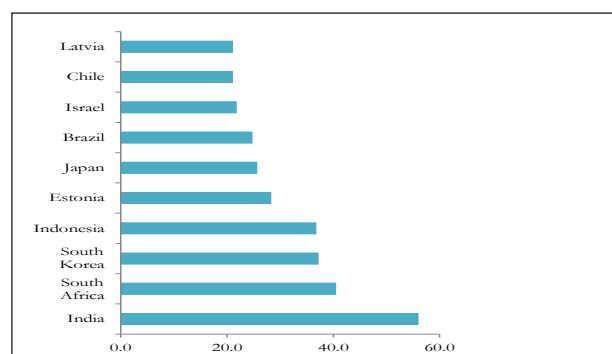
covered under ESI scheme is 3.19 crore and total beneficiaries including their family members are 12.40 Crore. ESI has a network of 152 hospitals, 1467 dispensaries, 628 branch offices and 62 regional /sub regional offices across the country.

Gender gap in Labour Force Participation Rate and Earnings: Global Comparison

10.16 Among developing countries, there exists gender gaps in labour force participation rates which can be seen in the Figure 5 given below. In the case of India, the gender gap in labour force participation rate is more than 50 percentage points. The lower participation of women in economic activities adversely affects the growth potential of the economy. The Government has been taking measures to increase the participation of women in productive economic activities by schemes to provide support services to working women and also through legislative measures to enhance maternity benefits.

10.17 Women workers are the most disadvantaged in the labour market as they constitute a very high proportion among the low skilled informal worker category, and are engaged in low-productivity and low paying work. Owing to this, women earn very low wages, mostly piece rates in highly insecure jobs. India had the largest gender gap in median

Figure 6: Gender Gap in Median Earnings for full time Employees 2015 (per cent)



Source: The Pursuit of Gender Equity: An Uphill Battle, OECD 2017.

earnings of full time employees in 2015, as can be seen in Figure 6, in comparison to countries like South Africa, Brazil, and Chile.

10.18 *Mabatma Gandhi National Rural Employment Guarantee Act (MGNREGA)* is one of the important schemes which ensures participation by women in the economic activity by stipulating minimum 33 per cent participation by women. There has been highest ever budget allocation of Rs 48000 crore under MGNREGA during 2017-18. About 4.6 crore households were provided employment totaling 177.8 crore person days during 2017-18 as on 14th January, 2018. Out of this, 54 per cent were generated by women, 22 per cent by Schedule Castes and 17 per cent by Schedule Tribes. Trends from 2013-14 to 2017-18 show that participation by women in the total person days generated has been more than 50 per cent. Further, the scheme has been converged with ICDS scheme for construction of AWCs.

10.19 For economic empowerment of women through promoting the spirit of creating self-employment ventures, *Mahila E-Haat*, an initiative for meeting aspirations and needs of women entrepreneurs has been launched

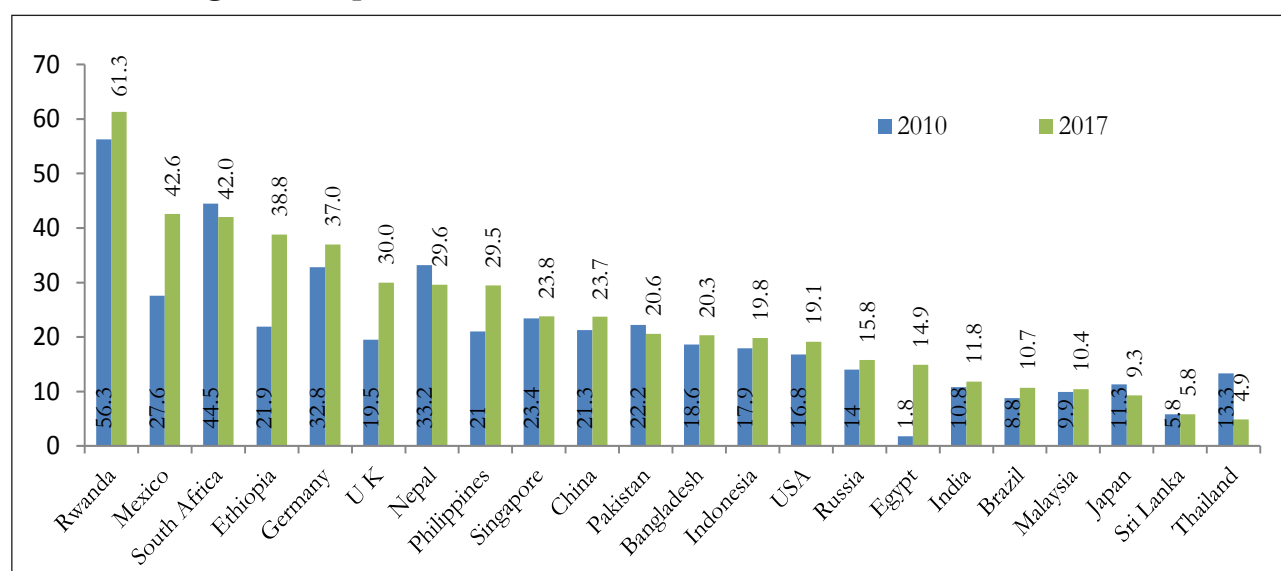
with the objective to provide an e-marketing platform by leveraging technology for showcasing product made/manufactured/sold by women entrepreneurs/SHGs/NGOs. This is impacting directly and indirectly over 26000 SHGs and 3.75 lakh beneficiaries.

10.20 As per the *Maternity Benefit (Amendment) Act, 2017*, the women are entitled to enhanced maternity leave for a period of 26 weeks (6 months) working in registered establishment under any Central or State law. It has been made mandatory for the establishments employing 50 or more employees to provide crèche facility, either separately or along with common facilities within a prescribed distance.

POLITICAL EMPOWERMENT OF WOMEN

10.21 The representation of women in Parliament and in decision making roles in public sphere is one of the key indicators of empowerment. As per the report '*Women in Politics 2017 (IPU & UN)*' Lok Sabha had 64 (11.8 percent of 542 MPs) and Rajya Sabha had 27 (11 per cent of 245 MPs) women MPs. As on October 2016, out of the

Figure 7: Representation of Women in Parliament in Select Countries



Source: Women in Politics 2010 and 2017 published by the Inter-Parliamentary Union (IPU) and UN Women.

Table 2: Top 5 Factors that deter Men and Women from entering Politics

Deterrents for women	Deterrents for men
1. Domestic responsibilities	Lack of support from the electorate
2. Prevailing cultural attitudes regarding the roles of women in society	Lack of Finance
3. Lack of support from family	Lack of support of political parties
4. Lack of confidence	Lack of experience in 'representative functions' public speaking, constituency relations
5. Lack of Finance	Lack of confidence

Source : IPU, Equality in Politics: A survey of Women and Men in Politics, 2008.

total 4118 MLAs across the country, only 9 per cent were women. Among the State assemblies, the highest percentage of women MLAs were from Bihar, Haryana and Rajasthan with 14 per cent followed by Madhya Pradesh and West Bengal with 13 per cent and Punjab with 12 per cent (Women & Men in India – 2016, MoSPI).

10.22 In India, between 2010 and 2017 women's share rose 1 percentage point in its Lower house (Figure 7). There are developing countries like Rwanda which has more than 60 per cent women representatives in Parliament in 2017 while countries like Egypt, India, Brazil, Malaysia, Japan, Sri Lanka and Thailand have less than 15 per cent representation of women in Parliament.

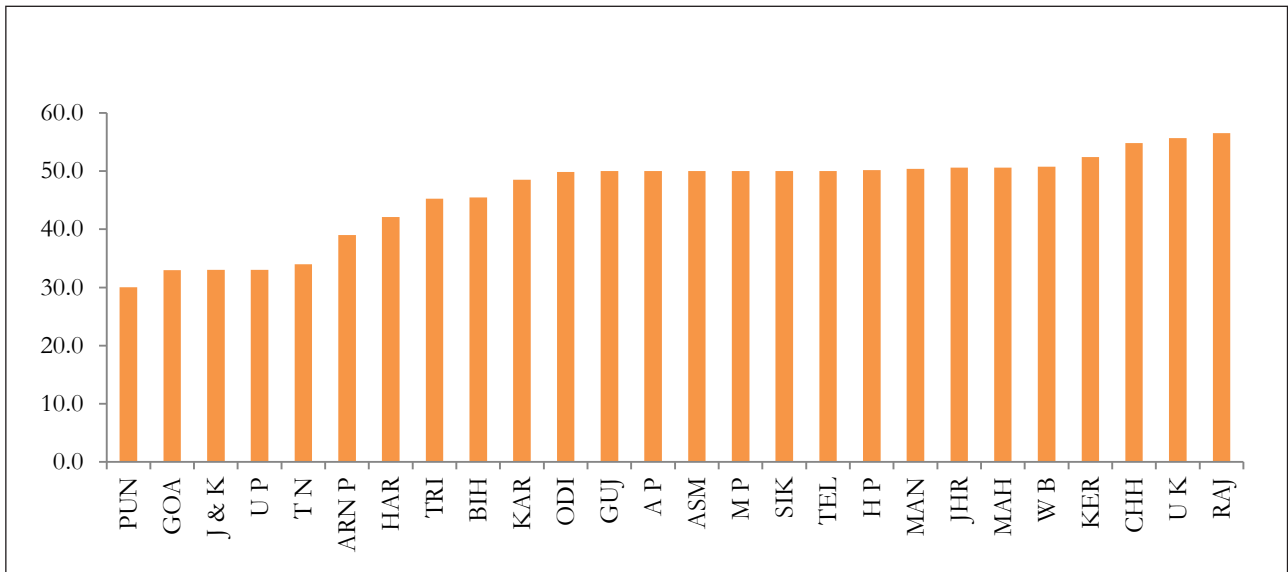
10.23 In a country like India with around 49 per cent of women in the population, the political participation of women has been low. There are various factors that determine women's participation in public services, especially in societies that follow patriarchal norms and prejudices. The differences in the factors that prevent women and men from entering politics were highlighted in a survey of women and men by the IPU (Table 2). Recognizing the significance of roles of women in decision making process in the society is critical to strengthen women's agencies for building a progressive society with

equality of opportunities among all citizens.

10.24 As promoting women's political participation and leadership roles has vast implications for gender equality policies, Article 243D (3) of the Constitution of India provides that not less than one third of the total number of seats be reserved for women. Further, Article 243 D (4) of the Constitution of India provides that not less than one third of the total offices of Chairpersons in Panchayats at each level shall be reserved for women. There has been substantial representation of women at the local government levels but varies from State to State (Figure 8). There are 13.72 lakh elected women representatives (EWRs) in PRIs which constitute 44.2 percent of total elected representatives (ERs) as on December, 2017. Women sarpanchs (chairperson) accounted for 43 percent of total gram panchayats (GPs) across the country, exhibiting active leadership of women in local governments (Figure 9).

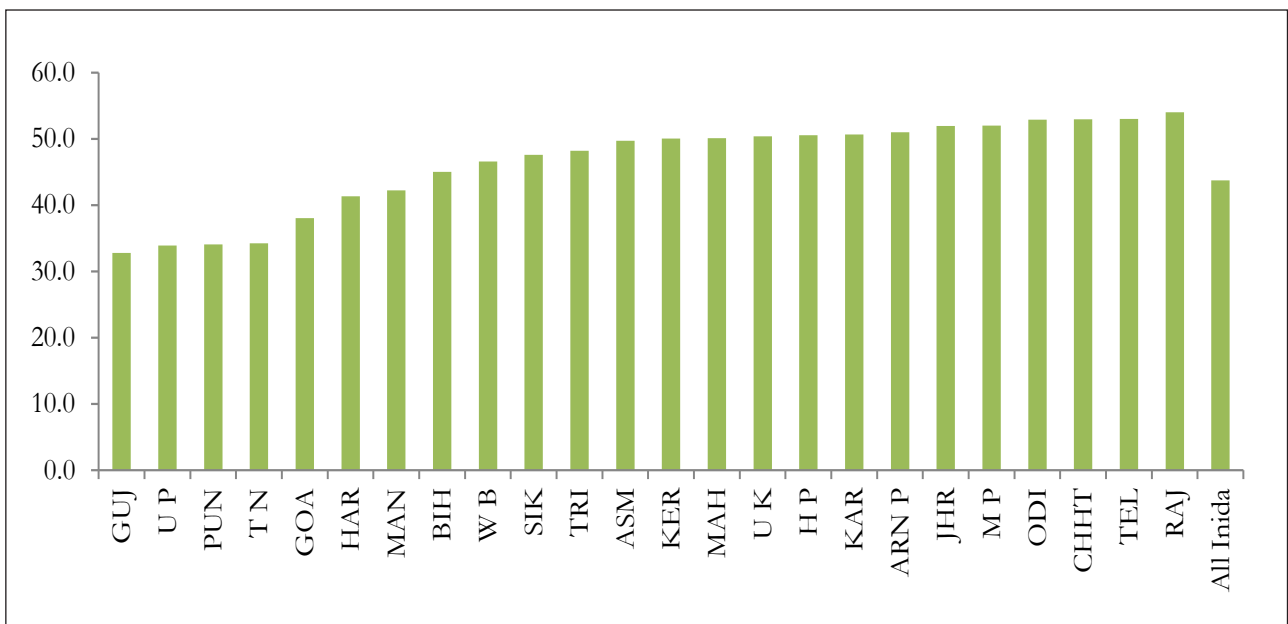
10.25 Further, for leadership development and to address women's issues at village levels, *Mahila Shakti Kendra* scheme has been launched at the village level. Over 300 thousand student volunteers are being sent out in 115 most backward districts under this new scheme. District Level Centres for Women are also being set up in 640 districts under

Figure 8: Elected Women Representatives in PRIs (per cent)



Source: Ministry of Panchayati Raj (As on 31.12.2017).

Figure 9: State-wise Women Sarpanchs in Gram Pranchayats (Per cent)



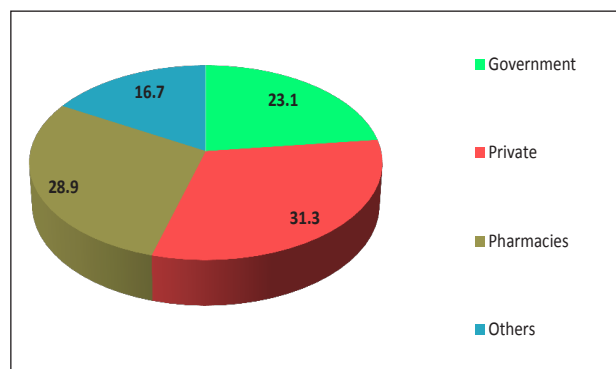
Source: MoPR (Number of women sarpanchs as on 31.12.2017) and <http://lgdirectory.gov.in> (Nos. of active GPs of 26 States extracted as on 16/01/2018)

this scheme, which will provide convergence at the district level for all initiatives related to women. Besides, *Nai Roshni*, a leadership development programme, is also operational for benefiting the women belonging to minority communities.

HEALTH FOR ALL

10.26 Ensuring healthy lives and promoting the well-being for all at all ages is essential to sustainable development (SDG-3). India’s commitment to achieve the targets under SDG-3 with some of them also aligned with the National

Figure 10: Current Health Expenditure by Healthcare Providers 2014-15 (per cent)



Source: National Health Accounts, Estimates for India, M/o H& FW.

Note: Government expenditure includes General & specialized hospitals, family welfare and primary health centers etc. Private expenditure includes general & specialized hospitals and clinics.

Health Policy 2017, will help in strengthening health delivery systems and in achieving universal health coverage.

Expenditure on Health

10.27 Figure 10 shows that expenditure by the Government healthcare providers accounted for about 23 percent of the Current Health Expenditure (CHE) as per National Health

Accounts 2014-15 that reflects the prominence of private hospitals and clinics among health care providers. The expenditure on pharmacies accounted for 29 percent of CHE by both health care providers (government and private).

10.28 In a developing country like India, incurring higher levels of Out of Pocket Expenditure (OoPE) on health adversely impacts the poorer sections and widens inequalities. Although, OoPE has declined approximately 7 percentage points during the period 2004-05 to 2014-15, its share is still at 62 per cent as per NHA 2014-15.

10.29 Diagnostics are an important part of the health care system that provide information needed by service providers to make informed decisions about healthcare provision related to treatment and management. Limited affordability and access to quality medical services are among the major challenges contributing to delayed or inappropriate responses to disease control and patient management. The findings of Household Health Expenditure survey in India indicate that about 10 per cent of OoPE on health was spent by households on diagnostics (including medicines and diagnostic test as part of package) during 2013-14.

Table 3: Range in prices/average costs of diagnostic tests across cities in India, 2017

Name of Diagnostic Tests	Costs of Diagnostics (In ₹)		Average Costs of Diagnostics (In ₹)	
	Minimum (of all cities)	Maximum (of all cities)	Minimum (of average price of cities)	Maximum (of average price of cities)
Lipid Profile Test (125)	90	7110	217	759
ANC test (74)	110	6500	389	2396
Albumin test (120)	20	1810	100	203
2d echo test (51)	500	5200	856	2412
Electrolyte test (121)	30	3000	245	627
Liver Function test (117)	100	2500	210	1186
Thyroid test (123)	100	3100	300	721
ESR test (103)	10	1100	35	116
Dengue IgG test (114)	100	3600	314	1312

Source: www.medifee.com accessed on 12th December, 2017.

Note: Figures in parenthesis are number of cities. ESR (Erythrocyte Sedimentation Rate)

Box 1: Steps taken by the Government to regulate prices of Drugs and Diagnostics

- Under National Health Mission (NHM), Government is supporting States through *National Free Diagnostic Service Initiative* to provide essential diagnostic services in public health facilities. Government of India has brought out guidelines in July 2015 to provide states with a broad framework for implementing free drug initiatives. The number of tests varies from State to State. An amount of Rs 759 crore has been approved for free diagnostic service initiative under NHM for 29 States/UTs in 2017-18.
- *National Free Drug Initiative* under NHM aims at expanding the availability of free drug provision in all public health facilities. The initiative would not only provide support to States for purchase of drugs but enabling States to place transparent system of procurement and quality assurance, robust supply management and logistics that would ensure highest level of safety and quality of drugs. All States have notified free drug policy. Over 25 States are implementing IT based supply chain management of drugs.
- Under Clinical Establishments (Registration and Regulation) Act, 2010 and Clinical Establishments (Central Government) Rules, 2012, the clinical establishments (in the States / Union Territories where the Act is applicable) shall charge the rates for each type of procedure and services within the range of rates determined by the Central Government from time to time in consultation with the State Governments. The clinical establishments are also required to display the rates charged for each type of services provided and facilities available, at a conspicuous place both in the local language and English. The National Council for Clinical Establishments has approved a standard list of medical procedures and a standard template for costing of medical procedures and shared the same with the States and UTs.
- Medical Council of India (MCI) has amended the Indian Medical Council (Professional Conduct, Etiquette and Ethics) Regulations, 2002 vide notification dated 21.09.2016, which stipulates that 'every physician should prescribe drugs with generic names legibly and preferably in capital letters and he/she shall ensure that there is a rational prescription and use of drugs'. All the Registered Medical Practitioners under the Indian Medical Council (IMC) Act have been directed to comply with the aforesaid provisions.

10.30 An analysis of prices of diagnostic tests across various cities in India reveals that there are not only wide differences in average prices of diagnostic tests but also range in the prices is substantial (Table 3). The data on quality and accreditation of diagnostic establishments in the country is scanty.

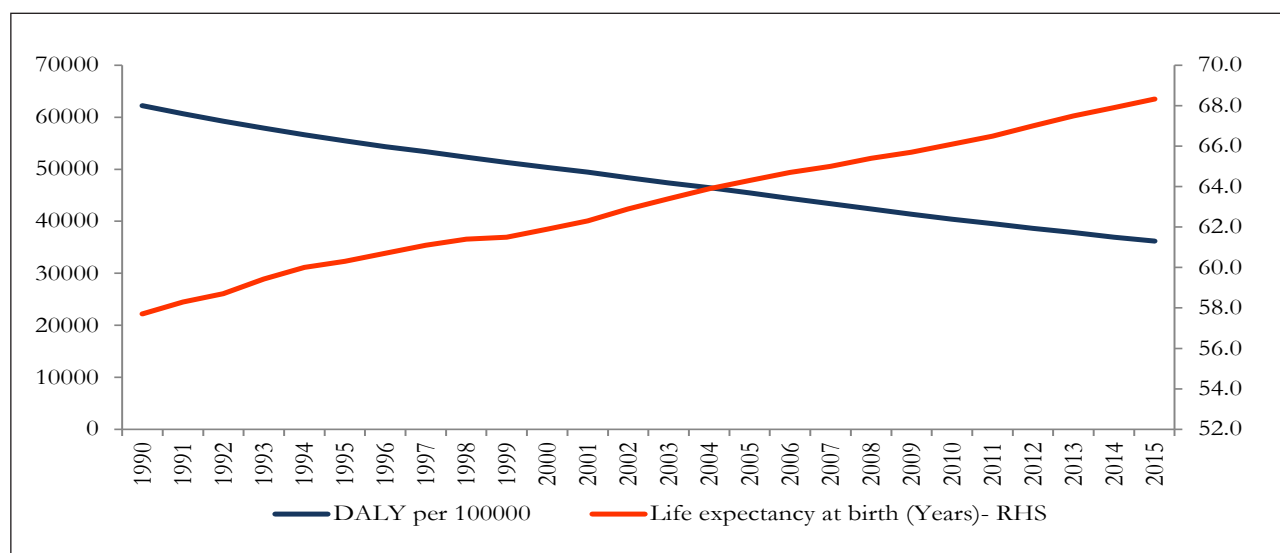
10.31 There is a need to prioritize standardization of rates by devising appropriate quality assurance framework and regulatory mechanism. Though, the Government has already enacted Clinical Establishments (Registration and Regulation) Act, 2010 and notified the Clinical Establishments (Central Government) Rules, 2012 to regulate

the clinical establishments across the country, presently, the Act is applicable in 10 States/UTs, which needs to be taken up by remaining States while ensuring strict compliance as well. The details of the Act and various other steps taken to reduce out of pocket expenditure are given in the Box 1.

Burden of Diseases: India and States

10.32 The report 'India: Health of the Nation's States', 2017 provides the first comprehensive set of findings for the distribution of diseases and risk factors across all States from 1990 to 2016. The concept of Disability Adjusted Life Years (DALYs)¹ provides a framework for analyzing

1 DALYs express the premature death and disability attributable to a particular cause, and are made up of two components: years of life lost (YLLs) and years of life lived with disability (YLDs). YLLs measure all the time people lose when they die prematurely, before attaining their ideal life expectancy. Ideal life expectancy is based on the highest life expectancy observed in the world for that person's age group. YLDs measure years of life lived with any short- or long-term condition that prevents a person from living in full health. They are calculated by multiplying an amount of time (expressed in years) by a disability weight (a number that quantifies the severity of a disability). Adding together YLLs and YLDs yields DALYs, a measure that portrays in one metric the total health loss a person experiences during their life. The report mentioned in para 10.32 above is a collective effort of Indian Council of Medical Research (ICMR), PHFI and IHME, University of Washington.

Figure 11: All India trends in LEB and DALYs

Source: <http://thelancet.com>, and Registrar General & Census Commissioner, India.

the disease burden and risk factors. DALYs is the sum of years of potential life lost due to premature mortality and the years of productive life lost due to disability. One DALY represents the loss of the equivalent of one year of full health. Using DALYs, the burden of diseases that cause premature death but little disability can be compared to that of diseases that do not cause death but do cause disability. The information and data base about changing disease patterns and the use of DALYs to quickly compare the impact caused by very different conditions, such as cancer and depression, in a single, comparable metric are crucial inputs for decision-making, effective resource allocation and policy planning.

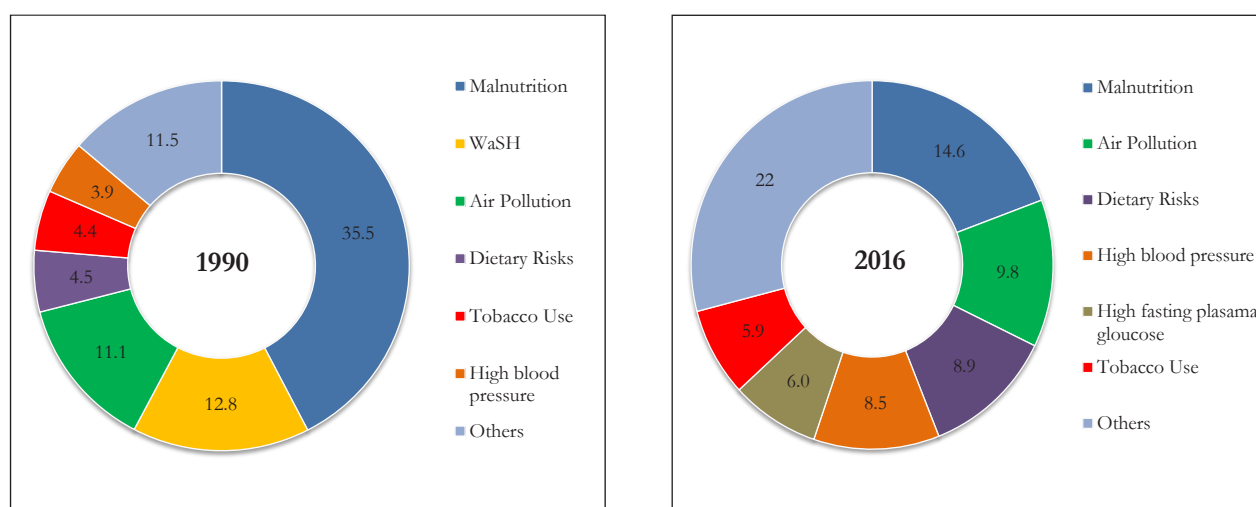
10.33 There has been significant improvement in the health status of the individual as life expectancy at birth (LEB) has increased by approximately 10 years during the period 1990 to 2015. The significance of DALYs as a critical health policy indicator is reflected by the inverse relationship between life expectancy and DALYs rates. The all India trends in LEB and DALYs echo the inverse relation between the two over time from 1990 to 2015 (Figure 11).

10.34 The per person disease burden measured

as DALYs rate dropped by 36 per cent from 1990 to 2016 in India, after adjusting for the changes in the population age structure during this period. Of the total disease burden in India measured as DALYs, 61 per cent was due to communicable, maternal, neonatal, and nutritional diseases (CMNNDs) in 1990, which dropped to 33 per cent in 2016. There was a corresponding increase in the contribution of non-communicable diseases (NCDs) from 30 per cent of the total disease burden in 1990 to 55 per cent in 2016, and of injuries from 9 per cent to 12 per cent.

10.35 The risk factors are drivers of diseases and injuries causing premature death and disability. The leading risk factors for health loss (as percent of DALYs) in India for the year 1990 and 2016 can be seen in Figure 12. The use of DALYs to track disease burden has also been recommended by India's National Health Policy of 2017. The disease burden in India can be reduced substantially, if the risk factors related to health loss are addressed effectively.

10.36 In 2016, malnutrition still remains the most important risk factor (14.6 per cent) that results in disease burden in the country though the disease burden due to it has dropped in India

Figure 12: Change in DALYs number and rate attributable to risk factors in India (per cent)

Source: India: Health of the Nation's States Report, 2017.

Note: 1. The figures mentioned against each risk factor are DALYs attributable to that risk factor out of the total DALYs.

2. WaSH is unsafe water, sanitation, and handwashing. Others include occupational risks, high total cholesterol, alcohol & drug use, impaired kidney function, high body mass index, other environmental, low physical activity, unsafe sex, low bone mineral density, sexual abuse & violence.

Box 2: Government Programmes for Women and Children

In the current financial year (2017-18) the scope of several existing programmes and schemes have been expanded and several new initiatives have been taken up to foster all round development of Women and Children in the country. Some of the schemes are mentioned below:

Integrated Child Development Services (ICDS): ICDS scheme aims at the holistic development of children upto 6 years of age and to meet nutritional needs of pregnant women and lactating mothers. Recently, rationalization, restructuring and continuation of four child centric schemes such as (a) Anganwadi Services (in place of ICDS); (b) Scheme for Adolescent Girls (SAG) (in place of SABLA); (c) Child Protection Services (in place of Integrated Child Protection Scheme) and (d) National Crèche Scheme (in place of Rajiv Gandhi National Crèche Scheme) of the Ministry under 'Umbrella Integrated Child Development Services' Scheme has been approved by the Government. Keeping in line with the Swachh Bharat Abhiyan, special emphasis has been given on providing toilet and safe drinking water facility at every Anganwadi Centre under the restructured Anganwadi Services Scheme. The scheme has been universalized with cumulative approval of 7076 projects and 14 lakh Anganwadi Centres (AWCs) including 20,000 anganwadis on demand. Digitization of Anganwadi Centres (AWCs) has already begun in 8 States with ICTs enabled monitoring of the Schemes through smart phones/ Tablets to anganwadi worker and supervisor. A new web-portal has been created for enabling the MIS data entry by the States/UTs. The Ministry has taken an initiative to address the micro-nutrient deficiencies among women and children in the country. In this regard, fortification of food items with essential micro-nutrients has been made mandatory in the Government funded nutrition related schemes.

Pradhan Mantri Matru Vandana Yojana (PMMVY): The earlier Maternity Benefit Programme, for the eligible pregnant women and lactating mothers (PW&LM) has now been named as Pradhan Mantri Matru Vandana Yojana (PMMVY) a Centrally Sponsored Scheme, in January, 2017 for providing partial compensation for the wage loss in terms of cash incentive so that the woman can take adequate rest before and after delivery of the first child. The cash incentive provided would lead to improved health seeking behaviour amongst the PW&LM. The Scheme envisages providing cash incentive

amounting to ₹5,000/- in DBT Mode during pregnancy and lactation. The remaining cash incentive of ₹1000/- is provided towards maternity benefit under Janani Suraksha Yojana (JSY) after institutional delivery so that on an average, an eligible women will get ₹6,000/-.

National Nutrition Mission (NNM): The Government of India has approved setting up of National Nutrition Mission (NNM) commencing from 2017-18. The NNM, as an apex body, will monitor, supervise, fix targets and guide the nutrition related interventions across the Ministries. The programme through the targets will strive to reduce the level of stunting, under-nutrition, anaemia and low birth weight babies. It will create synergy, ensure better monitoring, issue alerts for timely action to achieve the targeted goals.

Pradhan Mantri Ujjwala Yojana (PMUY): PMUY was launched in May 2016, for providing LPG connections to 5 crore women belonging to the BPL families over a period of 3 years from 2016-17. The scheme aims to safeguard the health of women & children by providing them with a clean cooking fuel – LPG, so that they do not have to compromise their health in smoky kitchens or wander in unsafe areas collecting firewood. Since inception, around 3.3 crore LPG connections have already been provided as on 18.01.2018.

substantially since 1990. Neonatal disorders and nutritional deficiencies as well as diarrhoea, lower respiratory infections, and other common infections are manifestation of maternal and child malnutrition. The Government is implementing several programmes and has also initiated new policy interventions to improve the health and nutritional status of women and children. Some of the initiatives are highlighted in Box 2.

10.37 The contribution of air pollution to disease burden remained high in India between 1990 (11.1 per cent) and 2016 (9.8 per cent), with the levels of exposure remaining among the highest in the world. It causes burden through a mix of non-communicable and infectious diseases, mainly cardiovascular diseases, chronic respiratory diseases, and lower respiratory infections. The burden of household air pollution related to use of solid fuels for cooking is being addressed with government interventions through schemes like *Pradhan Mantri Ujjwala Yojana* (Box 2).

10.38 The behavioural and metabolic risk factors associated with the rising burden of Non Communicable Diseases (NCDs) have become quite prominent in India. In 2016, the dietary risks, which include diets low in fruit, vegetables,

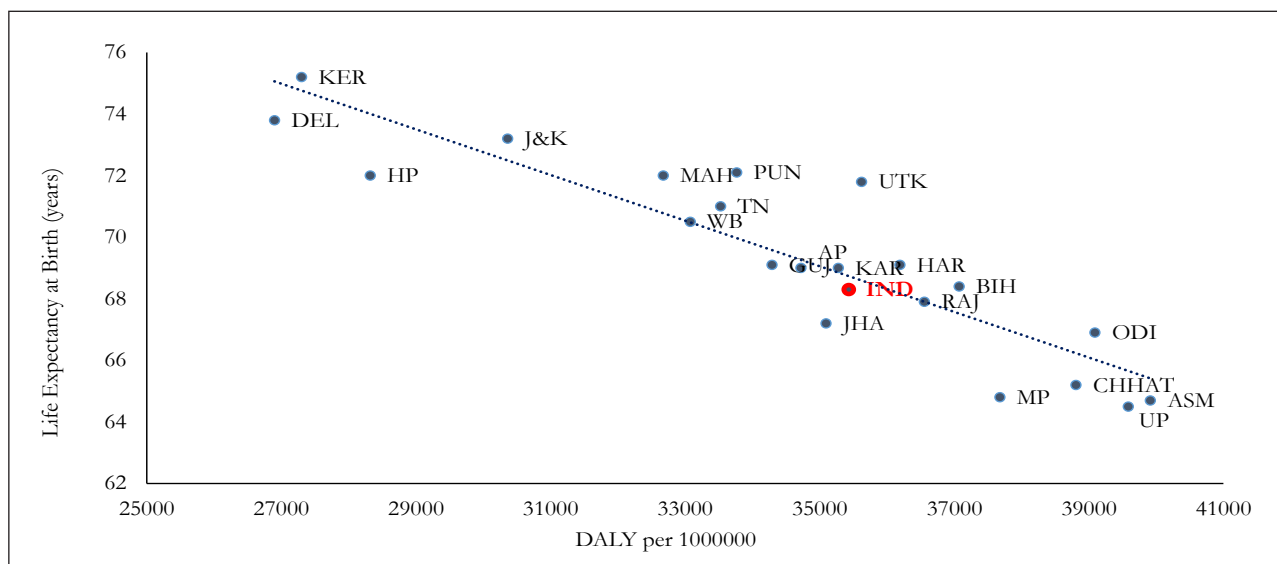
and whole grains, but high in salt and fat, were India's third leading risk factor, followed closely by high blood pressure and high blood sugar (high fasting plasma glucose).

10.39 Unsafe water, sanitation, and handwashing (WaSH) was the second leading risk factor in 1990, but its ranking has dropped to seventh position in 2016. Around 5 per cent of health loss is still attributable to this factor which is being addressed successfully by the government through the Swachh Bharat Mission (SBM), the details are explained in section under SBM.

DALYs: A State level analysis

10.40 In Figure 13, the similar relationship between LEB and DALYs can be seen across States. States with higher life expectancy are reflecting lower DALYs rates means lower incidence of diseases and vice-versa. Though, there have been dramatic fall in CMNNDs, however, States with high DALYs rates are indicating relatively greater increase in NCDs. Among the leading NCDs, the largest disease burden or DALYs rate increase was observed for diabetes, at 80 per cent, and ischemic heart disease, at 34 per cent during the period 1990 to 2016. Majority of the States have the largest dominance of non-communicable

Figure 13: State-wise DALYs Rate (2016) and Life expectancy at Birth (2015)



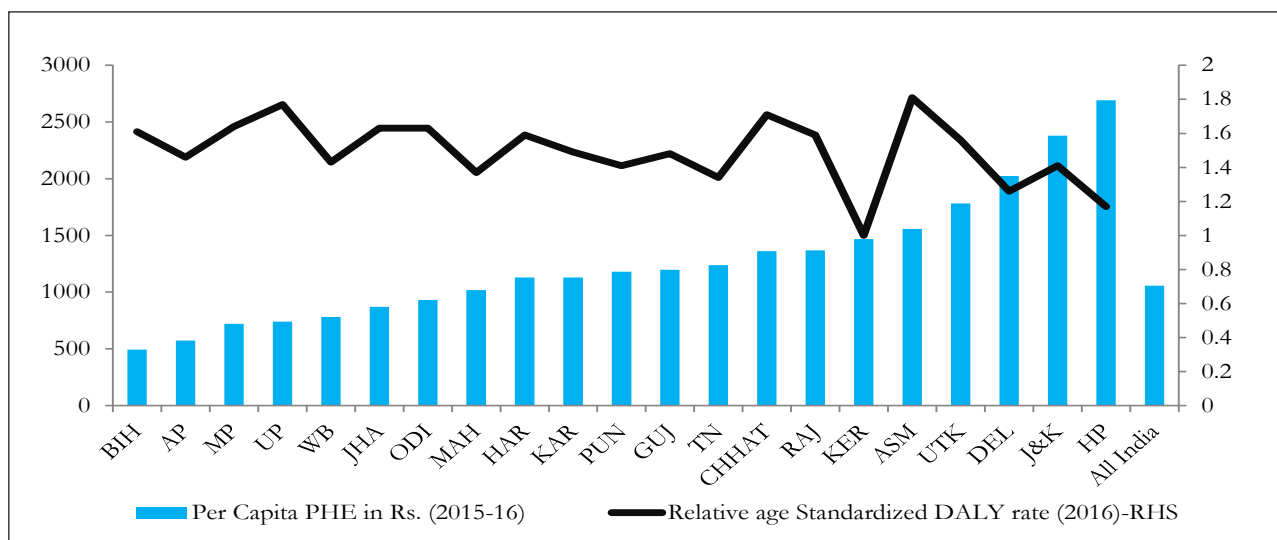
Source: <http://thelancet.com>, and Registrar General & Census Commissioner, India.

diseases and injuries over infectious and associated diseases except Delhi, Andhra Pradesh, Uttar Pradesh and Assam where this is relatively less. Despite improvements in overall life expectancy in India over the years, inequalities still persist among states with a range of 64.5 years in Uttar Pradesh to 75.2 years in Kerala in 2015 (Figure 13).

Public Health Expenditure by States and DALYs

10.41 The National Health Policy, 2017 has recommended increasing State sector health spending to more than 8 per cent of the State government budget by 2020. There is a need to understand the efficiency of the public spending

Figure 14: PHE 2015-16 and relative age standardized DALYs Rate 2016 among major States



Source: Health Sector Financing by the Centre and States/UTs, Ministry of Health & FW

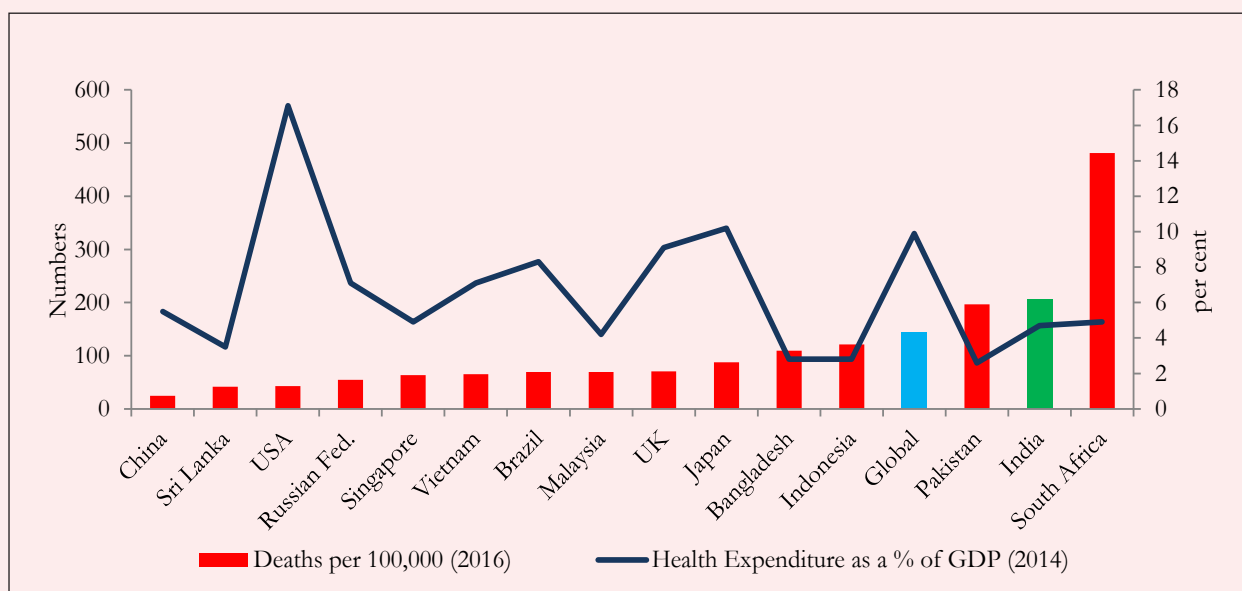
Note: Per capita public health expenditure (PHE) for 2015-16 is calculated from data using state-wise public health expenditure 2015-16 and projected population of census for 2015.

Box. 3. Combating Antimicrobial Resistance (AMR) in India

Antimicrobial resistance (AMR) occurs when microorganisms such as bacteria, viruses, fungi and parasites change in ways that render the medications used to cure the infections they cause ineffective. It occurs naturally but is facilitated by the inappropriate use of medicines, for example using antibiotics for viral infections such as cold or flu, or sharing antibiotics. Low-quality medicines, wrong prescriptions and poor infection prevention and control also encourage development and spread of drug resistance.

World Health Organization's first global report on AMR in 2014 reported that it is not a country specific issue but a global concern that is jeopardizing global health security. AMR is of particular concern in developing nations, including India, where the burden of infectious diseases is high and healthcare spending is low (Figure 1). The country has among the highest bacterial disease burden in the world. Antibiotics, therefore, have a critical role in limiting morbidity and mortality in the country.

Figure 1: Incidence of causes of Death due to Communicable, Maternal, Neonatal and Nutritional Diseases (2016) and Health Spending (2014) in select Countries



Source: The Global Burden of Disease 2016 study group report published in the Lancet medical journal extracted from <http://thelancet.com> and World Bank databank.

The challenges associated with controlling antibiotic resistance, particularly in India, are many and multifaceted. On the one hand, antibiotics are necessary in many life-threatening cases. But on the other hand, overuse of antibiotics can be disastrous in the long run. Hence, judicious use of antibiotics is required, but acceptable strategies to achieve this goal and to address the challenges must be devised and awareness needs to be generated among the public.

Acknowledging AMR as a serious threat to global public health, India has finalized a comprehensive and multi-sectoral National Action Plan aligning to the Global Action Plan and adopted a holistic and collaborative approach involving all stakeholders such as UN, WHO, FAO and other UN agencies towards prevention and containment of AMR. The National Action Plan has been prepared through extensive national consultations with various stakeholders in alignment with global action plan which has objectives of enhancing awareness, strengthening surveillance, improving rational use of antibiotics, reducing infections and promoting research in India. In addition, India aims to support neighboring countries in collective fight against infectious diseases. The Government of India has initiated series of actions including setting up a National Surveillance System for AMR, enacted regulations (Schedule-H-1) to regulate sale of antibiotics, brought out National Guidelines for use of antibiotics etc.

However, more efforts are required considering the large size of our country, magnitude of the problem and the fact that AMR needs to be addressed comprehensively under “One Health Approach”. The challenge now is in its efficient implementation through a coordinated approach at all levels of use of antibiotics for which all State Governments need to develop state-specific action plans.

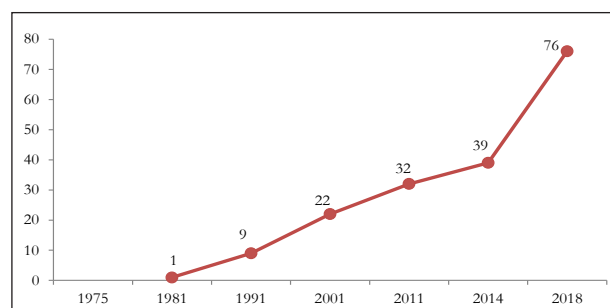
with respect to DALYs behavior across the major States and to assess whether high spending by States on health results in better health outcomes. States with lowest per capita public health expenditure have higher DALYs rate as compared to the States with greater public health spending (Figure 14). However, the States of Assam, Uttarakhand, Delhi, and Jammu & Kashmir have higher DALY rate despite having higher per capita public spending.

10.42 The efficiency in the use of resources along with measures for preventive and curative health care is necessary to translate enhanced expenditure into improved health outcomes. In this context, the increase in use of antibiotics in developing countries like India where health care spending is low, is a cause for concern (Box 3). Moreover, the health of the population is closely related to the quality of life indicators like access to sanitation, safe drinking water and the like which can decrease the disease burden of the population. Therefore, focus of the Government on improving access to sanitation through Swachh Bharat Mission (SBM) gains special significance. The health and economic impacts of SBM are detailed in the following section.

SWACHH BHARAT MISSION (GRAMIN)

10.43 As noted earlier, the health of the nation is closely related to clean drinking water, sanitation and living environment. Taking cognizance of the role of cleanliness in healthy living, and to accelerate the efforts to achieve universal sanitation coverage and to put focus on sanitation, the Prime Minister of India launched the Swachh Bharat Mission on 2nd October, 2014.

Figure 15: Rural Sanitation Coverage in India over the years (per cent)



Source: Ministry of Drinking Water & Sanitation (As on 10.01.2018)

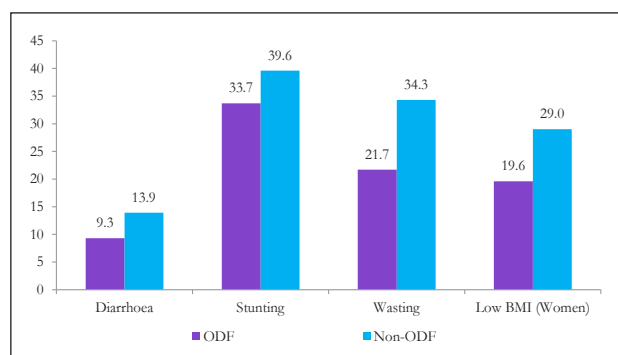
10.44 As per baseline survey conducted by Ministry of Drinking Water & Sanitation (M/o DWS), the number of persons defecating in open in rural areas, which were 55 crore in October, 2014 declined to 25 crore in January, 2018, at a much faster pace compared to the trend observed before 2014. The rural sanitation coverage in India over time is given in Figure 15. So far, 296 districts and 307,349 villages all over the India have been declared as Open Defecation Free (ODF). Eight States and two Union Territories i.e. Sikkim, Himachal Pradesh, Kerala, Haryana, Uttarakhand, Chhattisgarh, Arunachal Pradesh, Gujarat, Daman & Diu and Chandigarh have been declared as ODF completely. The surveys conducted by National Sample Survey Office (NSSO,2016) and Quality Council of India (QCI, 2017) on usage of toilets by the individuals who have access to toilets reported more than 90 per cent of individuals using toilets in 2016 and 2017.

Health and Economic Impact of Sanitation

10.45 The quality of hygiene and sanitation has significant impact on improving the health outcomes which is a well-established fact.

According to UNICEF, the lack of sanitation is responsible for the deaths of over 100,000 children in India annually and for stunting of 48 per cent children. In order to assess the impact of sanitation programme on health status, a pilot study was undertaken by the Bill & Melinda Gates Foundation (BMGF) in selected ODF and non-ODF districts. BMGF estimated that households in ODF villages in India have significantly better health indicators (Figure 16).

Figure 16: Performance of ODF and non-ODF Districts in select Health indicators (per cent)



Source: Ministry of Drinking Water & Sanitation.

10.46 The study was based on CAPI (Computer assisted personal interviewing) technique in a survey of 10 districts viz. Karnataka (Udupi & Chitradurga), West Bengal (Nadia & Birbhum), Rajasthan (Churu & Alwar), Madhya Pradesh (Harda & Dewas) and Uttar Pradesh (Shamli & Saharanpur) covering 4000 households (2000 ODF and 2000 non-ODF households) during May 2017 to June 2017. The findings are summarized in Table.5.

10.47 The non-ODF districts have lower percentage of population with secondary education, reflect higher levels of diarrhea, stunting, wasting and BMI owing to behavioural inertia. However, in ODF areas, with higher percentage of population with secondary education, there has been a clear cut evidence of behavioral shift of the individuals due to larger presence and proactive work undertaken by

Table 5 : Comparison of ODF and Non-ODF areas during 15th May 2017 to 22nd June 2017 (in per cent)

Indicators	ODF Areas	Non ODF Areas
Prevalence of diarrhea in the last one month preceding the survey	15.1	22.1
Children who are underweight (Weight for age below -2SD WHO standard)	28.3	41.2
Proportion of Mothers whose Body Mass Index (BMI) is in the normal BMI category	62.9	57.5
Completed Secondary Education	27.1	22.8

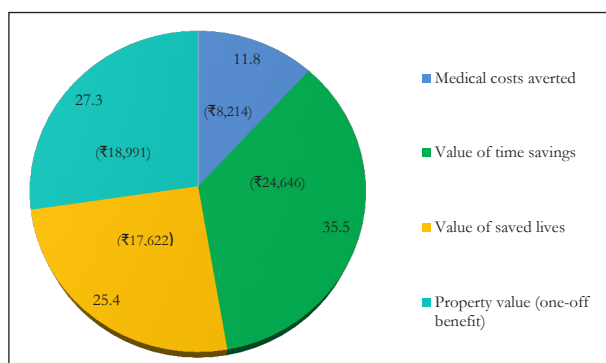
Source: Review of Health Data in Selected ODF and Non ODF Districts under SBM by BMGF, 2017.

Note : A village which was declared as open defecation-free (ODF) at least one year prior to the cut-off date (28th April 2017) was included in the sampling frame for ODF village selection

village health and sanitation committees (VHSC). Moreover, a higher proportion of mothers of ODF areas in the ‘normal’ BMI category (62.9 per cent) as compared to that of non-ODF areas (57.50 per cent) shows that not only children but mothers were also healthier in the ODF areas.

10.48 Studies have documented that in addition to the health benefits, there are also economic gains on becoming ODF areas. According to

Figure 17 : Annual Benefits of 100 per cent Toilet Use (per cent and ₹)



Source: UNICEF.

the World Bank estimates, the lack of sanitation facilities costs India over 6 per cent of GDP. In a report '*The Financial and Economic Impact of SBM in India* (2017)' UNICEF estimated that a household in an ODF village in rural India saves ₹50,000/- (\$800) every year (Figure 17).

THE WAY FORWARD

10.49 Towards inclusive development, India has been implementing programmes for social sectors like education and health to include women and the marginalized sections of the people to bridge the gaps in educational attainments, health outcomes and employment opportunities. Though macroeconomic growth and efficient markets are

essential, it is necessary to equally ensure that the benefits of growth are equitably accessible to all citizens to make growth broad based.

10.50 To conclude, '*strengthening the policy and institutional ecosystem supporting inclusive growth deserves to be a top policy priority for countries, whether they are experiencing slow growth, elevated inequality, or both. This is an imperative for countries seeking to thrive in the Fourth Industrial Revolution (WEF, 2017).*' The policies and institutional systems for inclusive growth are progressively being built by the Government of India in the form of digitalization to transform governance and achieve social inclusion through financial inclusion initiatives, gender mainstreaming and measures to reduce all forms of social inequalities inherent in Indian society.