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Human Resource Challenges in the Public Health Sector in Rural India

Dilip Saikia*

Shortage of health workers in rural areas is one of the biggest problems faced in India's health sector. This paper examines the current status of health workforce and human resource challenges in the public health sector in rural India. The findings show that the public health sector in rural areas across the country has suffered from poor availability of health workers even after more than a decade of implementation of the National Rural Health Mission. The density of health workers is abysmally low compared to the global norms. The paper highlights various human resource challenges in the rural health sector, such as, health workers shortage, lack of female practitioners, large scale vacancy, unbalanced skill mix, uneven distribution of health workers among states, absenteeism, and the quality of medical education. The paper emphasises on a compact package of interventions comprising regulatory measures, monetary and non-monetary incentives, workforce management, public-private partnerships, and task shifting, etc., to ameliorate the shortage of health workers in rural areas.

Keywords : Health Workforce, Health Worker Shortage, Public Health Sector, Migration.

Introduction

Providing better access to healthcare is a primary goal of public policy in almost all the countries worldwide. Achieving this goal requires, *inter alia*, having sufficient skilled human resources for health (HRH) and their optimal distribution. The HRH, also known as health workforce and defined as "the stock of all individuals engaged in the promotion, protection or improvement of population health" (WHO, 2000), are "the heart of the health system" (Joint Learning Initiatives, 2004). In any health system, the HRH are ultimately responsible for delivering healthcare services : they determine "what services will be offered; when, where, and to what extent they will be utilised; and as a result, what impact the services will have on the health status of individuals" (WHO, 2007), and hence, the efficient functioning of the health system depends on having the adequate HRH, with appropriate skill mix and equitable distribution. It is well recognised that availability of HRH positively affects the quality and efficiency of public

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health services and has a direct and positive effect on health outcomes (Rao et al., 2012; Anand & Bärnighausen, 2004).

There has been a severe shortage of HRH across the world (WHO, 2006). The World Health Statistics (2016) reports that globally there was a shortage of over 17.4 million health workers in 2013, corresponding to about 2.6 million physicians, over 9 million nurses and midwives, and around 5.8 million other health cadres (WHO, 2016). The shortage is more acute in the developing countries, especially in the Africa and South-East Asia regions, where the density of health workers is much lower compared to the Europe and the American regions.

India was one of the 57 countries (ranked at 52nd) in 2006 that was estimated to have a critical shortage of health workers (WHO, 2006). As per the World Health Report (2006), India had about 6 doctors, 12.7 nurses and midwives, 0.6 dentists, 5.6 pharmacists, and 7.6 other health workers, respectively, per 10,000 people in 2004-05 (WHO, 2006), which marginally improved to 7.4, 17.1, 1, 5.3, and 5.1, respectively, per 10,000 people in 2011 (WHO, 2014b). Rao et al. (2012) estimate that India had approximately 20 health workers per 10,000 people in 2001 and the combined density of doctors, nurses, and midwives was 11.9, which is less than half of the World Health Organisation's (WHO) benchmark of 25.4 per 10,000 people.

Together with the problem of shortage of health workers, India's health sector has also been suffered from maldistribution of the health workers. The health workers are unevenly distributed across the states. The economically backward states, such as, Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Rajasthan, Uttar Pradesh, Uttarakhand, and the northeastern states have lower density and less educated health workers (Hazarika, 2013). Rao et al. (2012) observe that the states in northern and central India have low density of doctors, whereas the southern states tend to have a higher density of doctors. Further, the distribution of the health workers is overwhelmingly skewed in favour of the urban areas. Only about 40 per cent of the total healthworkers are employed in the rural areas, where about 70 per cent of the population resides. As a result, the density of health workers in rural areas (1.1 per 1,000 people) is just one-fourth of the urban areas (4.2 per 1,000 people) (Rao et al., 2012). Even, of those who serve in rural areas, over 70 per cent are engaged in the private sector (Rao et al., 2012), which is economically beyond the reach of a large proportion of the rural population.

Many strategies have been employed, at both national and state levels, to address the HRH shortages in India. The National Rural Health Mission (NRHM)[1] launched by the Government of India in 2005 has made substantive efforts to strengthen the healthcare infrastructure and to place the doctors and other health workers in rural areas. However, even after more than a decade of the implementation of the NRHM mission, the rural health sector continues to suffer from persistent shortage of qualified health providers. There are issues related to numerical shortages, distributional imbalances, unbalanced skill mix, and absenteeism of health workers, which have adversely affected the quality and efficiency of public health services in rural areas of the country.

Against this background, this paper attempts to examine the current situation of HRH and the human resource challenges in the public health sector in rural India. To be specific, the key objectives of the article are :

a) To analyse the improvements in HRH in rural India after the NRHM's launch in 2005.

b) To examine the HRH challenges faced in the public health sector in rural areas.

c) To identify the causes of HRH shortages in rural areas.

The remaining of the paper is arranged in the following sections: rural health system and HRH norms in India, data and methods, current situation of HRH in rural India, HRH challenges in rural India, impact of HRH shortage, causes of HRH shortage, what can be done, and conclusion.

Rural Health System and HRH Norms in India

The rural health system in India, in the NRHM framework, has been developed as a three-tier system with Sub-Centre (SC), Primary Health Centre (PHC) and Community Health Centre (CHC) being the three-pillars.[2] The establishment of these health facilities and the staffing pattern therein is based on population norms laid down by the Indian Public Health Standard (IPHS). As per the norm, there should be one SC for every 5,000 people (3,000 in hilly/tribal areas), one PHC for every 30,000 people(20,000 in hilly/tribal areas), and one CHC for every 1,20,000 people (80,000 in hilly/tribal areas).

As per the NRHM's minimum norms, each SC is to be manned by two auxiliary nurse midwives (ANMs, also called female health worker) and one male health worker. The PHC is to be manned by one medical officer, three staff nurses, one ANM, one leady health visitor (LHV, also called female health assistant), one male health assistant, one

pharmacist, one laboratory technician, one health educator, and seven other supporting staff. The CHC is to be staffed by four medical specialists (surgeon, physician, gynecologist, and pediatrician), seven staff nurses, one radiographer, one pharmacist, one laboratory technician, and 11 other supporting staff (GoI, 2015). However, the existing staffing of health workers in the rural health centres is lower than the IPHS norms.

Furthermore, as per minimum norms, there is to be one ANM and one male health worker for every 5,000 people in plain areas and 3,000 people in hilly/ tribal areas. Moreover, a minimum ratio of 1:6 is to be maintained between LHV at PHCs and ANMs at SCs and PHCs and between male health assistantat PHCs and male health workers at SCs.

Data and Methods

The actual size of health workforce in India is difficult to estimate, partly because the estimates vary depending on the data source, there is much diversity among the health workforce, and there exist many informal practitioners who are not qualified to practice medicine (Rao et al., 2012). There are various sources of information on health workforce in India, but none of them comprehensively record the number of qualified health workers. Three commonly used sources are : Population Census, National Sample Survey "thick" rounds on employment and unemployment survey, and professional councils, which exist for allopathic doctors, AYUSH (ayurveda, yoga, unani, siddha, and homeopathy) practitioners, dentists, nurses, and pharmacists. Data on health workforce in the public sector in India is published by the Central Bureau for Health Intelligence, Ministry of Health and Family Welfare, Government of India in the form of various annual reports, such as, the National Health Profile, Bulletin on Rural Health Statistics, and Annual Report to the people on health, and these reports are based on the live registration records maintained by the professional councils.

The data used in this study were drawn from the Bulletin on Rural Health Statistics in India 2006 and 2014-15 published by the Ministry of Health and Family Welfare, Government of India (GoI, 2006, 2015). The report provides information on the required workforce, sanctioned posts, actual staff positions, vacant posts, and shortfall for different health cadres at various levels in the public sector in rural areas. Additionally, country level data on densities of physicians, nurses and midwives for selected countries were collected from the Global Health Workforce Statistics published by the World Health Organisation (GoI, 2014b). National

and state level population data were collected from the *Population Projections for India and States 2001-2026* published by the Registrar General and Census Commissioner, Government of India. Data on the number of educational institutions in medicines, nursing and midwifery, and pharmacy were collected from the National Health Profile (various issues) published by the Central Bureau of Health Intelligence, Directorate General of Health Services, Government of India.

At this juncture, at least two clarifications need to be made. First, although WHO defines health workforce as all the individuals, both in the private and public sectors, engaged in actions whose primary intent is to enhance health (WHO, 2000), in this study we focused only on the clinical staff, such as, doctors, nurses and midwives, pharmacists, radiographers, and laboratory technicians in the public health sector. Thus, we have excluded all the private practitioners, and the AYUSH practitioners, dentists, and other managerial and supporting staff because of limitation of appropriate data. Secondly, although the WHO points out four dimensions of health workforce, namely availability, accessibility, acceptability, and quality (WHO, 2014a),[3] we have focused only on the availability and accessibility dimensions. Further research could be devoted to examine the acceptability and quality aspects of health workforce.

In terms of geographical focus, the analyses have been carried out both at the national level and state level. The availability of health workers is examined by analysing the size of different health cadres, whereas the adequacy of the health workers is examined by analysing the densities of health workers and health worker-population ratio. The shortage of health workers is calculated as the difference between the required health workers, which is calculated using the prescribed population norms, and the health worker in-position. The gini coefficient is used to estimate inter-state inequality in the density of health workers. We have performed correlation analysis to examine the relationship between density of health workers and health outcomes at the state level.

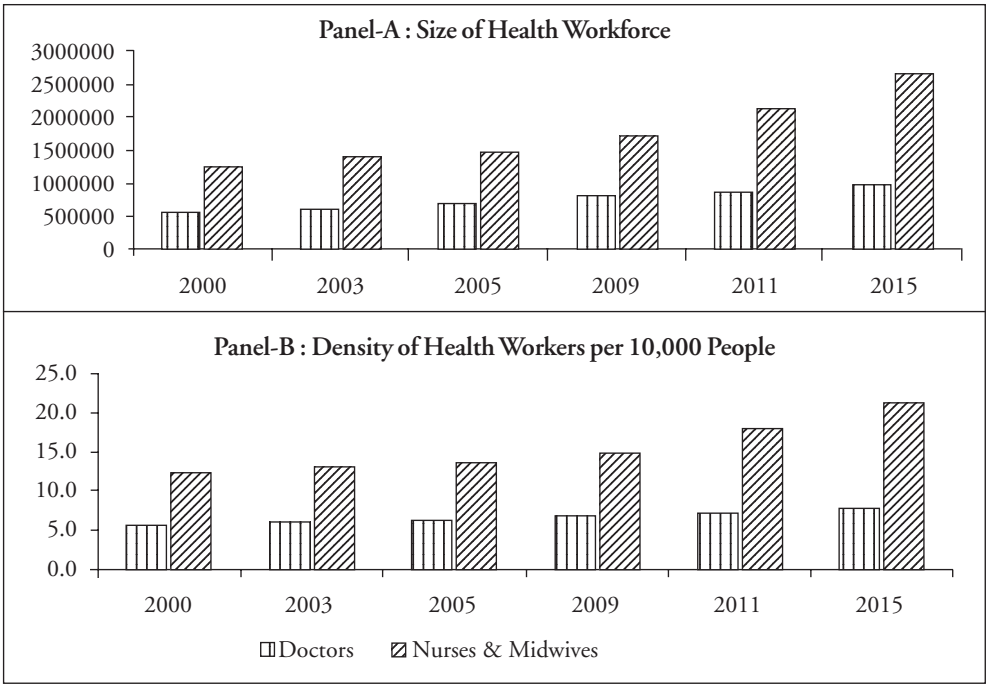
Current Situation of HRH in Rural India

Before analysing the situation of HRH in rural areas, let us first look at the state of HRH in the country as a whole. There has been a considerable rise in the health workforce in India in the last two decades. Figure-1 shows the size and density of doctors, nurses and midwives in India from 2000 to 2015. Between 2000 and 2015, the number of registered doctors has increased from 5,55,550 to 9,60,233 and the number of registered nurses and midwives has increased from 1,231,322 to 2,639,629.

The combined density of doctors, nurses and midwives per 10,000 people has slowly increased from 17.7 in 2000 to 19.7 in 2005 and then recorded considerable increase to reach at 25 in 2011 and 28.7 in 2015. However, India's health worker density is much lower compared to that in most developed countries, such as, Austria, Germany, Spain, Australia, the United Kingdom, the United States, and Canada, which have a density of around 100-150 per 10,000 people (Table-1). Even many of the Asian countries, such as, Japan, Singapore, South Korea, China, Maldives, Malaysia, and Thailand have a higher density of health workers than India. Nevertheless, India's position is relatively better in this regard among the South Asian countries, except Maldives.

Turning to the rural health sector in India, the total numbers of health workers were estimated at 4,32,833 in 2015, compared to 3,15,972 in 2005. Table-2 reports the numbers of different health cadres in the public sector in rural areas in 2005 and 2015. It is evident that from the NRHM's launch in 2005 to the year 2015, about 7,113 doctors, 528 specialists, 36,109 nurses,

Figure-1 : Health Workforce in India, 2000-2015



Source : Computed from data derived from National Health Profile (various years).

Table-1 : Density of Health Workers (per 10,000 people) in Selected Countries

Country	Physicians	Nurses and Midwives	Reference Year
Developed Countries			
Austria	48.30	79.14	2011
Germany	38.06	114.89	2011
Spain	36.95	50.76	2012
Australia	32.73	106.48	2011
United Kingdom	27.90	88.26	2012
United States	24.52	98.15	2011
Canada	20.68	94.59	2010
Asian Countries			
Japan	22.97	108.64	2010
South Korea	21.43	50.09	2012
Singapore	19.21	63.92	2010
China	14.56	15.12	2010
Maldives	14.15	50.35	2010
Malaysia	11.98	32.76	2010
Pakistan	8.27	5.73	2010
India	7.43	17.11	2011
Sri Lanka	6.80	16.41	2010
Myanmar	5.81	9.72	2011
Thailand	3.93	20.77	2010
Bangladesh	3.56	2.18	2011
Bhutan	2.59	9.81	2012
Afghanistan	2.34	5.00	2011
Indonesia	2.04	13.83	2012

Source : Global Health Workforce Statistics, World Health Organisation.

Notes : Countries are arranged in descending order of density of physicians.

Table-2 : Size and Density of Public Health Workers in Rural India

Health Workforce	Health Workforce in Position		Population Covered by a Health Worker		Density per 10,000 Population	
	2005	2015	2005	2015	2005	2015
Doctors at PHCs	20308	27421	38482	31591	0.26	0.32
Specialists at CHCs	3550	4078	220137	212422	0.05	0.05
Nursing Staff at PHCs and CHCs	28930	65039	27013	13319	0.37	0.75
ANM at SCs and PHCs	133194	212185	5867	4083	1.70	2.45
Male Health Worker at SCs	62881	55657	12428	15564	0.80	0.64
LHV at PHCs	15546	13372	50269	64781	0.20	0.15
Male Health Assistant at PHCs	20234	12646	38623	68500	0.26	0.15
Radiographers at CHCs	1337	2150	584509	402909	0.02	0.02
Pharmacists at PHCs and CHCs	17708	23131	44132	37450	0.23	0.27
Laboratory Technicians at PHCs and CHCs	12284	17154	63618	50499	0.16	0.20
Total Public Health Workforce	315972	432833	2473	2001	4.04	5.00

Source : Bulletin on Rural Health Statistics in India, 2006 and 2014-15.
Notes : SC – sub-centre, PHC– primary health centre, CHC– community health centre.

78,991 ANMs, 813 radiographers, 5,423 pharmacists, and 4,870 laboratory technicians were added in the rural public health sector. However, the number of some other cadres, such as, LHVs, male health workers, and male health assistants has drastically declined during the same period. Overall, a total of 1,16,861 more health workers were added in the public health sector in rural India during 2005-2015.

The composition of the rural health workforce shows that ANMs represent the largest section (49 per cent in 2015) followed by nurses (15 per cent) and male health workers (13 per cent). The shares of the other cadres were 6.3 per cent for doctors, 5.3 per cent for pharmacists, 4 per cent for laboratory technicians, 3 per cent for LHVs and male health assistants each, 0.9 per cent for specialists, and 0.5 per cent for radiographers in 2015.

There are different approaches to benchmarking HRH sufficiency. The commonly used approach is the

workforce-to-population ratio, which could be interpreted either by the population being served by a health worker or the health worker density. Table-2 reports the workforce-to-population ratio for different health cadres in rural areas in 2005 and 2015. The combined density of doctors, nurses, and midwives was 4.5 per 10,000 people in 2015, compared to 3.6 per 10,000 people in 2005, which is much lower than the WHO's recommendation of 25.4 health workers per 10,000 people to achieve universal coverage of essential health services (WHO, 2006). There were five health workers per 10,000 people in 2015, compared to four health workers per 10,000 people in 2005. In other words, there was one health worker for 2,473 people in 2005 which improved to one health worker for 2001 people in 2015. The densities of doctors and specialists were terribly low (one doctor for 31,591 people and one specialist for 2,12,422 people in 2015), showing the abysmal state of health workers in rural areas. The densities of other health cadres were also severely low; one nurse for 13,319 people, one ANM for 4,083 people, one LHV for 64,781 people, one male health worker for 15,564 people, one male health assistant for 68,500 people, one radiographer for 402,909 people, one pharmacist for 37,450 people, and one laboratory technician for 50,499 people in 2015. Considering the NRHM norm of one ANM at SC and PHC and one male health worker at SC for every 5,000 people in plain areas and 3,000 people in hilly/tribal areas, the norm has been fulfilled in case of ANM in 2015, whereas the norm is yet to be fulfilled in case of male health worker. Over the period 2005 and 2015, the workforce-to-population ratio has improved in the case of all the health cadres, except LHVs, male health workers, and male health assistants.

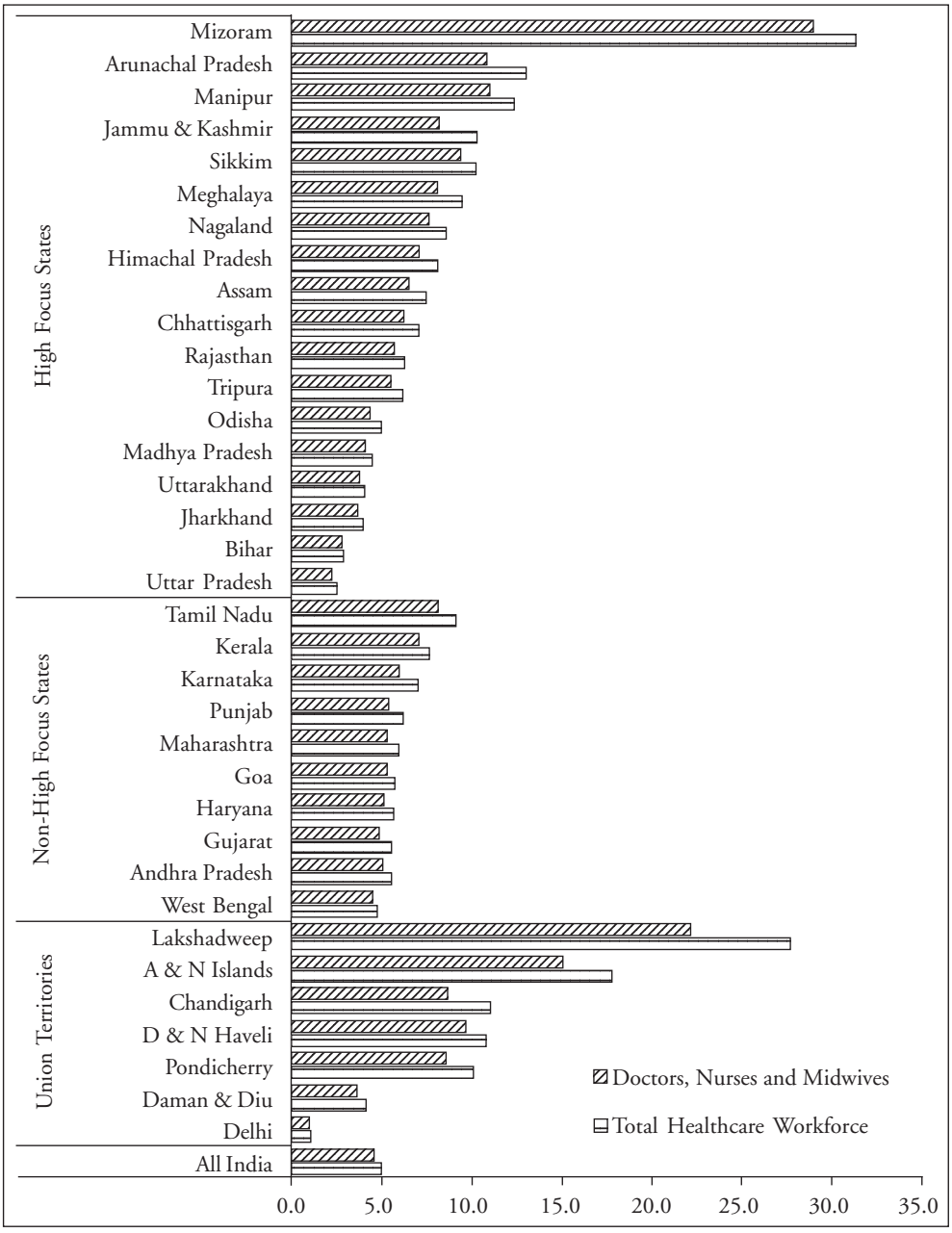
HRH Challenges in Rural India

Notwithstanding a steady progress in deployment of health workers since the launch of the NRHM mission in 2005, various HRH related issues continue to strain the public health sector in rural areas and call for greater policy attention. In this section, we have analysed the challenges related to HRH in rural areas, especially the issues of uneven distribution, unbalanced skill mix, numerical shortages, vacancy positions, shortage of female practitioners, absenteeism, and training of health workers in India.

a) Uneven Distribution

The health workers are unevenly distributed across the country (Figure-2). The numbers of health workers per 10,000 people vary from 31.3 in Mizoram to one in Delhi. The combined density of doctors, nurses, and midwives per 10,000 people in states,

Figure-2 : State-wise Density of Public Health Workers (per 10,000 people) in Rural Areas, 2015



Source : Computed from data derived from Bulletin on Rural Health Statistics in India, 2014-15.
Note : States are arranged group-wise in descending order of density of total health workforce.

such as, Mizoram (29) and Lakshadweep (22.1) are up to five times higher than in states, such as, Uttar Pradesh (2.2), Bihar (2.8), Daman and Diu (3.6), Jharkhand (3.7), Uttarakhand (3.7), Madhya Pradesh (4.1), Odisha (4.4), and West Bengal (4.4). None of the states/ union territories (UTs) but Mizoram have fulfilled the global norms (25.4 per 10,000 people) of health workforce density. Among the NRHM's high-focus states, Mizoram, Arunachal Pradesh, Manipur, Jammu and Kashmir, Sikkim, and Meghalaya have a relatively higher density of health workers (above 10 per 10,000 people), whereas six of the eight Empowered Action Group states (EAG)[4] namely, Uttar Pradesh, Bihar, Jharkhand, Uttarakhand, Madhya Pradesh, and Odisha have a lower density than the national average. All the non-high focus states but West Bengal have a higher density than the national average, whereas the density is relatively higher in the UTs, except Delhi and Daman and Diu.

We have computed the gini coefficients to measure inter-state inequality in the density of health workers. The Gini coefficients turned out to be 0.335 for total health workers, 0.343 for doctors and specialists, 0.327 for nurses and midwives, and 0.441 for other para-medics in 2015, suggesting the high degree of inequality in the distribution of health workers among the states.

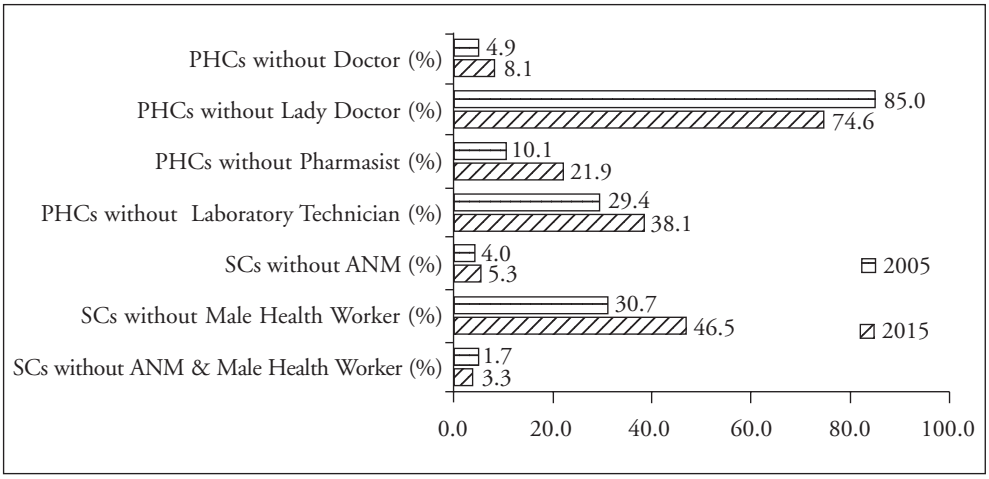
b) Unbalanced Skill Mix

India's rural health sector has suffered from unbalanced skill mix. There was approximately one nurse per doctor in 2005, which increased to two nurses per doctor in 2015 (including midwives, the nurse-doctor ratio stood at 11:1 for both the years). Although there is no national norm for a nurse-doctor ratio, but if we consider the World Bank's (World Bank, 1993) recommendation of a nurse-doctor ratio of 2:1 as the minimum and 4:1 or higher as the best in terms of cost effective and quality healthcare, then the public health sector in rural India, though fulfils the minimum norm, is still far from the desirable norm of four (and above) nurses per doctor. Besides, in view of the NRHM's recommendation of the ratio of LHVs to ANMs and male health assistants to male health workers to be 1:6, the norm has been fulfilled in case of the former (1:9 in 2005 and 1:16 in 2015), while it is yet to be fulfilled in case of the later (1:3 in 2005 and 1:4 in 2015).

c) HRH Shortages

The public health sector in rural India has a chronic shortage of health workers. In 2015, more than 8 per cent of 25,308 PHCs in the country were without a doctor, 22 per cent were without a pharmacist, and 38 per cent were without a laboratory technician (Figure-3).

Figure-3 : Health Centres without Health Workers

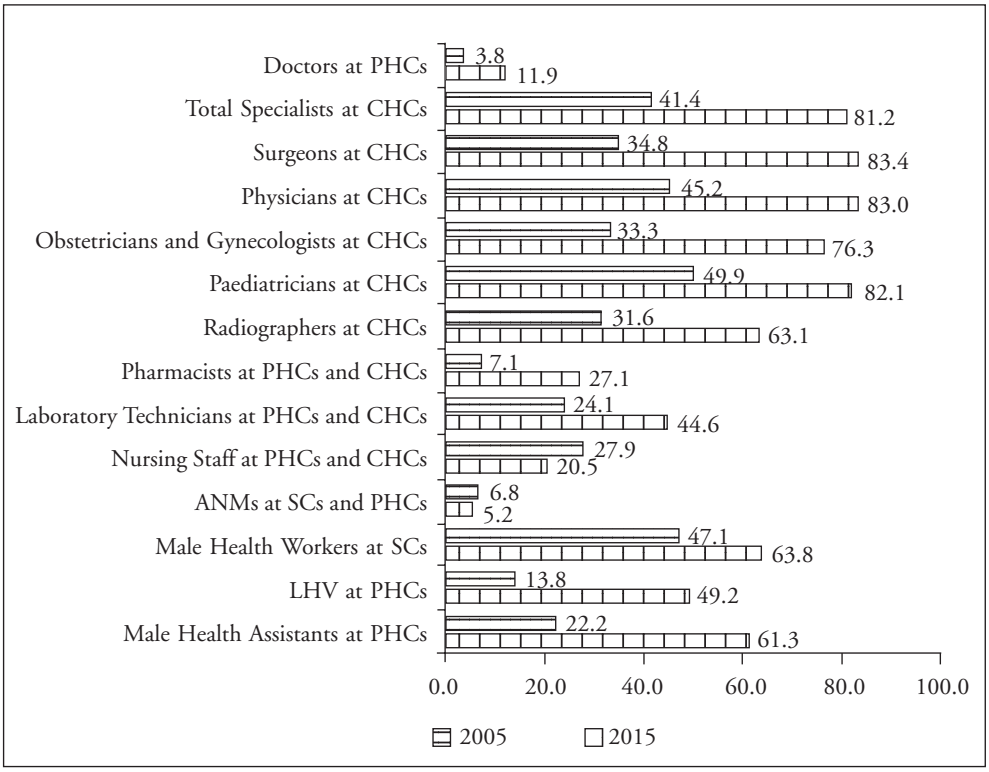


Source : Bulletin on Rural Health Statistics in India, 2006 and 2014-15.

Similarly, out of the 1,53,655 SCs functioning in rural areas, 5.3 per cent were without an ANM, 46.5 per cent were without a male health worker, and 3.3 per cent were without both ANM and male health worker. Further, more than 56 per cent of PHCs had been functioning with only one doctor and over 86 per cent of CHCs (out of 5,396) were without all the four specialist doctors, even though the NRHM recommends that each CHC must have four specialists – a physician, a gynaecologist, a surgeon, and a paediatrician. The distressing fact is that the number of health centres without health workers has increased during 2005-2015 even after NRHM's substantive efforts to deploy doctors and other health workers in rural areas.

Figure-4 reports the shortage of different health cadres in the public sector in rural areas in 2005 and 2015. As on March 2015, there was a shortage of 12 per cent of doctors and 81 per cent of specialists. Of these shortages of specialists, 83 per cent were for surgeons, 76 per cent were for obstetricians and gynecologists, 83 per cent were for physicians, and 82 per cent were for paediatricians. There were 63 per cent fewer radiographers, 27 per cent fewer pharmacists, 44.6 per cent fewer laboratory technicians, 20.5 per cent fewer nurses, 5.2 per cent fewer ANMs, 49.2 per cent fewer LHVs, 63.8 per cent fewer male health workers, and 61.3 per cent fewer male health assistants. Surprisingly, even though the size of all the health cadres excepting LHVs, male health workers, and male

Figure-4 : Shortage (in per cent) of Public Health Workers in Rural Areas



Source : Bulletin on Rural Health Statistics in India, 2006 and 2014-15.

health assistants has increased during 2005-2015 (Table-2), the shortage of all the health cadres except nurses and ANMs has increased in both absolute numbers and percentage terms during this period.

Marked variability is seen in the shortage of health workforce across the states/ UTs (Table-A.1 in the Appendix). The shortage of specialist doctors was considerably high in most states; 100 per cent in Mizoram, Sikkim, and Tamil Nadu, 99.5 per cent in Arunachal Pradesh, and between 90-99 per cent in Himachal Pradesh, Meghalaya, Tripura, Kerala, Manipur, Nagaland, Gujarat, Haryana, and West Bengal. Arunachal Pradesh, Chhattisgarh, Gujarat, Uttar Pradesh, and Uttarakhand had shortages of all the health cadres, whereas Bihar, Goa, Himachal Pradesh, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, and West Bengal had shortages in seven or more of the 10 health cadres considered for analysis, and all other states had shortages of one or the other health cadres.

d) Vacancy Positions

A significant percentage of the required number of posts in the SCs, PHCs, and CHCs remained non-sanctioned over the years. For example, as on March 2015, 38.5 per cent of required posts of surgeons, 48.6 per cent of required posts of physicians, 36.5 per cent of required posts of gynecologists, 54 per cent of required posts of paediatricians, 22.8 per cent of required posts of radiographers, 7.9 per cent of required posts of pharmacists, 26.3 per cent of required posts of laboratory technicians, 39.5 per cent of required posts of male health workers, 9.1 per cent of required posts of LHVs, and 7.1 per cent of required posts of female health assistants in the rural health sector were remained non-sanctioned (Table-3). Between 2005 and 2015, although the required number of posts remained non-sanctioned has declined in case of all the health cadres except surgeons, paediatricians, LHVs, and male health assistants in percentage terms, it has increased in absolute numbers in case of most of the cadres except doctors, nurses, ANMs, pharmacists, and laboratory technicians.

Further, even out of the sanctioned posts a significant percentage of posts were laying vacant at all levels. Table-3 depicts the percentage of sanctioned posts of different health cadres that were lying vacant in 2005 and 2015. It is evident that as on March 2015, 27 per cent of the posts for doctors, 74.6 per cent of the posts for surgeons, 68.1 per cent of the posts for physicians, 65.4 per cent of the posts for gynecologists, 62.8 per cent of the posts for paediatricians, 48.8 per cent of the posts for radiographers, 19.3 per cent of the posts for pharmacists, 27.1 per cent of the posts for laboratory technicians, 15.9 per cent of the posts for nurses, 10.5 per cent of the posts for ANMs, 40.7 per cent of the posts for male health workers, 41.9 per cent of the posts for LHVs, and 46.9 per cent of the posts for male health assistants were lying vacant in the rural health centres. Between 2005 and 2015, the vacancy positions of all the health cadres have increased in both absolute numbers and percentage terms; the highest increase was observed in case of gynecologists (40.8 percentage points) and surgeons (33.6 percentage points).

e) Shortages of Female Practitioners

The health sector in India has been facing a serious shortage of female practitioners, especially in the rural areas. Rao et al. (2011) find that only about one-thirds of all health workers are women in 2005. Although women dominate the nursing and midwifery cadres (around 80 per cent of nurses and 90 per cent of midwives are women), the

Table-3 : Vacancy Positions of Health Workers in Rural Health Centres

Health Workforce	Non-Sanctioned Posts as per cent of Required Posts		Vacant posts as per cent of Sanctioned Posts	
	2005	2015	2005	2015
Doctors at PHCs	+	+	10.9	27.0
Specialists at CHCs	45.2	44.4	37.1	68.0
Surgeons	*36.8*	*38.5*	*41.0*	*74.6*
Physicians	*50.5*	*48.6*	*41.1*	*68.1*
Obstetricians and gynecologists	*42.1*	*36.5*	*24.6*	*65.4*
Paediatricians	*51.5*	*54.0*	*42.9*	*62.8*
Radiographers at CHCs	36.8	22.8	22.3	48.8
Pharmacists at PHCs and CHCs	24.3	7.9	11.0	19.3
Laboratory Technicians at PHCs and CHCs	44.0	26.3	15.0	27.1
Nurses at PHCs and CHCs	27.0	+	13.0	15.9
Health Workers (F)/ANM at SCs and PHCs	11.4	+	5.4	10.5
Health Workers (Male) at SCs	41.6	39.5	27.1	40.7
Health Assistants (Female)/LHV at PHCs	3.2	9.1	12.6	41.9
Health Assistants (Male) at PHCs	+	7.1	25.2	46.9

Source : Bulletin on Rural Health Statistics in India, 2006 and 2014-15.

Notes : + indicates surplus, SC– sub-centre, PHC– primary health centre, CHC– community health centre.

number of female allopathic doctors is especially low : only 17 per cent of all allopathic doctors and 6 per cent of allopathic doctors in rural areas are women. The shortage of female doctors in rural areas is so serious that about 75 per cent of PHCs (18,872 out of 25,308 PHCs) were without a lady doctor in 2015, which was just a little improvement from 85 per cent (19,758 out of 23,236 PHCs) in 2005 (Figure-3). The under-representation of women in the health workforce, especially in the doctor category, can severely affect access to healthcare services for women as they might not feel comfortable to discuss their certain health issues with the male practitioners.

f) Absenteeism

The problem of health workers shortage in the public health sector in rural areas is further made complex by large scale of absence and low level of participation in providing healthcare among the existing health workers (Choudhury et al., 2006; Bhandari & Dutta, 2007; Muralidharan et al., 2011). The absence rate among the primary healthcare providers in India is as high as 39.3 per cent (in 2002-03), of which 43.1 per cent is for doctors, 40 per cent is for nurses, 39.9 per cent is for other support staff, and 30.2 per cent is for laboratory technicians and pharmacists (Choudhury et al., 2006; Muralidharan et al., 2011). Assam and Bihar record the highest absence rates of health workers (56.3 and 53.8 per cent respectively), whereas Chhattisgarh (22.3 per cent), Madhya Pradesh (24.3 per cent) and Odisha (29.2 per cent) have a relatively lower absence rate (Muralidharan et al., 2011). Gujarat, Jharkhand, Kerala, Punjab, Uttarakhand, Uttar Pradesh, and Haryana have an absence rate between 40-50 per cent and Karnataka, Tamil Nadu, Rajasthan, West Bengal, Andhra Pradesh, Himachal Pradesh, and Maharashtra have an absence rate between 30-40 per cent.

g) Training of Health Workers

The supply of health workers in a country is determined, inter alia, by education and training capacity. The number of educational institutions and training capacity of health professionals in India have expanded rapidly in the last two decades (Hazarika, 2013; Choudhury, 2016; GoI, 2016a). Figure-5 shows the number of institutions offering medical, nursing and pharmacy education in 2005 and 2015. In 1990, there were 143 medical colleges with 16,585 admissions capacity (Choudhury, 2016), which increased to 412 medical colleges with 48,855 admissions capacity in 2015. The number of AYUSH institutes increased from 450 (with 24,880 admissions capacity) in 2005 to 544 (with 32,256 admissions capacity) in 2015. Similar increases also occurred in nursing and pharmacy education. As on 2015, there were 2,958 General Nursing and Midwifery (GNM) training institutes with 1,18,406 admissions capacity, 1921 ANM training institutes with 54,859 admissions capacity, 1,615 institutes offering Bachelor of Science in Nursing (B.Sc) degree, 678 institutes offering Post-Basic Bachelor of Science in Nursing (P.B.B.Sc) degree, 526 institutes offering Master of Science in Nursing (M.Sc) degree, and 735 institutes offering Bachelor in Pharmacy (B.Pharm) degree.

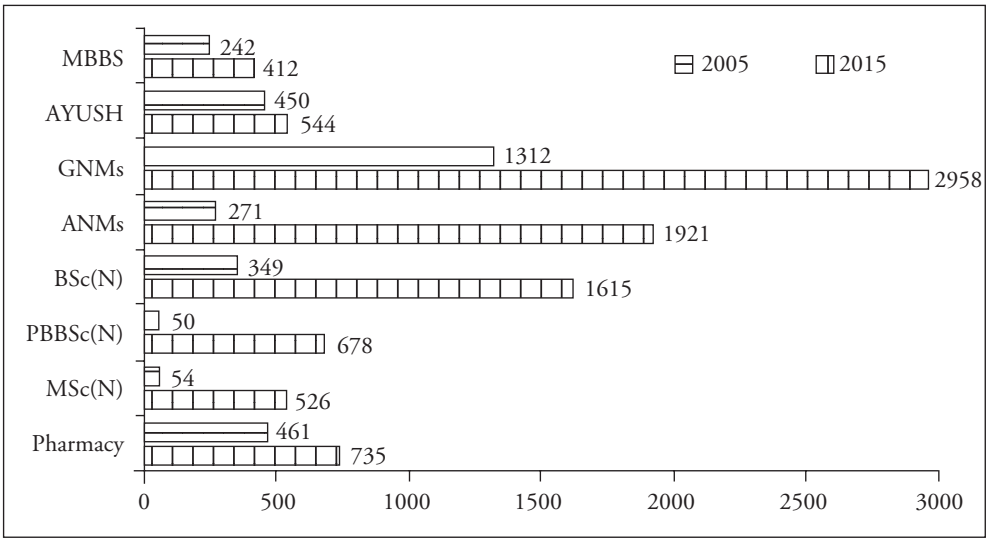
However, the medical institutions are unevenly distributed across India. The southern states of Andhra Pradesh, Karnataka, Kerala, and Tamil Nadu,

which together account for one-fifth of India's population, have 44 per cent of medical colleges and 46 per cent of total intake capacity (Choudhury, 2016). Over 50 per cent of nursing institutes are also situated in these southern states (Hazarika, 2013). Contradictorily, the eight EAG states, such as, Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Uttar Pradesh, and Uttarakhand, which together account for half of the India's population, have only one-fifth of the medical colleges and a quarter of the nursing institutes.

Further, the educational institutions are clustered around the cities. This exacerbates the shortage of health workers in the rural areas, since the health workers trained in urban environments are ill-prepared and unmotivated to practice in rural areas.

An alarming aspect of medical education in India is the growing involvement of private sector and the quality of education offered by the private institutions. In 1990, of the 143 medical colleges 102 (71.3 per cent) were public colleges. Between 1990 and 2014, 242 new medical colleges/institutes have been added to the existing list, of which 168 (69.4 per cent) were private institutes (Choudhury, 2016). The involvement of private sector is even higher in nursing education. The number of private nursing institutes grew to such a

Figure-5 : Number of Educational Institutions in Medicine, Nursing and Pharmacy



Source : National Health Profile 2005 and 2016, and Indian Nursing Council.

level that in relative size the public sector has become infinitesimally small; about 85-95 per cent of nursing and midwifery institutes and admissions capacity are in the private sector (INC, 2012). Although the involvement of private sector in medical and nursing education has helped to overcome the shortcomings resulting from inadequate expansion of the training capacity in the public sector, it has raised questions on the quality of medical and nursing education in the country (Hazarika, 2013). It is widely reported that the private medical colleges and nursing institutes in India have been operating for profit only and a fairly large proportion of these institutes, with a serious shortages in faculty, infrastructure, and quality of education, are unsuitable for teaching (GoI, 2005, 2011; Rao et al., 2011; Choudhury, 2016).

Impact of HRH Shortage

The health workers shortage certainly has huge repercussions on the healthcare delivery processes, the capacity of the health centres, and ultimately the quality of healthcare services being provided to the people. The shortage implies that there are too few healthcare providers at the health centres when patients demand for healthcare. This creates overburdening of the existing health workers, reduces their time for patients, delays in response to patients, and increases patients' waiting time for tests, all of which lead to delay in treatment and discharge of the patients. Further, the increased workload affects the efficiency and effectiveness of health workers in maintaining patient safety and providing quality of patient care, and increases the stress level and mental exhaustion among the health workers, which can result in increase in mistakes, accidents, medical errors, and ultimately increase in unethical practices. Because of the poor quality of healthcare, people are reluctant to use public health facilities and go to the private practitioners, which increases the out of pocket expenditure of the poor people. This is evident from the fact that overall 65.6 per cent of households (70.2 per cent in urban areas and 63.2 per cent in rural areas) in India do not generally use government medical facilities, and of these households about 58 per cent reported the poor quality of healthcare as a reason for not using government facilities, 25 per cent cited the reason as too long waiting time, 13 per cent cited the reason as inconvenient timing of public facilities, and 9 per cent cited the reason as frequent absence of health workers (IIPS, 2007).

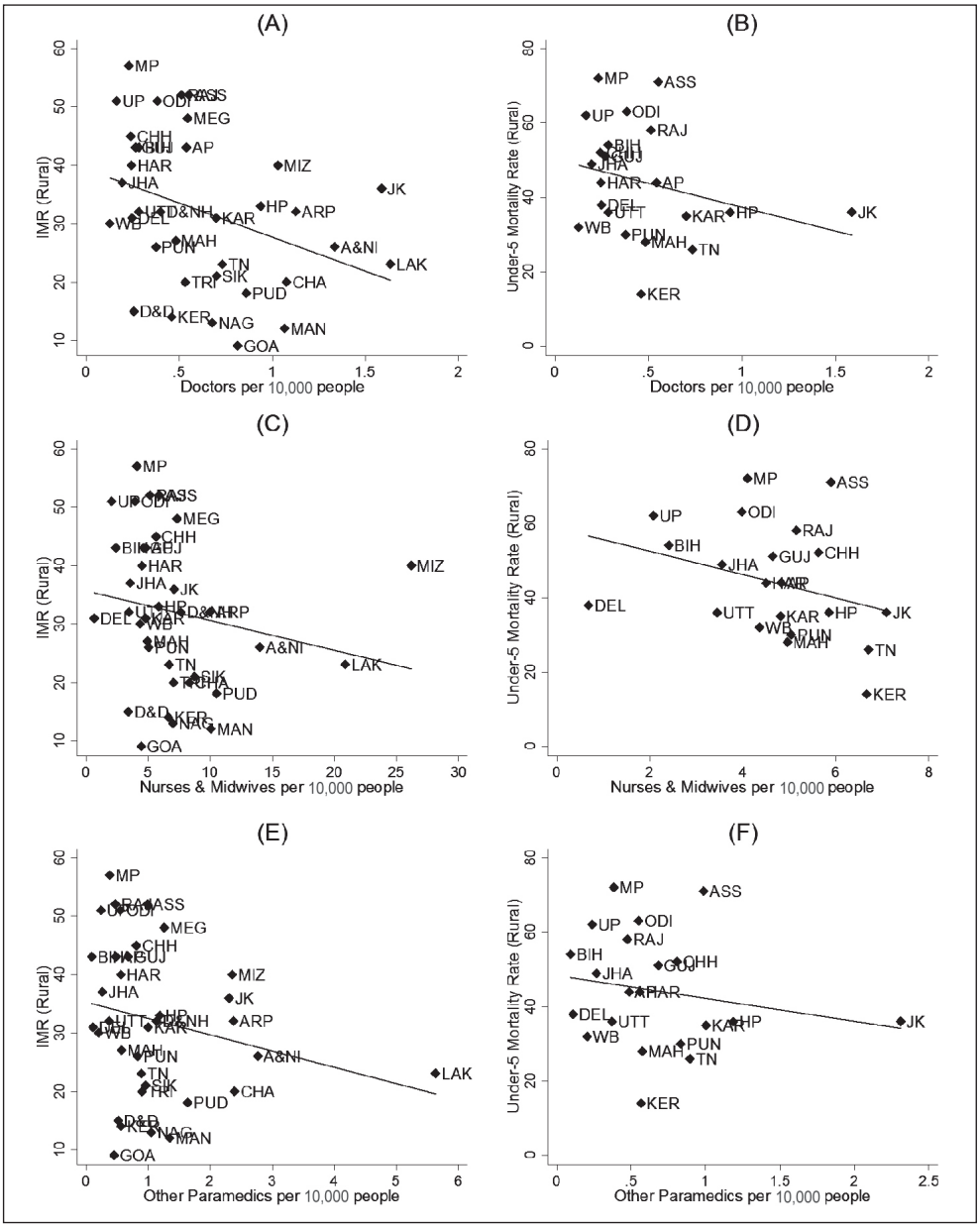
The shortage of health workers has a direct and adverse effect on health outcomes (Rao et al., 2012; Anand & Barnighausen, 2004). It is well known

that critical health indicators, such as, infant mortality rate (IMR), under-five mortality rate (U-5MR), etc., have a negative correlation with the availability of health workers. Figure-6 clearly shows that IMR and U-5MR have a negative correlation with density of doctors, nurses and midwives, and other paramedics across the states/UTs.[5] This is further confirmed by our estimates of Spearman's rank correlation coefficient between densities of health workers and IMR and U-5MR, which turned out to be fairly high with negative sign (–0.394 for doctors, –0.335 for nurses and midwives, –0.290 for other paramedics, and –0.352 for total health workers in case of IMR and –0.311 for doctors, –0.375 for nurses and midwives, –0.299 for other paramedics, and –0.396 for total health workers in case of U-5MR) and statistically significant at the conventional level of significance, implying that states/UTs with higher densities of health workers tend to have lower IMR and U-5MR.

Causes of HRH Shortage

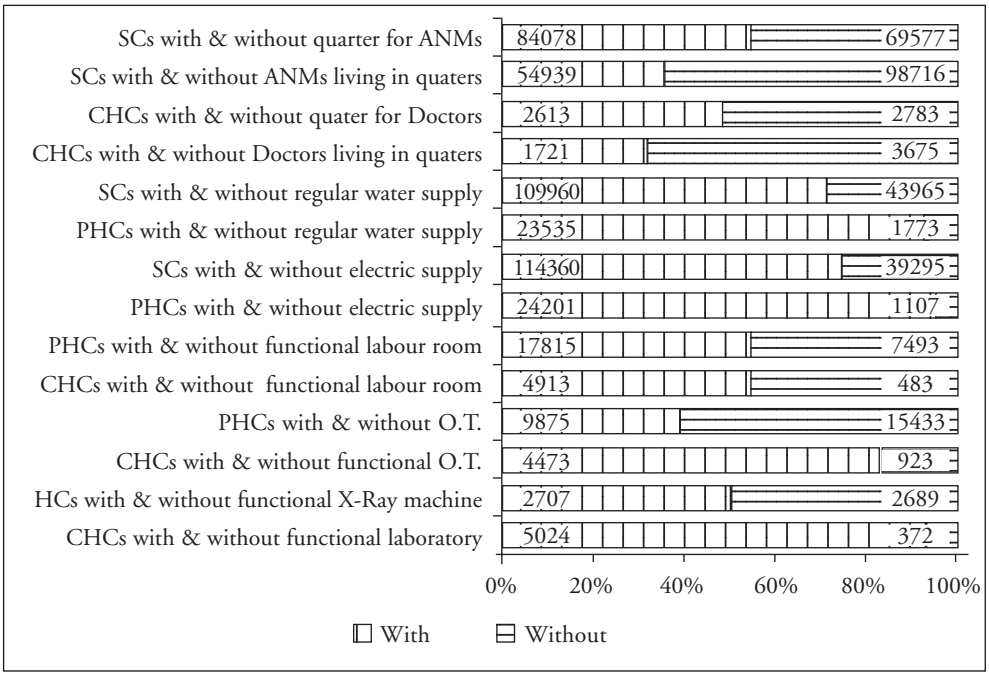
The shortage of health workers exists in rural areas, in fact, increased in the last ten years, despite rapid expansion of educational institutions and training capacity and substantial increase in the stock of health workforce in the country in the last two decades. Does this imply that increasing the production of health workers cannot help address the shortage of health workers in rural India? A closer look at the facts reveals that the shortage of health workers in rural areas, especially in public sector, is because of reluctance of the health workers to work in rural areas and the inability of the public sector to attract and adequately staff rural health facilities (Rao et al., 2011). Many health workers, especially the high-ranked ones like allopathic doctors and specialists, are reluctant to work in rural areas because, in rural areas, they have very poor career prospects, have lower income (since there is very less opportunities for outside earnings in private practice), have very few job opportunities for spouses and education opportunities for children, have less scope to work efficiently (because of lack of access to equipments and facilities), have very poor working and living conditions (because of either lack of or poor conditions of staff quarters, safe drinking water, electricity, etc.). Figure-7 depicts that a fairly large proportion of health facilities do not have staff quarters for nurses and doctors (and even the available staff quarters are not occupied because of their poor conditions), safe drinking water supply (28.4 per cent of SCs and 7 per cent of PHCs), electricity supply (25.6 per cent of SCs and 4.4 per cent of PHCs), and access to equipments and facilities, such as, X-Ray

Figure-6 : Relationship between Density of Health Workers and Health Outcomes, 2014



Source : Densities of doctors, nurses and midwives, and other paramedics are computed from data derived from Bulletin on Rural Health Statistics in India 2013-14; IMR data are from GoI (2016b); U-5MR data are from GoI (2014).

Figure-7 : Facilities Available in Rural Health Centres, 2015



Source : Bulletin on Rural Health Statistics in India, 2014-15.
Note : Figures on the bars indicate the number of health centres with and without facilities.

machine (50 per cent of CHCs), operation theatre (61 per cent of PHCs and 17 per cent of CHCs), labour room (30 per cent of PHCs and 9 per cent of CHCs), and laboratory (7 per cent of CHCs). Because of poor quality of infrastructure nobody wants to take-up job in rural areas and even those who have been posted, their availability remains in question because of high rates of absenteeism. Bhandari and Dutta (2007) point out that the poor quality of infrastructure at the facilities is one of the primary reasons for high rate of absenteeism among the primary healthcare providers in India.

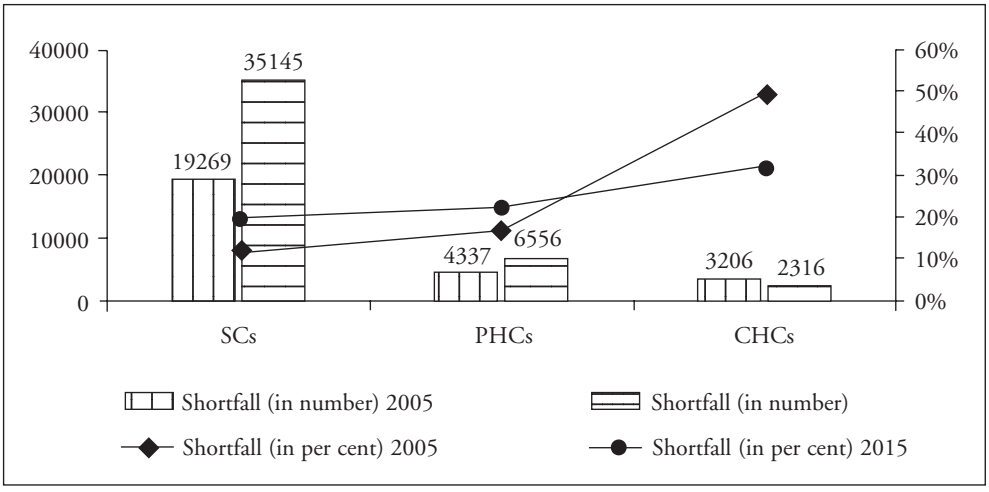
The shortage of health workers in the public sector in rural areas is also because of the factors such as desire to study post-graduate courses and preference to work in private hospitals. The higher salaries in the private sector compared to the public sector are an incentive for doctors not to join the public health system (Rao et al., 2011). Furthermore, because of the urban centric medical education system in India, the city youths trained in technology intensive settings and urban culture never prefer to work in rural areas. There is very little evidence to suggest that even the rural students who moved to urban areas

to pursue medical education might be willing to go back to rural areas. It is a fact that there are many doctors in the cities who are unemployed or otherwise engaged in petty contractual jobs in private clinics, but continue to live and try for settlement in the cities. Besides, the distribution medical institutions are highly skewed towards the developed states, and as a result, the poorer states faced acute shortage in health workforce.

Several institutional factors are also responsible for health workers shortage in the public sector. As we have seen in the previous section that a significant percentage of posts of all health cadres are lying vacant (Table-3) due to delays in recruitment; lack of transparency in identifying vacancies, promotions, and transfers; changes in service rules; and lack of proper human resource management policy in the health facilities. Similarly, many of the required posts are remained non-sanctioned (Table-3) and a fairly large numbers of SCs, PHCs and CHCs are in short (Figure-8)[6] due to the reluctance of the government to creation and sanction of new posts and health facilities. It is quite believable that the politicians often promised construction of new facilities and new appointments not with the interest to providing healthcare to the public but for their political interests and once their interests are accomplished they do not make any commitment towards the fulfillment of those promises.

Another reason is migration of health workers to abroad for better career opportunities, working condition, better

Figure-8 : Shortage of Rural Health Centres



Source : Bulletin on Rural Health Statistics in India, 2006 and 2014-15.

salary, and other benefits. The migration of health workers from India has been growing significantly in the last two decades and India has been emerging as one of the major countries of origin of migration of skilled health workers to the developed countries, such as, the United States, the United Kingdom, Canada, Australia, Ireland, and the Gulf countries. According to one report of the International Labour Organisation (ILO,2014) over 59,000 MBBS graduates from India have been working in the United States, the United Kingdom, Canada and Australia, which is more than 10 per cent of the MBBS doctors registered with the Medical Council of India. It is reported that about 20 per cent of graduates of Indian nursing schools goes abroad every year (Sinha, 2007). The number of Indian nurses working in the Gulf countries is about 60,000 (Percot, 2006), whereas about 17,000 Indian nurses are in the United Kingdom (Kodoth and Jacob, 2013). The large scale emigration of health workers severely affects the availability of qualified health workers in the country.

What Can be Done?

The findings have important policy implications. Perhaps no single strategy could alone offer a comprehensive solution of the problem. The interventions need to be multi-pronged and to be carried out at various levels, particularly on the part of the state policies, training institutions, and health facilities.

There is urgent need to develop a national health workforce policy for planning and management of health workers production in the country. To do so new training institutions need to be created by the public sector, especially in states where they are few, and the existing institutions need to be strengthened. Emphasis also needs to be given in ensuring a more appropriate mix of training opportunities and assuring educational quality through regulatory enforcement, such as, licensing, certification, and registration, etc.

There is also need to design an appropriate recruitment and retention strategy of the health workers in the public sector, especially in the underserved rural and remote areas. The required numbers of posts need to be created and vacant posts need to be filled up by simplifying the recruitment process. Various strategies adopted in the past to recruit and retain health workers in rural areas include monetary incentives, compulsory service bonds for medical graduates, reservation of postgraduate seats for public sector doctors serving in rural areas, and hiring contractual workers. Several Indian states, such as, Tamil Nadu, Gujarat, and Andhra Pradesh have introduced mandatory

rural service as a criterion for admission to post-graduate programmes. Similarly, Tamil Nadu, Kerala, and Meghalaya have introduced compulsory rural service bonds in exchange for subsidised medical education. However, such compulsory service policies may not be supported always as these policies do not concerns about the service quality. Instead, efforts need to be made to make rural service attractive for the health workers. Since 2007 monthly financial incentives in addition to salary have been introduced across India for doctors, nurses and midwives working in rural and remote areas. However, researchers overwhelmingly favour a package of incentives comprising both monetary incentives and non-monetary incentives, such as, enhanced opportunities for post-graduate education, clear transfer and promotion policies, and better working and living conditions, etc.

There is considerable scope for actions that the educational institutions can use to address the health workers shortage. The educational institutions should come up with strategies such as admissions criteria that are likely to produce providers interested in rural practice; for example, admitting more students from rural communities. At the same time, rural centric curricula and training tracks need to be developed to encourage the medical graduates to work in rural areas. Introduction of new cadres of rural health practitioners, such as, the three year Bachelor of Rural Medicine and Surgery (BRMS) degree, which was approved by the Union Cabinet in November 2013 and already introduced in Assam, Chhattisgarh, and West Bengal, could be an effective long-term solution to the chronic shortage of health workers in rural areas.

Furthermore, the health facilities may adopt various innovative practices to ameliorate the poor availability of health workers in rural areas. For example, the health facilities may adopt strategies, such as, task shifting (i.e. shifting clinical tasks from doctors to capable cadres with fewer credentials) and multi-skilling (i.e. adding to the skill set of the existing staff to take on new roles) to address shortage of doctors. Allowing alternative providers such as AYUSH practitioners and nurses, after proper training, to provide primary healthcare will help to mitigate the shortage of doctors in the rural areas. The use of information and communication technology (ICT) in healthcare delivery, such as, tele-health services, can also help to fill the gaps in healthcare services caused by shortage of health workers in rural and remote areas. The public health facilities may also engage with private health practitioners to strengthen public service by hiring their services on contractual basis or directly purchasing services from private sector

for critical healthcare services, such as, institutional delivery, surgery, etc. The NRHM mission has also recommended partnerships with private practitioners to supplement the public health system. In addition, the health facilities should give emphasis to enhancing the performance of existing health workers by proper supervision, fair and reliable compensation, critical support systems, and on-job training facilities. Furthermore, appropriate strategies should also be designed to counteract attrition of health workers caused by illness, deaths, retirement, and migration.

Most importantly, the working and living conditions of the rural health centres need to be improved. With least of equipment and facilities in rural areas, it is impractical to expect doctors to get posted in such areas. To encourage more doctors in rural areas, the essential medical facilities and equipment along with basic amenities, such as, safe drinking water, electricity, staff quarter, etc. have to be made available in the rural health centres so that doctors can work more efficiently.

Conclusion

Shortage of health workers in rural areas is one of the biggest problems faced in India's health sector. In this paper we examine the current status of health workers and human resource challenges in the public health sector in rural India. The analysis shows that the public health sector in rural areas across the country has suffered from acute shortage of health workers even after 10 years of implementation of the NRHM mission. There are just five health workers for every 10,000 people in 2015. The combined density of doctors, nurses and midwives (4.5 per 10,000 people) is just above one-sixth of the WHO's recommendation of 25.4 health workers per 10,000 people to achieve universal health coverage. The limited health workers are unevenly distributed across the country. The density of health workers in states, such as, Mizoram and Lakshadweep are up to five times higher than in states, such as, Uttar Pradesh, Bihar, Jharkhand, Uttarakhand, Daman and Diu, Madhya Pradesh, West Bengal, Odisha, Andhra Pradesh and Gujarat. The rural health sector has also an adverse nurse–doctor ratio; the nurse-doctor ratio is roughly 2:1, compared to the World Bank's recommended ratio of 4:1 or higher for cost effective and quality healthcare.

Because of the shortage of health workers a fairly significant percentage of posts of all health cadres at SCs, PHCs and CHCs are laying vacant and the situation get worse in recent years. Even in health centres where health workers have been posted, their availability remains in question because of high rates of absenteeism. The rural health sector

has also a serious shortage of female doctors. The health workers shortage has big repercussions on efficient functioning of the rural health system and the quality of healthcare services being provided to the poor masses. The inaccessibility of public health services compels the rural people to get healthcare from the private sector providers, which increases the out of pocket expenditure of the people. We found that critical health indicators, such as, IMR and U-5MR have a negative correlation with the availability of health workers across states, implying that states with higher densities of health workers tend to have lower IMR and U-5MR.

The health workers shortage in the public health sector in rural areas are mainly attributed to a set of factors, such as, reluctance of the health workers to work in rural areas (due to poor career prospects, lower income level, very few job opportunities for spouses and education opportunities for children, and poor working and living conditions in rural areas), inability of the public sector to adequately staff rural health facilities (owing to delays in recruitment; lack of transparency in identifying vacancies, promotions, and transfers; changes in service rules; and lack of proper human resource management policy), reluctance of the government to creation and sanction of new posts and health facilities, preference of the health workers to study post-graduate courses and to work in private hospitals and abroad, urban centric medical and nursing education system, and uneven distribution of medical and nursing colleges among states. Perhaps no single strategy could alone offer a comprehensive solution of the problem. Therefore, the study emphasises on multi-pronged interventions at various levels, especially on the part of the state policies (a national health workforce policy, new training institutions in the public sector, and strategies for recruitment and retention in rural areas, etc.), educational institutions (admissions criteria that are likely to produce providers interested in rural practice, introducing rural centric curricula and training tracks, etc.) and health facilities (task shifting and multi-skilling, tele-health services, and contracting private health workers, etc.).

Endnotes

1. The NRHM is an initiative undertaken by the Government of India to provide accessible, affordable, and accountable healthcare services to the rural population, with special focus on 18 states (e.g. Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Himachal Pradesh, Jammu and Kashmir, Jharkhand, Madhya Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Rajasthan, Sikkim, Tripura, Uttar Pradesh and Uttarakhand), which had poor health indicators and inadequate public health infrastructure facilities. The mission mainly focuses on improving access to equitable and affordable primary healthcare services

such as women's health, child health, water, sanitation and hygiene, immunisation and nutrition, etc. to the rural people, especially women and children. In 2013, the NRHM was amalgamated with the National Health Mission.

2. The SC is the most peripheral and first contact point between the primary healthcare system and the community; PHC is the first contact point between village community and the medical officer, and acts as a referral unit for six SCs and has 4-6 beds for patients; and CHC is the referral centre for four PHCs, which also provides facilities for obstetric care and specialist consultations.

3. Availability implies the sufficient supply and stock of healthcare workforce; accessibility implies the equitable access to healthcare workforce; acceptability implies the characteristics and ability of the workforce to treat everyone with dignity create trust and enable or promote demand for services; and quality implies the competencies, skills, knowledge, and behaviour of the healthcare workforce (WHO, 2014a).

4. The NRHM mission identified eight states with poor health outcomes as EAG states. These states are Bihar, Chhattisgarh, Uttar Pradesh, Madhya Pradesh, Orissa, Jharkhand, Uttarakhand, and Rajasthan.

5. The analysis was performed for the year 2014 because data on state-wise IMR and U-5MR are not available for the later years. Data for U-5MR are for 21 states only.

6. The shortage of SCs, PHCs and CHCs further contributes to the health worker shortage by the numbers of health workers that were otherwise to be deployed in those health centres.

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Appendix

Table-A.1 : Shortfall (in per cent) of Health Workers in Rural Health Centres in States/UTs, 2015

States	Doctors at PHCs	Specialists at CHCs	Radiographers at CHCs	Laboratory Technicians at PHCs/CHCs	Pharmacists at PHCs and CHCs	Nurses at PHCs and CHCs	ANM at SCs and PHCs	HW(M) at SCs	LHV at PHCs	HA(M) at PHCs
High Focus States										
Arunachal Pradesh	12.82	99.52	86.54	56.21	42.60	33.68	26.05	69.93	96.58	38.46
Assam	+	79.97	56.95	+	+	+	+	26.62	62.62	100.00
Bihar	+	77.50	81.43	68.71	87.20	26.84	+	88.96	80.99	98.67
Chhattisgarh	53.54	87.42	17.42	30.62	10.88	19.50	4.60	31.74	41.04	57.32
Himachal Pradesh	+	97.76	44.87	72.84	21.11	39.29	22.07	52.64	74.60	86.20
Jammu & Kashmir	+	50.30	+	+	+	3.35	+	76.56	82.10	88.23
Jharkhand	+	82.98	69.15	41.55	40.78	25.14	+	90.25	95.11	91.74
Madhya Pradesh	14.69	80.31	49.40	40.73	32.03	+	+	53.27	55.68	75.41
Manipur	+	95.59	23.53	5.88	+	+	+	10.45	24.71	23.53
Meghalaya	+	97.22	29.63	8.76	1.46	+	+	68.93	40.91	32.73
Mizoram	14.04	100.00	44.44	7.58	30.30	+	+	+	66.67	61.40
Nagaland	+	95.24	95.24	51.68	32.21	+	+	100.00	81.25	58.59
Odisha	22.76	76.39	85.15	77.53	10.88	68.05	+	46.98	45.44	100.00
Rajasthan	+	76.85	59.68	27.20	74.84	+	2.98	87.21	45.08	97.50
Sikkim	+	100.00	100.00	+	46.15	+	+	21.77	20.83	54.17
Tripura	+	96.25	80.00	39.64	+	+	57.04	43.56	100.00	54.95
Uttar Pradesh	36.83	84.35	89.39	77.45	32.48	50.47	1.19	84.64	45.21	72.72
Uttarakhand	37.74	79.24	72.88	50.32	68.35	31.94	13.16	95.73	64.98	69.65

Non-High Focus States										
Andhra Pradesh	+	76.54	77.82	33.89	19.11	8.69	+	68.56	+	100.00
Goa	+	75.00	0.00	44.00	36.00	+	34.78	58.85	57.14	100.00
Gujarat	28.71	94.22	45.31	10.59	43.91	22.43	25.48	28.34	56.21	39.45
Haryana	+	93.12	51.38	23.33	10.88	+	+	53.99	37.96	49.46
Karnataka	6.67	39.08	17.96	49.43	1.48	16.31	22.73	63.20	56.23	+
Kerala	+	95.61	91.89	65.20	+	+	+	25.66	98.43	+
Maharashtra	+	59.86	71.11	36.11	3.27	41.47	+	36.77	0.55	10.55
Punjab	+	71.17	9.33	16.46	+	+	+	42.05	8.67	33.26
Tamil Nadu	+	100.00	49.35	25.21	13.15	+	15.89	73.77	37.54	+
West Bengal	20.46	91.79	80.40	64.33	23.09	+	+	74.99	86.25	91.20
Union Territories										
A. & N. Islands	+	100.00	100.00	+	+	+	+	63.11	50.00	100.00
Chandigarh	0.00	+	+	+	+	+	+	87.50	0.00	0.00
D. & N. Haveli	+	50.00	0.00	+	+	+	+	83.93	100.00	100.00
Daman & Diu	+	87.50	+	20.00	0.00	17.65	+	15.38	100.00	33.33
Delhi	+	0.00	0.00	60.00	+	+	+	100.00	+	100.00
Lakshadweep	+	100.00	+	+	+	+	+	0.00	75.00	100.00
Pondicherry	+	75.00	0.00	+	+	+	+	100.00	50.00	+

Source : Bulletin on Rural Health Statistics in India, 2014-15.

Notes : + indicates surplus. SC= sub-centre, PHC= primary health centre, CHC= community health centre, ANM= auxiliary nurse midwife, LHV= lady health visitor, HW(M)= male health worker, HA(M)= male health assistant.

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Exploring the Dynamic Relationship between BSE PSU Index and Economic Policy Uncertainty : Evidence from India

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The share prices of the corporate houses get influenced by the demand and supply situation in the stock market which in turn gets triggered by various factors which can be broadly clustered into three areas namely the company specific factors, industry specific factors and the macroeconomic factors. The stability of the government, industrial unrest, divestment policy, foreign investment policies, prevalence of corruption, imposition of high rate of taxes, import and export restrictions and red tape etc., are the components of political risk which is of great significance to the operation of the firms in an economy. In the present study an effort is made to ascertain the interrelation between the Economic Policy Uncertainty and the BSE PSU Index in the long-run and short-run for the period from January, 2003 to November, 2016. Appropriate statistical and econometric tools and techniques are applied to attain the objectives of the study. The result of the study suggested that policy uncertainty exerts negative effect on the BSE PSU index and there exists both long-run and short-run relationship between Economic Policy Uncertainty and the BSE PSU Index.

Keywords : Economic Policy Uncertainty, BSE PSU Index, Corruption, Political Risk, Macroeconomic Factors.

Introduction

Vibrant stock market has always been considered important for industrial and economic growth of any nation. Effective and efficient stock market helps channelize funds from the surplus sector to the deficit sector in the financial system. Exploring the determinants of the stock prices has been a matter of great interest amongst the scholars in the domain of finance across the globe for a long period of time. Obviously, the share prices of the corporate houses get influenced by the demand and supply situation in the stock market which in turn gets triggered by various factors can be broadly clustered into three areas namely the company specific factors, industry specific factors and the macroeconomic factors. Since late 1980's researcher community was primarily interested in understanding the role of the company fundamentals, precisely, the company specific factors

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in an isolated fashion in modelling the stock price behaviour. Limited number of empirical studies has been conducted then in order to identify the significant macroeconomic factors influencing the stock market development. However, with the acceptance and emergence of the free market economy in early 1990's, the macroeconomic factors begun to play a pivotal role in shaping the stock market movement across different countries within the globe. The countries which adopted the new form of market economy became more vulnerable to shocks emanating from the interlinked world economy. More an economy is liberalized, greater is the chance of getting affected by the macroeconomic factors which are beyond the control of the corporate houses. Naturally, the direction of the research studies has also changed according to the changing factor dynamics. In tune with this development in the stock market of different countries, the focus of the researchers shifted towards incorporating the various macroeconomic factors in the existing models of stock price determination. Thus persistent effort was also made in order to evaluate the short-run and long-run relationship between the stock market index and the different macroeconomic variables. Till to date a number of research studies have been conducted across the globe which have tried to find out the macroeconomic determinants of the stock prices in the context of different countries. Any kind of change or movement in the macroeconomic variables directly affects either the dividend expectation of the investors or the discounting rate and the consequent impact of such changes in the macroeconomic variables gets reflected on the current share prices. There are many macroeconomic variables which bears long-run relationship with the stock prices such as money supply (Kraft & Kraft, 1997), inflation (Ammer, 1994), government consumption (Grier &Tullock, 1989), political repression, government policy (Croce et al., 2012), GDP (Barro, 1996), FDI and FIIs (Froot et al., 2001), policy uncertainty (Antonakakis et al., 2013), oil prices (Hondroyiannis & Papapetrou 2001), rate of interest (Malkiel, 1982), exchange rate (Granger et al., 2000), growth of GDP Durham, 2002, gold price, investment in housing sector, industrial production index, domestic interest rate (Al-Sharkas, 2004) and foreign exchange reserve were the major determinants of the stock market performance (Nishat & Shaheen, 2004), international crude oil price (Hosseini et al., 2011), integration with the other international stock markets (Sheng & Tu, 2000) having influence on the economic growth indicators and stock exchanges on many countries including India. In Indian scenario and in the light of the research works of Rao and Bhole (1990), Pethe and Karnik (2000),

Mukhopadhyay and Sarkar (2003), Hassan and Sangmi (2013), Srinivasan (2011), Sultana and Pardhasaradhi (2012), Naik and Padhi, (2012) it can be concluded that the major stock indices in India such as Nifty or Sensex also bears a long run relationship with the various macroeconomic fundamentals mentioned earlier.

Review of Existing Literature

There is, no doubt, that the political scenario of a country determines the growth of a country to a large extent. Prosperity or misery of a countries economic fate is largely determined by the political situation prevailing in a nation (Bilson et al., 2004). Different political parties belong to different ideological school and when a particular political party forms the government with peoples mandate, the policy decisions taken by the same government gets influenced by the ideology of the political party to which it belongs. The success and failure of the firms to a large extent is dependent on the different industrial policy decision adopted by government (Hillman & Hitt, 1999). Thus different nations follow socialist, capitalist and mixed economy all over the globe. The stability of the government, industrial unrest, divestment policy, foreign investment policies, prevalence of corruption, imposition of high rate of taxes, import and export restrictions and red tape etc., are the components of political risk which is of great significance to the operation of the firms in an economy (Cherian & Perotti, 2001; Hillman et al., 1999). However, it cannot be denied the measurement especially quantification of political risk and prevalence of corruption is a tedious task (Dimonte et al., 1996). Pro-industry attitude and policy of a government reduces the political risk, creates greater opportunity for the economy to flourish and vice-versa. Political risk (Chang, 2007), prevalence of corruption (Brückner & Gradstein, 2012) has significant impact on the foreign fund flow (Bilson et al, 2004) and economic growth. Apart from this the state of political instability such as terrorism, riots, coups, civil war and insurrection has significant influence on the operation of the firm. In fact, political risk has direct influence on the foreign fund flow to a country considering the present state of global nature of investments (Bilson et al, 2004). Any investment involves different risk factors such as market risk stemming from the fluctuation of the input and output prices and business cycles, financial risk emanating from the volatility in the exchange rate, inflation rate, share price return and interest rate etc., and the political risk originating from political instability and other related factors mentioned above. The combined total

risk therefore is called country risk. Short-run and long-run policies of the government, trade openness, financial development and political stability are the major determinants of the economic growth of a particular nation (Farooq et al., 2013). There is a direct and indirect cost of political risk which a firm has to bear operating in an economy (Doh et al., 2003). In the literature there is enough evidence of the fact that economic growth of a country gets negatively affected by the high political risk or country risk (Campos & Nugent, 2002; Bruckner & Gradstein, 2012; Farooq et al., 2013). Presence of high political risk and corruption increases the public expenditure while the productivity of such investments remains at a very low level (Tanzi & Davoodi, 1998) as the relationship between the high public expenditure and growth is negative. A country having political stability with low political risk is always seen a lucrative investment avenue in terms of receiving the foreign funds especially coming from the MNCs (Filipe et al., 2012). Generally the presence of corruption in the country lowers the growth in a country (Bruckner & Gradstein, 2012). Moreover the prevalence of corruption and high political risk results in the reduction of revenue available in the hands of the government for making any productive investment (Tanzi & Davoodi, 1998). Mauro (1995) also emphasised on the fact that high level of corruption in a country lowers the level of investment and that in turn negatively affects the economic growth of that country. Out of several factors of political risk, stability of the government, absence of internal conflict and ethnic tension, basic democratic rights and effective implementation of the laws are most significant ones in determining the Foreign Direct Investment (Busse & Hefeker, 2007; Wei, 2000; Hoa& Lin, 2016). Foreign investors especially the US investors are very much reluctant to invest in a high political risk country because of the volatile nature of the political-economy of a country as compared to that of the other OECD counterparts (Wei, 2000). On the contrary, there is also evidence in the exiting literature of positive relationship between growth, flow of foreign fund and level of corruption (Egger & Winner, 2005). The political risk amongst the different countries of the world has converged over time. But the political risk has increased more in the developed countries as compared to that of emerging economies of the world. The change in the political risk profile has greater impact on the stock market return and volatility if it happens to be an emerging economy as compared to that of a developed economy. The prevalence of corruption

had significant negative implications towards the profitability of the Malaysian banking sector (Sufian & Habibullah, 2010). A paradoxical finding, however, was obtained by Mongid and Tahir (2011) in their study conducted in the context of Malaysian banking sector. It was revealed by them that the Malaysian banking sector profitability was positively affected by the existence of corruption in Malaysia. In a different kind of study Aburime (2009) revealed that political affiliations of the banks in Nigeria enabled them to improve their profitability. The underlying essence of the result of the study was that the Nigeria banks tried to manage the political risk, rather used the political affiliation to enhance their earnings. The positive implications of the existence of political risk is not only restricted to the profitability of some sectors but in many studies it was also found out that political risk or existence of corruption have exacerbated a high degree of favourable impact on the stock market returns (Erb et al., 1996; Bilson et al. 2002). Mensi et al., (2015) in the context of the stock markets of BRICS countries have also suggested that the political risk and the stock market returns of these countries were positively associated. However, political risk can explain most of the volatility in the stock exchanges all over the globe (Vortelinos & Saha, 2016). In a more recent study by Brückner and Gradstein (2012) showed that with the increase in per capita growth the political risk of a country reduces. They have also suggested that a country having a high degree of ethnic polarization with the increasing per capita GDP, the political risk reduces.The political risk has a significant negative impact towards the infrastructure of a particular country (Tanzi & Davoodi, 1998) that is one of the major impediments of the growth of country (Easterly & Levine, 1997). Thus the level of corruption and political risk bears significant implications towards the strategy formulation of a country. It is believed that firm managers can develop strategies to deal with the corruption and high political risk (Hillman et al., 2009). The firms are compelled to undertake different measures to establish a good liaison with the government mainly with objective of reducing the political risk and also to mitigate the direct and indirect cost associated with the political risk (Hillman et al., 2004). Some of the researchers in this domain are also of the opinion that political lobbying to reduce the microeconomic political risk is not a luxury rather a necessity and hence the management must spend adequate time, effort and cost in this direction (Sethi, 1982). However, there is very limited literature regarding how the firms develop

this kind of strategy. For example, Smarzynska and Wei (2000) have found out that in a state of high corruption and political risk firms enters into market in joint venture form rather than investing directly in the context of European countries. Doh et al, (2006) have suggested some of the strategies to cope up with the political risk. Important of which are avoidance, adjusting, corporate code of conduct and stringent implementation of laws etc. In a more recent and different kind of study, Wang (2011) found out that corporate philanthropy helps a firms to gain socio-political legitimacy. The firms can use their effort towards corporate social responsibility to attain political access and social visibility. The different strategies that may be adopted by the firms to establish good relationship with the government are lobbying, job offer to ex-employees and bureaucrats of the government, funding, advertising, advocacy and financing political organizations etc. (Hillman et al., 1999; Wang, 2011). The firms maintaining good liaison with the government enjoys multiple advantages such as political access, availability of information and lesser political costs. Thus the positive relationship with the government helps the firms to reduce the uncertainty to a considerable extent. The result of a study conducted by Hillman et al., (1999) clearly postulated that affiliation with the government by different means has a very significant positive impact on the overall value of the firms. It is a known fact that the firms also influence the government so that the industrial policy decisions are undertaken in their favour (Aplin & Hegarty, 1980). The negative impact of the policy uncertainty on the stock market return can also be observed from the research works of Antonakakis et al., (2013) and Wu et al., (2016). In Indian context, the outcome of the study conducted by Basu et al., (2011) using Beta Country Risk Model suggested that the political risk of India was found to be highly correlated with the major macroeconomic variables such as unemployment rates, exchange rates, rate of interest and FDI. However, in the current context scant literature which has tried to investigate into the long-run and short-run association between the economic policy uncertainty and the stock market index with reference to India especially the public sector undertaking stocks. The share prices of the public sector undertakings are expected to be sensitive to the changes in the economic policies and allied issues. In the light of this background, the present paper will try to shed some light on the interrelation between the BSE PSU Index[1] and the EPU Index[2].

Objectives of the Study

I. To determine the trend of the long-run relationship between the BSE PSU Index and the EPU Index.

II. To explore the interlinkages between the BSE PSU Index and the EPU Index in short-run.

Data and Methodology

The current study is predominantly analytical in character and secondary data dependent. The monthly data on BSE PSU Index for the period January, 2003 to November, 2016 was obtained from the official website of Bombay Stock Exchange (BSE) Ltd, Mumbai and the Indian EPU indices for the same period obtained from the official Economic Policy Uncertainty website[3]. Baker et al. (2015) developed the EPU Index[4] for major economies of the world including India which in recent times is popularly used by scholars across disciplines in different part of the globe.In order to deal with the time series data, sophisticated time series econometric techniques had to be used for attaining the objectives of the study. To test the stationary property of the time series data, a well-known method called Augmented Dickey-Fuller Test (ADF Test) is used. Using Vector Auto Regressive model (VAR) the optimum lag length is selected for cointegration test and short-run equilibrium determination using Vector Error Correction Model. The selection of the optimum lag length is dependent on the different information criterions obtained from the VAR models. In order to determine the long-run equilibrium interlinkages between the BSE PSU Index and the EPU, Johansen's Co-integration Analysis (Johansen & Juselius, 1990) was applied. Similarly in order to evaluate their relationship in the short-run Vector Error Correction Model was adopted which is actually unrestricted form of VAR.

Analysis and Discussion

Table-1 reflects the descriptive statistics of the two variables BSE PSU and EPU. The mean value of BSE PSU is 6465.613 ± 2011.974 standard deviation while the same for EPU is 98.05 ± 53.90423 standard deviation. Simultaneously it can also been seen that the median value is very closer to the mean value indicating the erratic nature of the variables. The difference between the maximum and minimum values for both variables also suggests that the variables remained too much unstable during the entire period of study. It implies that both the variables have a lot of fluctuations during the entire study period. The value of skewness reveals that BSE PSU is negatively skewed whereas the EPU is positively skewed. The high kurtosis value tells

Table-1 : Descriptive Statistics of the Variables

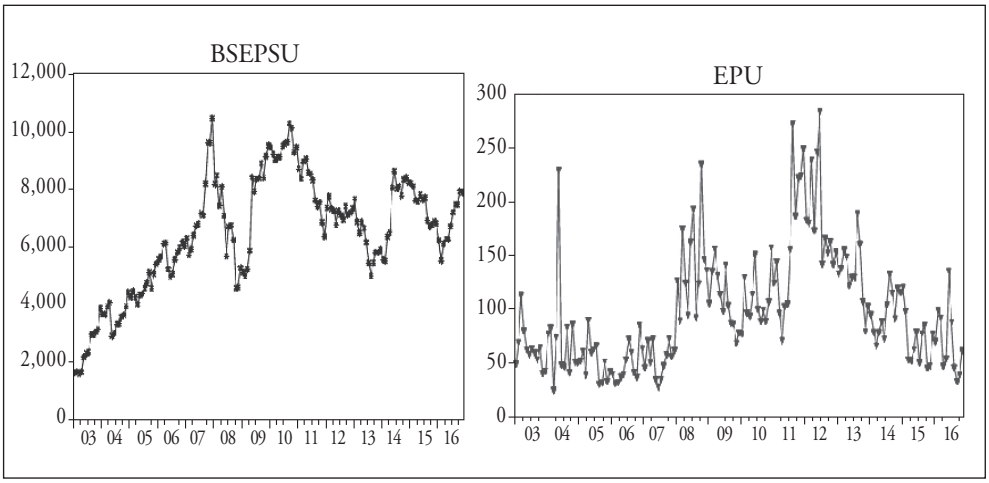
Descriptive Statistics	BSE PSU	EPU
Mean	6465.613	98.05227
Median	6740.110	86.20779
Maximum	10468.14	283.6891
Minimum	1583.330	24.93983
Std. Dev.	2011.974	53.90423
Skewness	-0.994219	1.139360
Kurtosis	3.594153	4.103200
Jarque-Bera	40.471656	44.60025
Probability	0.00000	0.000000
Observations	167	167

Source : Author's own calculation based on secondary data.

that both the variables are leptokurtic in nature which is also reflected through the Jarque-Bera results. The statistical significance of the Jarque-Bera statistics negates the normal distribution assumption for both the variables.

In Chart-1 the trend of the BSE PSU index and EPU are presented side by side so as to compare their movement. It can be seen from the chart that BSE PSU chart is alike the mirror image of the EPU. For instance, during 2008 the

Chart-1 : Trend of BSE PSU and EPU



EPU has enhanced significantly and during the same period there is a sharp decline in the BSE PSU index. Similarly if we look at the end period 2016 the EPU has declined and BSE PSU has inclined. Thus, prima facie it can be said that both the variables are associate led adversely with each other subject to further econometric test which are performed in the later part of this segment.

To apply the different time series models, it is necessary that their stationarity property must be tested. To investigate into this, ADF test is performed. The result of the ADF test is presented in Table-2. The result of ADF test suggests that all the variables are found to be non-stationary at level and stationary at first difference which makes the time series financial variables amenable to the application of the econometric techniques.

Selection of the optimum lag length is of great significance for proceeding with the long-run cointegration test and short-run equilibrium determination using Vector Error Correction Model as the result of those test are sensitive to the selection of the appropriate lag length. The selection of the optimum lag

Table-2 : Results of ADF Test

Variables	Test in	ADF Test Statistic	Test in	ADF Test Statistic
BSE PSU	Level	-2.595831(0.1952)	First Difference	-12.44555(0.0000)
EPU	Level	-2.211858(0.2029)	First Difference	-16.87622(0.0000)
The values in parenthesis indicates Mackinnon p-values				

Source : Author's own calculation based on secondary data.

Table-3: VAR based Optimum Lag Selection

Lag	FPE	AIC	SC	HQ
0	0.028097	2.103671	2.141789	2.119147
1	0.000864	-1.378634	**-1.264278***	-1.332204
2	0.000867	-1.374762	-1.184170	-1.297379
3	**0.000751***	**-1.518619***	-1.251789	**-1.410282***
4	0.000785	-1.474084	-1.131017	-1.334794
5	0.000796	-1.460706	-1.041403	-1.290463

length is dependent on the different information criterions such as Final Prediction Error (FPE), Akaike Information Criterion (AIC) Schwarz information Criterion (SC) Hannan-Quinn information Criterion (HQ) obtained from the VAR models. The lag where, three of the four information criteria get minimized is selected as the appropriate lag. From the analysis of Table-3 it can be seen that the FPE, AIC and HQ is the lowest at lag length three. Thus lag length of three is used for the purpose of the analysis in the rest of the tests.

Cointegration test is performed in order to explore the existence of the long term relationship between variables. In order to ascertain the long-run relationship between the BSE PSU and EPU, Johansen Cointegration test is employed. One of the basic criterions for the application of the test is that the variable series must be stationary so that no spurious result arises due to the application of the test using non-stationary time series data. Like other tests, Johansen Test of Cointegration is also very much sensitive to the selection of optimum lag period. The lag selection is done by using VAR analysis described earlier. As depicted earlier, that it is necessary to ensure that the variables must be non-stationary at level form and stationary at first difference. The result of the ADF test show that all the macroeconomic variables and the sectoral indices has unit root in the level form and when the first difference is obtained the variables were found to be having no unit root problem implying that the variables are integrated of same order. Under Johansen's Test of Co-integration, co-integration rank test for the trace statistics and maximum Eigen statistics for different the variables are done. If the trace statistics and the maximum Eigen statistics exceed the respective critical values at 5 per cent level of significance then it can be concluded that the variables considered for the purpose of the test possess long run relationship. The analysis of Table-4 suggests that both the trace statistics and maximum Eigen value statistics are

Table-4 : Results on Johansen Cointegration Test (at Lag 3)

Variables : BSE PSU and EPU

Hypothesized No. of CE(s)	Eigen value	Trace Statistic	Prob.**	Max-Eigen Statistic	Prob.**
None*	0.092144	24.60582	0.0016	15.75712	0.0288
At most 1*	0.052839	8.848697	0.0029	8.848697	0.0029

Source : Author's own calculation based on secondary data.

more than the respective critical values at 1 per cent as suggested by the respective probability or p-values. The null hypothesis under this test which is there has no co-integrating equation is rejected under 'none' as well as under 'At most 1' which implies that there exists at least two co-integrating equation between BSE PSU and EPU for the period of study. Thus it can be said that there is long-run relationship between the BSE PSU and EPU.

Once the variables are found to be co-integrated in the long-run the next task is to look for the relationship in short-run which can be determined using VEC Method. VEC is a restricted form Vector Auto Regressive model. The coefficient of the co-integrating equation represents the short-run adjustment speed to establish long-run equilibrium. From Table-5 it can be realised that the coefficient of the co-integration equation is found to be negative which indicates that EPU and BSE PSU are inversely associated, which corroborates with the expected relationship. Thus if the EPU increase the BSE PSU index will reduce and vice versa. On the other hand, if the short-run adjustment coefficient is observed, it can be seen that the value is -0.078852 and the same is also found to be statistically significant at 1 per cent level as suggested by the respective p value. The negative and statistically significant coefficient for the co-integrating equation reflects the speed with which the short-run adjustment takes place which in this case is 7.8852 per cent per month to establish long-run relationship.

Table-5 : Results on Vector Error Correction Method (at Lag 3)

Co-integrating Equation : -8.241831 -0.110721 LNEPU (-1)			
Error Correction	**D(LNPSU)**	**t-statistics**	**p-values**
Co-integrating Equation	**-0.078852**	-3.890948	**0.0001**
D(LNPSU(-1))	0.034390	0.425410	0.6711
D(LNPSU(-2))	-0.008377	-0.102830	0.9182
D(LNPSU(-3))	0.015396	0.192810	0.8474
D(LNEPU(-1))	-0.000840	-0.038957	0.9690
D(LNEPU(-2))	0.039640	1.840545	0.0676
D(LNEPU(-3))	0.003708	0.172846	0.8630
C	0.009358	1.370123	0.1726

Source : Author's own calculation based on secondary data.

Conclusion

Prediction of the stock prices in a turbulent business environment is a tedious task. Still it attracts the scholars and practioners. Such turbulence is very difficult to gauge. However, indices like EPU tries to proxy the existing turbulence in the context of contemporary business environment. In a volatile business environment, economic decision-making must be guided by logical information. Political risk, economic uncertainty and corruption has become very serious issues which a business needs to consider while formulating business strategies. Lower the policy uncertainty, smoother will be the running of business. In the present study an effort is made to ascertain the implications of the EPU on the BSE PSU index in India. Since PSUs are government-owned it is interesting to find out how the policy uncertainty affects the market value of the PSUs. The result of the study showed that both in the long-run and short-run, BSE PSU is negatively associated with each other indicates that is the policy related uncertainty which increases the share price of the PSUs will decline more. Thus the Government of India should take appropriate steps so as to keep EPU at a lower level as it is one of the prerequisite to have a prosperous and vibrant economy.

Endnotes

1. Bombay Stock Exchange Limited launched 'BSE PSU Index' on 4 June 2001 to track the performance of the listed PSU shares. This index consists of major Public Sector Undertakings listed on BSE. (http://www.asiaindex.co.in/indices/equity/sp-bse-psu)

2. EPU index is constructed from three types of underlying factor. The overall EPU index takes into consideration economic uncertainty and policy related uncertainty news from the newspapers, number of federal tax laws set to expire in coming years and the disagreement among economic forecasters (http://www.policyuncertainty.com).

3. http://www.policyuncertainty.com/

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Gender Disparity in Political Empowerment, Financial Inclusion and Corporate Leadership Roles in India

Neena Malhotra* & Parul**

The objective of this paper is to study gender disparity in political representation, financial inclusion and corporate leadership roles in India by taking into consideration women representation in Lok Sabha and Rajya Sabha, bank accounts held by women and women presence in corporate leadership role. Women are excluded from different walks of life, more visibly in politics. Women worldwide have less ability to broadly access the financial system than men and the most commonly cited reason for not having an account is that another member (particularly male) of the family already has one. A considerable amount of gender inequality is observed in corporate sector in India. Lack of role models, lack of management experience, commitment to family etc., are some of the factors found to be responsible for lesser number of women in key leadership positions in corporate arena. We have constructed two indices of gender disparity in empowerment i.e. Gender Empowerment Disparity Index (GEpDI) and Gender Inequality Index (GIIEP) for major empowerment indicators i.e., number of bank accounts, women representation in Lok Sabha and women representation in Rajya Sabha for major states for which data is available for the period 1991 to 2011.In this paper, various forms of gender disparity in terms of political, economic, social and cultural spheres has been analysed by taking into consideration women representation in Lok Sabha and Rajya Sabha, financial inclusion, and corporate leadership role.

Keywords : Gender Inequality, Financial Inclusion, Corporate Leadership.

Gender discrimination in all spheres can be curbed by empowering women with political, economic, social and legal rights. No nation can achieve development without active participation of women in all spheres of life. United Nations recognized the importance of women empowerment by including promotion of gender equality as one of the goals of MDG (Millennium Development Goals, India Country Report; 2005). One of the basic principles of governance laid down in the

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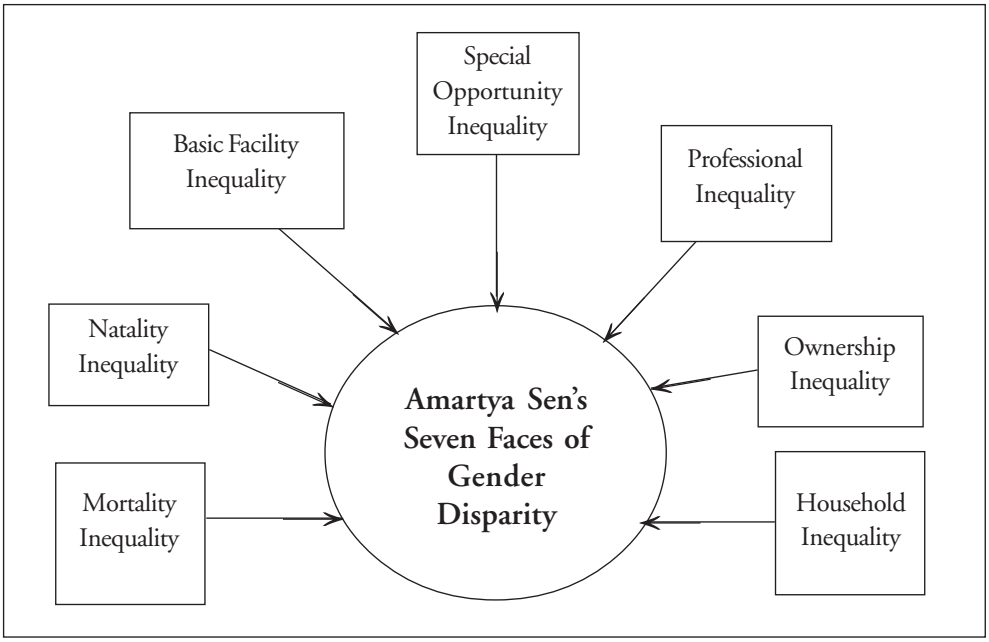
government's national policy during the UN Millennium Summit in September 2000 is to empower women politically, educationally, economically and legally. In case of Twelfth Five-Year-Plan, 'Inclusive Growth' highlights the importance of women development and empowerment as agents of growth and social change for sustained economic development. Women force is half of human capital and if half of human capital is not productive due to lack of facilities and opportunities then economic development is not possible. (MDGs India : MOSPI; 2005). Despite the government policies and efforts of civil society, inequalities and gender disparities exist from household level to political and corporate leadership level.

Gender disparity has divergent faces. Nobel laureate Amartya Sen has studied many faces of gender disparity. In 2001 in an inaugural lecture for the new Radcliffe Institute at Harvard University, he propounded seven types of inequalities viz. i) mortality inequality; ii) natality inequality; iii) basic facility inequality; iv) special opportunity inequality; v) professional inequality; vi) ownership inequality and vii) household inequality. All these faces are interrelated in circulatory manner. Improvement in one aspect leads to betterment in others.

Amartya Sen's (2001) concept of professional and ownership inequality on the basis of gender is very much relevant in Indian context. Under such kind of inequality much fewer women than men hold positions in political power. In many societies of the world the ownership rights of assets movable as well as immovable are also unequally distributed. Even basic assets such as homes and land, financial assets are highly asymmetrically shared which has reduced the voice of women as well as made it harder for women to enter and flourish in commercial, economic, political, corporate and even some social activities.

Usha Narayanan (1997) identifies political participation as the preliminary step in achieving gender justice where women's political participation and their resultant empowerment can be evaluated only on the basis of the availability of democratic values. But on the contrary, women are excluded from different walks of life, more visibly in Politics. Since the 1970s, the focus has been given on how development policies and strategies affect women empowerment in developing countries. To boost up the programs for women's development (particularly the rural women), a National Perspective Plan for Women (1988-2000 A.D.) was brought out by the Department of Women and Child Development, Ministry of

Figure-1 : Amartya Sen's Seven Faces of Gender Disparity



Human Resource Development (GoI, 1986). In 2001, a new policy on empowerment of women was prepared by Ministry of Women and Child Development. The framework of "National Policy for Empowerment of Women, 2001" is based upon the objectives such as equal access of participation and fundamental freedom to women in all spheres- political, economic, social, cultural and civil (GoI, 2001). Recently in May, 2016 "National Policy for Women" has been presented by the Ministry of Women and Child Development with the vision of women empowerment through equal opportunities in social, economic and political arena of life (GoI, 2016).

Not only that gender disparity exists in political field which hampers women's overall empowerment but it also exists in financial accessibility and corporate leadership. As far as women's economic empowerment is concerned it shows the doom picture regarding women bank account ownership. A recent study (Hallward-Driemeier & Hasan, 2013) shows that lack of account ownership (and lack of personal asset accumulation) limits women's ability to pursue self-employment opportunities. Globally the women, by and large, have less ability to access the financial system than men and the most commonly cited reason for not having an account is that another member (particularly male) of the family

already has one. Such a voluntary exclusion due to prevalent cultural practices indicates lack of financial literacy (Marimuthu, 2008).

Women empowerment also demands participation of women in the corporate sector but a considerable amount of gender inequality is observed in corporate sector in India. Currently, lack of role models, lack of management experience, commitment to family etc., are some of the factors found to be responsible for less numbers of women in key leadership positions in corporate arena (www.pragatileadership.com).

In this paper, various forms of gender disparity in terms of political, economic, social and cultural spheres has been analysed by taking into consideration women representation in Lok Sabha and Rajya Sabha, financial inclusion, and corporate leadership role.

Database and Methodology

For the research work, secondary data has been collected from the reports of the Election Commission of India and Planning Commission of India, Government of India (various Issues), Lok Sabha Secretariat and Rajya Sabha Secretariat, Government of India (various Issues), Basic Statistical Returns of Scheduled Commercial Banks in India, an official publication of Reserve Bank of India (various Issues) and the report of Bombay Stock Exchange, corporate websites of the individual companies.

Two state-wise indices of gender disparity in empowerment have been calculated for analysis. First is Gender Empowerment Disparity Index (GEpDI) which is a measure of gender disparity in empowerment of males and females. This index has been calculated for major empowerment indicators for which state level data is available at specific point of time. GEpDI stands for male to female ratios for three variables i.e. number of bank accounts, women representation in Lok Sabha and women representation in Rajya Sabha. Ratios are calculated to highlight female disadvantage wherever present. Higher the ratio, higher is female disadvantage or male advantage. The values of all these ratios are summed up and their average gives the GEpDI value for each state, which are then ranked in the descending order to know the relative position of each state in women empowerment status. Index has been calculated only for those states for which all the indicators are available.

Other index is Gender Inequality Index (GII_{EP}) which is based upon methodology used by UNDP Human Development Report, 2010 and 2011 report. $GII_{(EP)}$ is a measure of gender inequality in empowerment. Gender inequality

index with respect to women empowerment has been developed by taking into consideration three indicators namely :

1. Number of bank accounts which shows financial inclusion,
2. Women representation in Lok Sabha, and
3. Women representation in Rajya Sabha which represents women's political representation.

Method of Constructing Gender Inequality Index (GIIEP)

Step-1 : Constructing indices

Gender inequality index (GIIEP) with respect to scheduled commercial bank was generated keeping in view the respective share of women and men the total to bank accounts in scheduled commercial bank in India. The formula is as follows :

Financial Inclusion Index for Female

$$(FIIF) = \frac{\text{Share of women accounts}}{100}$$

Financial Inclusion Index for Male

$$(FIIM) = \frac{\text{Share of men accounts}}{100}$$

Similarly, Index of Political Empowerment is calculated as under :

Political Empowerment Index (PEI) for Males (PEIM) = $\sqrt{\frac{LSM}{100} \times \frac{RSM}{100}}$

Political Empowerment Index (PEI) for Females (PEIF) = $\sqrt{\frac{LSF}{100} \times \frac{RSF}{100}}$

Step-2 : Calculating the geometric mean of the arithmetic means for each indicator

At the next stage, gender equality was measured by calculating the mean of female and male indices calculated above. The detail is given below :

Gender equality in Financial Inclusion Index (FII) = $\frac{FIIM + FIIF}{2}$

Gender equality in Political Empowerment Index (PEI) = $\frac{PEIM + PEIF}{2}$

An aggregated gender index was constructed keeping in view the above the indicators by using geometric mean and the formula are given below :

Geometric Mean $\left(\overline{GF}, \overline{M}\right) = \sqrt{FII \times PEI}$

Step-3 : Aggregating across dimensions within each gender group, using geometric means

On the basis of the gender wise indices calculating at step-1, aggregated indices across the various dimensions within each gender group were calculated by using geometric means, the aggregation formula of the overall index for women is :

$$GF = \sqrt{FIIF \times PEIF}$$

And, the aggregation formula of the overall index for men is :

$$GM = \sqrt{FIIM \times PEIM}$$

Step-4 : Aggregating across genders, using a harmonic mean

The female and male indices are then aggregated using the harmonic mean to create the equally distributed gender inequality index by using following formula :

$$HARM\ (GF, GM) = \frac{(GF)^{-1} + (GM)^{-1}}{2}$$

Step-5: Calculating the Gender Inequality Index (GII)

Finally, the gender inequality index was constructed by using the following equation :

$$GII\ EP = 1 - \frac{HARM(GF, GM)}{\overline{GF}, \overline{M}}$$

Where, $\overline{GF}, \overline{M}$ is mean gender equality index and HARM (GF, GM) is the gender inequality index calculated in the above analysis.

Ranking has been done in descending order in the same manner as in case of GEpDI i.e. the state with highest value of index is ranked at number one, state with second highest number is ranked number two and so on.

In order to analyse the impact of various measurable variables on women financial inclusion, the regression analysis has been applied. The explanatory variables included in this analysis are female workforce participation rate (FWPR), Per Capita Net State Domestic Product (PCNSDP) at current prices and female adult literacy rate. Coefficients of variation have been calculated to measure inter-state disparities.

Determinants of Women Empowerment

Y_1 – Female Adult Literacy Rate

Y_2 – Female Workforce Participation Rate (FWPR)

Y_3 – Per Capita Net State Domestic Product (PCNSDP) at Current Prices 2004-05

X_1 – Female Bank Accounts

Gender Disparity in Political Representation and Empowerment in India

Politics at every level from local to state as well as central level are dominated by men in India. Before independence, the nineteenth century reform movements and social renaissance and independence movements gave a positive push to women's participation in politics. A number of organisations such as the "All India Women's Conference, The National Council for Women,

Women's Indian Association of Madras and The Indian National Movement (under the leadership of Mahatma Gandhi)" inspired Indian women to enter the open field of politics. After Independence, a planned approach to provide special thrust to the welfare of women was adopted with the launching of the First Five Year Plan in 1951. The Report of the Committee on the Status of Women in India (CSWI) "Towards Equality" was submitted in 1975 in which the rights and status of women with respect to changing social and economic conditions and the problems relating to the advancement of women was examined. Consequently "National Plan of Action, 1976" providing the guidelines based on "United Nation's World Plan of Action for women" came into force. Afterwards, in 1990 "The National Commission for Women" was set up to protect the rights of Women. There have been important changes in legislation and litigation which have facilitated increased participation of women in political activities as well as in the socio-economic development activities.

The "73rd and 74th Amendments of Indian Constitution, 1993" has proved to be the milestone in the history of India. The 73rd Constitutional Amendment Act introduced "not less than 33 per cent reservation for women in the Panchayati Raj institutions in the rural areas" whereas the 74th Constitutional Amendment Act introduced similar "reservation for women in nagar palika and municipalities in towns and urban areas". These Constitutional Amendment Acts have provided the opportunities to over three million women to actively participate in determining the policies and programs of the country, though only at the local levels of governance.

"The Women's Reservation Bill (WRB)" was first introduced as the "Constitution Amendment (81st) Bill" on 12th September 1996 by the United Front government, but it was not passed. Afterwards in 1996, 1998 and 1999, Constitution Amendment Bills were introduced to reserve seats for women in Parliament and State Legislative Assemblies but all the three bills lapsed with the dissolution of their respective Lok Sabhas. "The Constitution (One Hundred and Eighth Amendment) Bill, 2008" was introduced in the Rajya Sabha. The bill envisages that as nearly as one-third of all seats in Lok Sabha and State Legislative Assemblies shall be reserved for women. The controversial yet historic Women's Reservation Bill, ensuring 33 per cent reservation for women in Parliament and state legislative bodies, was passed in the Rajya Sabha on 9th March, 2010. The bill is still pending in Lok Sabha after being passed in the Upper House of Parliament (www.prsindia.org).

Gender-wise Status of Elected Contestants in various Lok Sabha Elections, India

Table-1 reveals that the per cent share of women representation in total Lok Sabha seats from the first election to sixteenth election has increased from 4.50 per cent to 11.23 per cent. Though the percentage share of women representation has improved during the study period, but it is very low as compared to men. Socio-historic forces such as lack of willingness among political parties to give more tickets to women in elections (Basu, 1992) and lack of support from the family severely affect women's chances to contest and win elections (Rai, 2011).

Table-1 : Gender-wise Status of Elected Contestants in Lok Sabha Elections, India.

General Election	Year	Number of Seats	Total Elected Females	Total Elected Males	Proportion of Females Elected	Proportion of Males Elected
First	1952	489	22	467	4.5	95.5
Second	1957	494	27	467	5.47	94.53
Third	1962	494	35	459	7.09	92.91
Fourth	1967	520	30	490	5.77	94.23
Fifth	1971	520	21	499	4.04	95.96
Sixth	1977	542	19	523	3.51	96.49
Seventh	1980	542	28	514	5.17	94.83
Eighth	1984	542	42	500	7.75	92.25
Ninth	1989	529	27	502	5.1	94.9
Tenth	1991	521	37	484	7.1	92.9
Eleventh	1996	543	40	503	7.37	92.63
Twelfth	1998	543	43	500	7.92	92.08
Thirteenth[a]	1999	543	49	494	9.02	90.98
Fourteenth	2004	543	45	498	8.29	91.71
Fifteenth	2009	543	59	484	10.87	89.13
Sixteenth	2014	543	61	482	11.23	88.77

Source : Election Commission of India, New Delhi.

Gender-wise status of Persons Contesting in Various Lok Sabha Elections

Table-2 shows that the representation of women is very low as compared to men in context of persons contesting in various Lok Sabha elections in India. The proportion of women contestants increased from 2.83 per cent in the first Lok Sabha election to 8.10 per cent in the sixteenth Lok Sabha election in India. These proportions are even lower than those for elected contestants in Lok Sabha.

Table-2 : Gender-wise Status of Persons Contesting in Various Lok Sabha Elections, 1952 to 2014, India

General Election	Year	Total Contestants	Total Female Contestants	Total Male Contestants	Percentage of Female Contestants	Percentage of Male Contestants
First	1952	1874	53	1821	2.83	97.17
Second	1957	1518	45	1473	2.96	97.04
Third	1962	1985	70	1915	3.53	96.47
Fourth	1967	2369	67	2302	2.83	97.17
Fifth	1971	2784	86	2698	3.09	96.91
Sixth	1977	2439	70	2369	2.87	97.13
Seventh	1980	4629	143	4486	3.09	96.91
Eighth	1984	5574	164	5410	2.94	97.06
Ninth	1989	6160	198	5962	3.21	96.79
Tenth	1991	8699	325	8374	3.74	96.26
Eleventh	1996	13952	599	13353	4.29	95.71
Twelfth	1998	4750	274	4476	5.77	94.23
Thirteenth	1999	4648	284	4364	6.11	93.89
Fourteenth	2004	5435	355	5080	6.53	93.47
Fifteenth	2009	8070	556	7514	6.89	93.11
Sixteenth	2014	8251	668	7583	8.1	91.9

Source : Election Commission of India, New Delhi.

State-wise Proportion of Women Representatives Elected in Various Lok Sabha Elections

State-wise women representation in various Lok Sabha elections is presented in Table-3. In 2014, the number of elected women over total seats has been found to be maximum in West Bengal (28.57 per cent), followed by Uttrakhand (20.00 per cent), Madhya Pradesh (17.24 per cent) and Jammu & Kashmir (16.67 per cent). The proportion of elected women in rest of the states has been found to be ranging from 3.57 per cent to 15.38 per cent during the sixteenth Lok Sabha election. Moreover, in many states such as Arunachal Pradesh, Goa, Haryana, Himachal Pradesh, Jharkhand, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura, there is not a single woman MP in Lok Sabha.

The value of coefficient of variation of women representatives has been found to be very high though there is some decline overtime. The coefficient of variation is particularly high for sixth and seventh general elections. Though it has declined in thirteenth and fourteenth election particularly which indicates that proportion of women representatives has varied widely across the different states in India. Graphically, it is represented in figure (a).

Women Representation in Rajya Sabha – India

Table-4 shows that like Lok Sabha, the women representation in Rajya Sabha is also very low. Against 216 Rajya Sabha seats in the year 1952, the female members occupied only 6.94 per cent of the total seats while the respective share of male members stood at 93.06 per cent in India. In 2004, the proportion of female members has increased to 11.43 per cent, which shows some improvement in women representation in Rajya Sabha. However, 2011 onwards the women representation in Rajya Sabha has been found to be 10.61 which has increased to 11.43 in 2013.

State-wise Proportion of Women Members of Rajya Sabha, India

Table-5 highlights the women representation in upper house in different states in India. It is very much surprising that in Tripura, all the Rajya Sabha seats are occupied by female members in the year 2011. This was due to fact that there is only one Rajya Sabha seat which is either occupied by the male or female members. Other states having high women representation in upper house are Himachal Pradesh (33.33 per cent) followed by Madhya Pradesh (27.27 per cent), Chhattisgarh (20 per cent),

Table-3 : State-wise Proportion of Elected Women Representative in Various Lok Sabha Elections, India

States	General Election													
	2nd	3rd	4th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th
Andhra Pradesh	8.57	9.30	7.32	2.38	7.14	4.76	11.90	4.76	7.14	7.14	9.52	7.14	11.90	7.14
Arunachal Pradesh	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Assam	20.00	16.67	0.00	14.29	0.00	NA	NA	0.00	7.14	7.14	14.29	0.00	14.29	14.29
Bihar	11.11	11.32	7.55	0.00	9.26	16.67	3.70	5.56	5.56	7.41	9.26	7.50	10.00	7.50
Chhattisgarh	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.09	18.18	9.09
Delhi	25.00	0.00	0.00	0.00	0.00	14.29	0.00	0.00	28.57	28.57	14.29	14.29	14.29	14.29
Goa	NA	NA	0.00	0.00	50.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00
Gujarat	NA	9.09	4.17	3.85	0.00	7.69	0.00	7.69	7.69	15.38	11.54	3.85	15.38	15.38
Haryana	NA	NA	0.00	10.00	0.00	0.00	0.00	10.00	10.00	10.00	20.00	10.00	20.00	00.00
Himachal Pradesh	0.00	0.00	NA	0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00
Jammu & Kashmir	NA	NA	0.00	33.33	0.00	16.67	0.00	NA	0.00	0.00	0.00	16.67	0.00	16.67
Jharkhand	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.14	0.00	0.00
Karnataka	NA	NA	NA	3.57	0.00	7.14	3.57	10.71	3.57	0.00	7.14	7.14	3.57	3.57
Kerala	0.00	0.00	5.26	0.00	5.00	0.00	5.00	10.00	0.00	5.00	5.00	10.00	0.00	5.00
Madhya Pradesh	11.11	16.67	13.51	0.00	7.50	5.00	7.50	7.50	12.50	10.00	7.50	6.90	20.69	17.24
Maharashtra	NA	2.27	4.44	6.25	6.25	6.25	4.17	6.25	4.17	4.17	8.33	10.42	6.25	10.42
Manipur	0.00	0.00	NA	0.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00
Meghalaya	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00	00.00
Mizoram	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nagaland	NA	NA	0.00	100.00	0.00	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

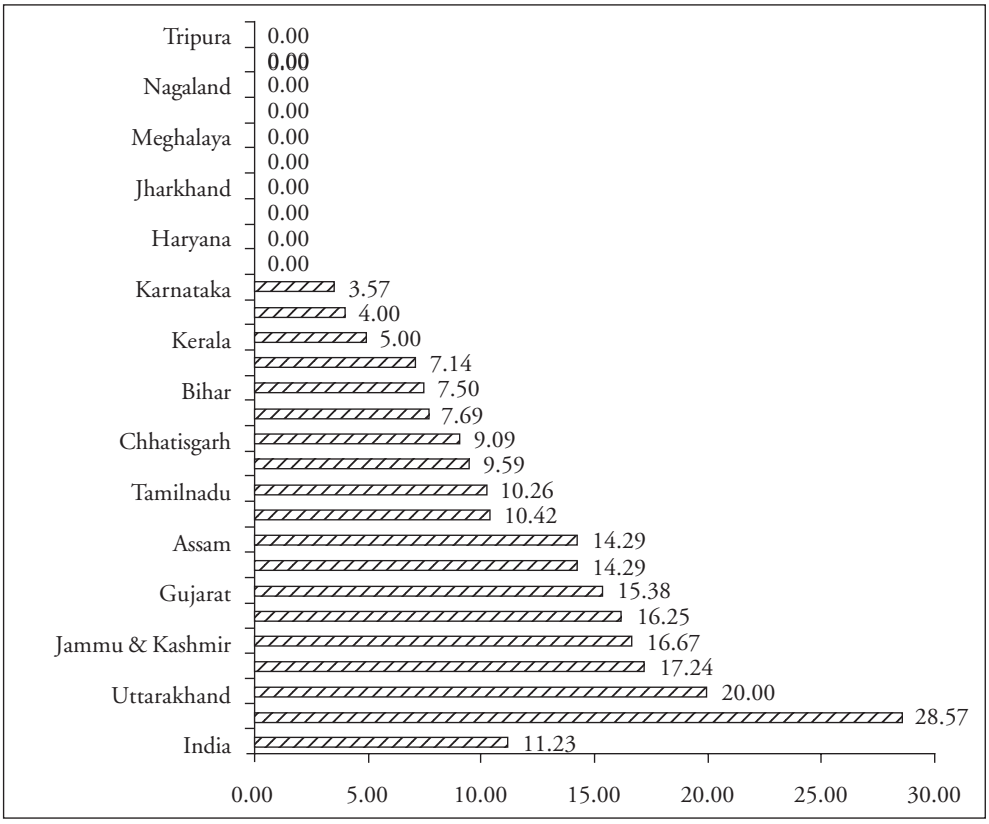
(Contd...)

Orissa	0.00	0.00	0.00	0.00	0.00	4.76	0.00	4.76	9.52	9.52	9.52	9.52	0.00	0.00
Punjab	5.88	0.00	15.38	0.00	15.38	NA	23.08	NA	7.69	7.69	15.38	15.38	30.77	7.69
Rajasthan	0.00	4.55	4.35	0.00	4.00	8.00	4.00	16.00	16.00	12.00	12.00	8.00	12.00	4.00
Sikkim	NA	NA	NA	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Tamil Nadu	NA	NA	NA	5.13	0.00	5.13	5.13	7.69	0.00	2.56	2.56	10.26	2.56	10.26
Tripura	NA	0.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00
Uttar Pradesh	1.47	6.98	8.24	3.53	8.24	10.59	7.06	3.53	10.59	10.59	10.59	8.75	16.25	16.25
Uttrakhand	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00	0.00	20.00
West Bengal	7.14	2.78	5.00	4.76	4.76	11.90	7.14	7.14	9.52	11.90	11.90	9.52	16.67	28.57
India	5.47	7.09	5.77	3.51	5.17	7.75	5.10	7.10	7.37	7.92	9.02	8.29	10.87	11.23
CV (Women Representation)	**118.01**	**120.45**	**114.91**	**274.79**	**219.15**	**105.95**	**156.37**	**201.34**	**122.45**	**137.81**	**91.23**	**88.98**	**125.89**	**103.75**

Source : Election Commission of India, New Delhi

Note : State-wise data on women representation is available only from 2nd Lok Sabha Elections.

Figure-(a) : State-wise Proportion of Elected Women Representative in Sixteenth Lok Sabha Elections- India, 2014



Source : Author's Calculation.

Table-4 : Gender-wise Representation in Rajya Sabha, India, 1952 to 2011

Year	Strength of the House	No. of Men Members	No. of Women Members	Percentage of Women Member in Rajya Sabha
1952	216	201	15	6.94
1954	219	202	17	7.79
1956	232	212	20	8.62
1958	236	214	22	9.52
1960	236	212	24	10.25
1962	236	218	18	7.62

(Contd...)

1964	238	217	21	8.97
1966	240	217	23	9.82
1968	240	218	22	9.64
1970	240	226	14	5.85
1972	243	225	18	7.4
1974	243	225	18	7.53
1976	243	219	24	10.16
1978	244	219	25	10.24
1980	244	217	27	11.98
1982	244	220	24	10.16
1984	244	220	24	10.24
1986	244	216	28	11.98
1988	245	219	26	10.59
1990	245	221	24	10.34
1992	245	228	17	6.94
1994	245	225	20	8.16
1996	245	227	18	7.35
1997	245	227	18	7.35
1998	245	226	19	7.76
1999	245	226	19	7.76
2000	245	223	22	8.98
2001	245	223	22	8.98
2002	245	220	25	10.2
2003	245	220	25	10.2
2004	245	217	28	11.43
2005	245	220	25	10.2
2006	245	220	25	10.2
2007	245	221	24	9.8
2008	245	222	23	9.39
2009	245	224	21	8.57
2010	245	220	25	10.2
2011	245	219	26	10.61
2012	245	219	26	10.61
2013	245	21	28	11.43

Source : Rajya Sabha Secretariat, New Delhi.

Table-5 : State-wise Representation of Women Members in Rajya Sabha, India

States	1980	1990	2001	2011
Andhra Pradesh	5.56	5.56	11.11	16.67
Arunachal Pradesh	0.00	0.00	0.00	0.00
Assam	0.00	14.29	14.29	14.29
Bihar	13.64	13.64	12.50	0.00
Chhattisgarh	NA	NA	0.00	20.00
Delhi	0.00	0.00	33.33	0.00
Goa	NA	0.00	0.00	0.00
Gujarat	9.09	0.00	9.09	18.18
Haryana	0.00	0.00	0.00	0.00
Himachal Pradesh	66.67	66.67	33.33	33.33
Jammu & Kashmir	0.00	0.00	0.00	0.00
Jharkhand	NA	NA	0.00	0.00
Karnataka	16.67	16.67	8.33	0.00
Kerala	0.00	0.00	0.00	11.11
Madhya Pradesh	18.75	18.75	9.09	27.27
Maharashtra	21.05	21.05	5.26	5.30
Manipur	0.00	0.00	0.00	0.00
Meghalaya	0.00	0.00	0.00	0.00
Mizoram	0.00	0.00	0.00	0.00
Nagaland	0.00	0.00	0.00	0.00
Orissa	0.00	20.00	10.00	10.00
Punjab	28.57	0.00	14.29	14.29
Rajasthan	10.00	0.00	10.00	10.00
Sikkim	0.00	0.00	0.00	0.00
Tamil Nadu	11.11	5.56	5.56	16.67
Tripura	100.00	0.00	0.00	100.00
Uttar Pradesh	2.94	9.09	0.00	9.68
Uttarakhand	NA	NA	33.33	0.00
West Bengal	12.50	6.25	18.75	0.00
Nominated by the President	16.67	10.00	25.00	25.00
India	11.07	9.80	8.98	10.61
CV (women members)	**183.91**	**185.98**	**133.01**	**177.09**

Source : Rajya Sabha Secretariat, New Delhi.

Gujarat (18.18 per cent), Assam (14.29 per cent) and Punjab (14.29 per cent), Orissa (10 per cent). Twenty five per cent of the women members in Rajya Sabha have been nominated by the President of India in the year 2011.

The coefficient of variation, measuring inter-state variation has been found to be very high indicating high inter-state variation in representation of women members in Rajya Sabha. Though the coefficient of variation of women members in Rajya Sabha has been found to be declining overtime but there is some increase in inter-state variation for this variable in 2011 as compared to 2001.

Gender Disparity in Financial Inclusion

Financial inclusion is "the process of ensuring access to appropriate financial products and services needed by vulnerable groups such as weaker sections and low income groups at an affordable cost in a fair and transparent manner by mainstream Institutional players." (Rangarajan, 2008 'The Committee on Financial Inclusion').

Financial Inclusion of Women in India

The gender disparity in terms of financial inclusions can be evaluated on the basis of the percent share of women in total bank accounts with respect to their male counterparts in the different scheduled commercial banks in India. Table-6 presents the gender-wise financial accessibility in terms of number of bank accounts in different banks in India. There are various types of accounts, some are individual and some are institutional. 'Total' includes individuals and others whereas 'Individuals' include 'Hindu Undivided Families'. In case of joint accounts under individuals, the gender of the first account holder is considered for classifying the account under male/female category and the category 'Others' includes government sector, corporate sector (non-financial & financial excluding banks) and other institutions. Table-6 reveals that in case of individual account holders, share of males is much larger then females' share. In State Bank of India and its associates, males' share has increased from 74.72 per cent in 1996 to 78.43 per cent in 2012 but females' share has remained stagnant during the same period. However, the share of women accounts is recorded highest (30.37per cent) in Regional Rural Banks whereas the same is recorded lowest (20.42 per cent) in foreign banks in 2012. This may also be due to MNREGA which is actively run in the rural areas to assure 100 days employment per year in which it is mandatory for the people to open their bank accounts. Hence, it is concluded that women have occupied only one-third share in the total bank accounts in India. Thus, financial accessibility is more feasible to men as compared to women in India.

Table-6 : Share of Females in Terms of Number of Bank Account in Different Banks

Bank Group	1996		2001		2011		2012	
	Male	Female	Male	Female	Male	Female	Male	Female
State Bank of India and its Associates	74.72	20.71	73.03	22.27	77.03	18.44	78.43	20.83
Nationalized Banks	72.96	23.09	69.96	26.4	63.05	21.81	68.75	24.7
Foreign Banks	68.33	17.95	66.55	25.48	72.19	19.59	77.88	20.42
Regional Rural Banks	79.88	18.97	75.75	23	69.06	23.74	63.76	30.37
Other Scheduled Commercial Banks	71.27	22.53	68.78	25.21	69.57	23.29	75.51	26.73
All Scheduled Commercial Banks	74	21.99	71.25	24.92	68.14	21.36	71.75	24.18

Source : Basic Statistical Returns of Scheduled Commercial Banks in India, Reserve Bank of India.

Note : Sex-wise data of distribution of employees is not available for 1981 and 1991.

Population-wise Share of Female Population with Respect to Number of Bank Accounts

It is observed that the financial accessibility varies according to the residence of the population. Keeping this in view we disaggregate the analysis according to the residence of the population and presented in Table-7. The results show that the per cent share of females in the total bank accounts in scheduled commercial banks has been found to be 21.99 per cent in 1996 which increased to 24.92 per cent in 2001 but further declined to 21.36 per cent and then slightly increased to 24.18 per cent in 2012 in India. Compared with semi-urban, urban and metropolitan areas, the part of the female population living in rural areas has better financial accessibility as the females' population is holding the highest share i.e. 25.55 per cent with respect to total bank accounts during the year 2012. It may be due to the MNREGA scheme as mentioned earlier in Table-6.

Gender-wise Status of Bank Accounts in Scheduled Commercial Banks in Different States in India

Table-8 exhibits state-wise percent share of females with respect to bank accounts in scheduled commercial banks during the years 1996 to 2012. At national level, the per cent share of females in

Table-7 : Population-wise Share of Female Population in Terms of Number of Banks Account in India

Classification	1996		2001		2011		2012	
	Male	Female	Male	Female	Male	Female	Male	Female
Rural	77.1	21.26	73.64	24.69	69.4	21.01	69.58	25.55
Semi-Urban	74.36	22.25	71.6	24.82	69.47	21.11	73.19	23.52
Urban	73.93	21.2	70.99	24.37	67.38	21.37	72.6	23.64
Metropolitan	69.28	23.51	67.45	25.99	65.52	22.16	72.25	23.53
India	74	21.99	71.25	24.92	68.14	21.36	71.75	24.18

Source : Basic Statistical Returns of Scheduled Commercial Banks in India, Reserve Bank of India.

Note : 1. Sex-wise data of distribution of employees is not available for 1981 and 1991.

2. Total includes Individuals and Others whereas 'Individuals' include Hindu Undivided Families. In case of joint accounts under Individuals, the gender of the first account holder is considered for classifying the account under Male/Female category and the category 'Others' includes Government Sector, Corporate Sector (Non-Financial & Financial excluding Banks) and Other Institutions.

the total bank accounts in scheduled commercial banks has been found to be 21.99 per cent in 1996 which increased to 24.92 per cent in 2001 but further declined to 21.36 per cent and then slightly increased to 24.18 per cent in 2012. In the year 2012, Mizoram has the highest female share in the total bank accounts i.e. 39.14 per cent followed by Goa (32.85 per cent), Tamil Nadu (31.75 per cent) and Kerala (31.26 per cent) whereas Jharkhand recorded the smallest share of 16.74 per cent followed by West Bengal (17.72 per cent), Chhattisgarh (17.76 per cent), Madhya Pradesh (18.60 per cent) and Arunachal Pradesh (18.71 per cent). The states having female account holders' share being greater than 25 per cent are Goa, Karnataka, Tamil Nadu, Uttar Pradesh, Andhra Pradesh and Delhi in the 2012. In the remaining states, the share of female account holders is reported to be less than 25 per cent in 2012. The coefficient of variation has been found to be increasing overtime indicating high inter-state variation in female bank accounts. Thus there is no significant increase in female bank accounts overtime.

It can be inferred from the above findings that more than 70 per cent share in the total bank accounts have been occupied by the male population in India. Although the share of females' bank accounts has increased overtime from 1996 to 2012 but it remained less compared to males' bank accounts.

Table-8 : State-wise Percent Share of Female Bank Accounts in Scheduled Commercial Banks

States	1996	2001	2011	2012
Andhra Pradesh	21.64	25.02	24.65	26.58
Arunachal Pradesh	21.24	20.83	21.74	18.71
Assam	18.81	21.32	18.60	19.89
Bihar	19.66	20.93	17.98	21.07
Chhattisgarh	NA	20.29	18.33	17.76
Delhi	24.33	27.02	21.83	26.16
Goa	31.39	34.09	30.69	32.85
Gujarat	19.98	23.59	21.05	22.96
Haryana	21.42	24.77	20.23	22.58
Himachal Pradesh	25.29	29.17	18.13	22.66
Jammu & Kashmir	22.25	26.15	23.11	24.12
Jharkhand	NA	21.25	15.32	16.74
Karnataka	24.57	28.38	28.39	28.68
Kerala	29.43	32.70	30.79	31.26
Madhya Pradesh	18.59	21.94	17.36	18.60
Maharashtra	22.80	26.26	20.43	20.22
Manipur	20.63	19.66	15.98	17.65
Meghalaya	26.14	36.28	27.55	23.45
Mizoram	20.99	31.65	29.93	39.14
Nagaland	19.72	22.53	19.26	21.90
Orissa	15.61	18.98	15.39	19.31
Punjab	23.36	28.64	19.83	24.31
Rajasthan	17.87	21.03	20.81	22.40
Sikkim	20.17	18.66	17.90	23.93
Tamil Nadu	24.50	28.20	29.19	31.75
Tripura	20.38	24.15	19.88	22.13

(Contd...)

Uttar Pradesh	20.56	23.68	18.07	27.72
Uttrakhand	NA	24.28	18.15	20.25
West Bengal	20.28	20.68	15.60	17.72
India	21.99	24.92	21.36	24.18
CV (Female's Bank Accounts)	**15.80**	**18.84**	**22.60**	**22.45**

Source : Basic Statistical Returns of Scheduled Commercial Banks in India, Reserve Bank of India.

Note : 1. Sex-wise data of distribution of employees is not available for 1981 and 1991.

2. Total includes Individuals and Others whereas 'Individuals' include Hindu Undivided Families. In case of joint accounts under Individuals, the gender of the first account holder is considered for classifying the account under male/female category and the category 'Others' includes Government Sector, Corporate Sector (Non-Financial & Financial excluding Banks) and Other Institutions.

Thus, financial inclusion program should be promoted to enhance economic empowerment among women in the country. The present Government of India has initiated schemes like 'Jan Dhan Yojana' and 'Sukanaya Samridhi Yojana' to boost female financial inclusion. Under Prime Minister Jan Dhan Yojana, particularly earning women are given overdraft facilities of maximum of ₹5,000 in order to provide them financial empowerment whereas Sukanya Samridhi Yojana is an initiative under 'Beti Bachao Beti Padhao' campaign to facilitate girl children's proper education and carefree marriage expenses. It is quite affordable and ensures a bright future for girl child in India.

Gender Disparity in Corporate Leadership Roles

Standard Chartered Bank (2010) report has revealed critical data on women's leadership role in corporate sector in India which shows that the overall percentage of directorships being held by women is 5.3 per cent only as they have to struggle to generate balance between career and families. Chandrashekar (2010) analysed data on women board of directors of 166 Indian companies for the period 1995 to 2007 which reveals an increasing trend in numbers as well as in percentage terms from 29 or 1.66 per cent of 1,745 directorships in 1995 to 67 or 3.63 per cent of 1845 directorships in 2007. However, this percentage is much lower than that in the industrially advanced countries for which such data is available. Hence, Corporate India needs to implement gender friendly human resource practices so that women can be given their fair share of leadership roles.

With the intention to promote gender diversity in corporate boards, SEBI (Security Exchange Board of India) first issued the guidelines in February, 2014

with an October deadline which was later extended to March, 2015. "As per the new SEBI directions, April 1, 2015 onwards, all listed companies are required to appoint at least one woman director on their boards. Companies, which have failed to comply with the SEBI norms of appointing at least one woman director on their boards will have to pay a fine of at least ₹50,000 which could go progressively higher depending on the period of non-compliance i.e. companies complying with this requirement between July 1 and September 30, 2015, would have to cough up ₹50,000 plus ₹1,000 per day starting from July 1 till the date of compliance and those entities complying on or after October 1, 2015, would have to pay ₹1.42 lakh plus ₹5,000 per day from October 1, 2015, till the date of compliance. For any non-compliance beyond September 30, 2015, SEBI will take other action against the non-compliant entities, their promoters and/or directors or issue such directions in accordance with law, as considered appropriate". (Business-Standard, 2015).

There are over 5,700 companies listed on Bombay Stock Exchange (BSE) and nearly 3,000 on National Stock Exchange (NSE). The data pertaining to the directorship structure of major 100 top most industries listed in BSE has been collected and percentage share of women directors is estimated (Table-9). It is found that three top companies Tata Consultancy Services Ltd, Reliance Industries Ltd, and Oil and Natural Gas Corporation Ltd, have no woman board members. On the contrary, highest share of women members as directors is found to be 27.27 per cent in Titan Industries Ltd, followed by Cairn India Ltd. (25 per cent), LIC Housing Finance (22.22 per cent) and Hindustan Zinc Ltd. (22.22 per cent), Infosys Ltd, and Axis Bank Ltd, (21.43 per cent), Idea Cellular Ltd, (20 per cent), Lupin Ltd. (20 per cent) and HCL Technology Ltd. (20 per cent). The proportion of women directors in all other industries is estimated to be less than 20 per cent.

Measures of Gender Disparity in Empowerment

The state-wise indices of gender disparity in empowerment have been calculated for analysis. First is Gender Empowerment Disparity Index (GEpDI) in Table-10 and other index is Gender Inequality Index (GII_{EP}) which is based upon methodology used by UNDP Human Development Report, 2010 and 2011 report. $GII_{(EP)}$ is a measure of gender inequality in empowerment (Table-11). Ranking has been done in descending order in the case of GEpDI and GII EP i.e. the state with highest value of index is ranked at number one, state with second highest number is ranked number two and so on.

Table-9 : Gender-wise Share of Directorship in Indian Corporate Board

Organisation	Rank	Board Size	No. of Females	Proportion of Female Directors
Tata Consultancy Services Ltd.	1	11	0	0.00
Reliance Industries Ltd.	2	13	0	0.00
Oil and Natural Gas Corporation Ltd.	3	16	0	0.00
ITC Ltd.	4	15	1	6.67
Coal (India)Limited	5	15	1	6.67
HDFC Bank Ltd.	6	11	1	9.09
State Bank of India	7	16	1	6.25
Infosys Ltd.	8	14	3	21.43
ICICI Bank Ltd.	9	12	1	8.33
Housing Development Finance Corp. Ltd.	10	13	1	7.69
Larsen &Tourbo Limited	11	13	0	0.00
Bharti Airtel Ltd.	12	19	3	15.79
Sun Pharmaceutical Industries Ltd.	13	12	1	8.33
Hindustan Unilever Ltd.	14	17	1	5.88
NTPC Limited	15	19	0	0.00
Tata Motors Ltd.	16	12	1	8.33
Wipro Ltd.	17	12	0	0.00
HCL Technologies Ltd.	18	10	2	20.00
Axis Bank Ltd.	19	14	3	21.43
Indian Oil Corporation Ltd.	20	25	1	4.00
Kotak Mahindra Bank Ltd.	21	8	0	0.00
Cairn India Limited	22	8	2	25.00
Mahindra & Mahindra Ltd.	23	14	1	7.14
Sesa Sterlite Ltd.	24	9	1	11.11
NMDC Ltd.	25	13	0	0.00
Maruti Suzuki India Ltd.	26	12	1	8.33
Bharat Heavy Electricals Ltd.	27	8	0	0.00

(Contd...)

Power Grid Corporation of India Ltd.	28	13	1	7.69
Ultratech Cement Ltd.	29	12	1	8.33
Hindustan Zinc Ltd.	30	9	2	22.22
Adani Enterprises Ltd.	31	8	0	0.00
Gail (India) Ltd.	32	10	1	10.00
Bajaj Auto Limited	33	17	1	5.88
Asian Paints (India) Ltd.	34	14	0	0.00
Hero Motocorp. Ltd.	35	11	0	0.00
Adani Ports and Special Economic Zone Ltd.	36	10	1	10.00
Idea Cellular Ltd.	37	15	3	20.00
Bharti Infratel Ltd.	38	19	1	5.26
Nestle India Ltd.	39	11	1	9.09
Tata Steel Ltd.	40	13	1	7.69
Bank of Baroda	41	10	0	0.00
Bharat Petroleum Corporation Ltd.	42	11	0	0.00
Lupin Ltd.	43	10	2	20.00
Tech Mahindra Ltd.	44	10	1	10.00
Power Finance Corporation Ltd.	45	7	0	0.00
Dr. Reddy's Laboratories Ltd.	46	11	1	9.09
United Spirits Ltd.	47	12	0	0.00
Punjab National Bank	48	15	1	6.67
Oil India Limited	49	11	1	9.09
Steel Authority of India Ltd.	50	18	2	11.11
Bosch Ltd.	51	9	1	11.11
Ambuja Cements Ltd.	52	11	1	9.09
Siemens Ltd.	53	10	1	10.00
Rural Electrification Corporation Ltd.	54	7	0	0.00
DLF Ltd.	55	13	1	7.69
Hindalco Industries Ltd.	56	11	1	9.09
Dabur India Ltd.	57	13	0	0.00

(Contd...)

Cipla Ltd.	58	12	0	0.00
JSW Steel Ltd.	59	18	2	11.11
Indusind Bank Ltd.	60	9	1	11.11
Godrej Consumer Products Ltd.	61	17	3	17.65
Reliance Communications Ltd.	62	5	0	0.00
Grasim Industries Ltd.	63	11	0	0.00
Titan Industries Ltd.	64	11	3	27.27
ACC Ltd.	65	14	1	7.14
Jindal Steel & Power Ltd.	66	14	2	14.29
Tata Power Co. Ltd.	67	13	1	7.69
Zee Entertainment Enterprises Ltd.	68	8	0	0.00
NHPC Ltd.	69	16	0	0.00
Reliance Power Ltd.	70	4	0	0.00
Oracle Financial Services Software Ltd.	71	14	1	7.14
Container Corporation of India Ltd.	72	16	0	0.00
Mothersons Sumi System Ltd.	73	13	1	7.69
Shree Cements Ltd.	74	10	1	10.00
Glaxosmithkline Pharmaceuticals Ltd.	75	15	1	6.67
United Breweries Ltd.	76	13	1	7.69
Shriram Transport Finance Co. Ltd.	77	9	1	11.11
Yes Bank Ltd.	78	10	1	10.00
IDFC Ltd.	79	15	2	13.33
Abb Ltd.	80	7	0	0.00
Reliance Infrastructure Ltd.	81	6	0	0.00
Bank of India	82	12	1	8.33
Glaxo Smithkline Consumer Healthcare Ltd.	83	11	1	9.09
Cadila Healthcare Ltd.	84	12	1	8.33
Ranbaxy Laboratories Ltd.	85	8	0	0.00
Canara Bank	86	13	1	7.69
Colgate-Palmolive (India) Ltd.	87	12	1	8.33

(Contd...)

Aurobindo Pharma Ltd.	88	10	0	0.00
Jaiprakash Associates Ltd.	89	19	1	5.26
Adani Power Ltd.	90	7	0	0.00
Eicher Motors Ltd.	91	6	0	0.00
Divi's Labortaries Ltd.	92	7	0	0.00
LIC Housing Finance Ltd.	93	9	2	22.22
Pidilite Industries Ltd.	94	14	0	0.00
Cummins India Ltd.	95	16	0	0.00
Aditya Birla Nuvo Ltd.	96	13	1	7.69
Sun TV Network Limited	97	9	1	11.11
Mahindra and Mahindra Financial Services Ltd.	98	12	1	8.33
Neyveli Lignite Corporation Ltd.	99	11	0	0.00
Hindustan Petroleum Corporation Ltd.	100	11	1	9.09

Source : 1. www.bseindia.com
2. Corporate websites of the individual companies listed on BSE-100 on 21May, 2014 on the basis of market capitalization.

Results of Gender Disparity in Empowerment (GEpDI) - India

At national level, in relative terms, GEpDI has declined indicating increase in the empowerment status of women (Table-10). As the index has been ranked in descending order at three points of time, the lowest GEpDI has been recorded for Karnataka (5.4686) in 1991 followed by Madhya Pradesh (7.0153), Maharashtra (7.3788), Bihar (9.1344) and Orissa (9.8048) whereas highest GEpDI has been found in Assam (5.1571) followed by north eastern states of Nagaland (4.0709), Manipur (3.8473) and Mizoram (3.7641) due to zero representation of women in Lok Sabha and Rajya Sabha in these states during 1991.

In 2001, Delhi (3.5671) has shown lowest value of GEpDI followed by Punjab (4.6638), West Bengal (5.1897), Assam (5.2299) and Uttar Pradesh (5.8336). The highest GEpDI has been found in Sikkim (4.3600) followed by Manipur (4.0877), Arunachal Pradesh (3.8000), Nagaland (1.7563) and Tripura (3.1404) due to the same reason discussed above. In 2011, Manipur (5.2578) maintains the first position in terms of highest level of GEpDI followed by Sikkim (4.5865), Nagaland (4.1921),

Table-10 : State-wise Gender Disparity in Empowerment (GEpDI) in India

States	1991		2001		2011		% Change in 2011 over 1991
	GEpDI	Rank	GEpDI	Rank	GEpDI	Rank	
Andhra Pradesh	13.5383	17	6.8325	20	8.0189	21	-40.77
Arunachal Pradesh	3.7080**	5	3.8000**	3	3.5998**	5	-2.92
Assam	5.1571**	1	5.2299	23	5.4587	27	5.85
Bihar	9.1344	21	6.8589	19	8.4475*	9	-7.52
Chhattisgarh	N/A	-	N/A		6.1518	26	-
Delhi	3.1101**	6	3.5671	26	4.7904*	12	54.03
Goa	2.1857**	8	1.9336**	8	2.2583**	8	3.32
Gujarat	8.0044*	9	6.9685	18	6.4168	24	-19.83
Haryana	6.3342*	10	3.51834	11	3.9431**	4	-37.75
Himachal Pradesh	1.7270*	15	2.2142*	12	4.5157*	13	161.47
Jammu & Kashmir	N/A	-	2.8234**	6	4.1635*	15	-
Jharkhand	N/A	-	N/A		5.2637*	11	-
Karnataka	5.4686	24	8.8411	15	13.5074	17	147.00
Kerala	5.6989*	11	10.5292*	10	9.7492	20	71.07
Madhya Pradesh	7.0153	23	8.6304	16	4.0756	29	-41.90
Maharashtra	7.3788	22	10.6027	14	6.2473*	10	-15.33
Manipur	3.8473**	3	4.0877**	2	5.2578**	1	36.66
Meghalaya	2.8255**	7	1.7563**	9	2.6297**	6	-6.93
Mizoram	3.7641**	4	2.1590**	7	2.3411**	7	-37.81
Nagaland	4.0709**	2	3.4393**	4	4.1921**	3	2.97
Orissa	9.8048	20	7.5891	17	6.3325	25	-35.41
Punjab	N/A	-	4.6638	25	7.3476	23	-
Rajasthan	4.9229*	12	6.6960	21	12.2684	19	149.21
Sikkim	3.9578*	13	4.3600**	1	4.5865**	2	15.89
Tamil Nadu	10.6903	18	19.1818	13	5.3919	28	-49.56
Tripura	2.4533*	14	3.1404**	5	4.0301*	16	64.27
Uttar Pradesh	13.7311	16	5.8336	22	13.2292	18	-3.66
Uttrakhand	N/A	-	N/A		4.2548*	14	-
West Bengal	10.6455	19	5.1897	24	7.6367	22	-28.26
India	**8.6120**		**7.7435**		**6.6687**		**-22.56**

Source : Author's calculation Higher the value of the index, higher is the disparity.

Note : * No political representation of women either in Lok Sabha or in Rajya Sabha.

** No political representation of women in Lok Sabha as well as in Rajya Sabha.

N/A – Not available.

Haryana (3.9431) and Arunachal Pradesh (3.5998) whereas Madhya Pradesh (4.0756) has shown lowest level of GEpDI for the same time period followed by Tamil Nadu (5.3919), Assam (5.4587) and Chhattisgarh (6.15618).

During the period 1991 to 2011in India, percentage change in GEpDI has been recorded to be -22.56 per cent indicating declining trends in gender disparity in women empowerment. The states of West Bengal, Tamil Nadu, Orissa, Mizoram, Haryana and Andhra Pradesh have shown change more than the national level whereas in the states of Assam, Delhi, Goa, Himachal Pradesh, Karnataka, Kerala, Manipur, Nagaland, Rajasthan, Sikkim and Tripura, the gender disparity in empowerment of women has increased.

It can be concluded that gender disparity in terms of various indicators has increased in most of the states in India. In none of the states, GEpDI is less than one during the study period 1991 to 2011, indicating that in each of the states women are in disadvantageous position in terms of empowerment. Special policy measures in the form of providing political and financial empowerment to the women are required to improve the worsening gender gap in the states of India.

Results of Gender Inequality Index with respect to Women Empowerment (GII_{EP}) – India

At national level, Gender Inequality Index (GII_{EP}) has declined indicating increase in the empowerment status of women from 2001 to 2011 (Table-11). The value of $GII_{(EP)}$ depicts very lesser change which shows that woman empowerment status has not changed much between the periods 2001 to 2011. However, the value of $GII_{(EP)}$ has varied widely across the different states of India.

In 2001, Sikkim has recorded the first rank in terms of gender inequality with highest value of $GII_{(EP)}$ (0.9982) followed by Manipur (0.9982), Arunachal Pradesh (0.9981), Nagaland (0.9981) and Tripura (0.9980) whereas lowest value of $GII_{(EP)}$ has been recorded in Punjab (0.3480) followed by West Bengal (0.4198), Andhra Pradesh (0.4632) and Assam (0.4242). The $GII_{(EP)}$ ranges from 0.34804 to 0.9982 during the 2001.

For the year 2011, again Sikkim has registered the first rank in terms of gender inequality as the value of $GII_{(EP)}$ is worked out to be 0.9983 followed by Haryana (0.9982), Arunachal Pradesh (0.9981), Goa (0.9977) and Manipur (0.9971). The lowest value of $GII_{(EP)}$ is recorded 0.1582 in 2011 for Tripura

Table-11 : State-wise Gender Inequality Index in Empowerment, India

States	2001	Ranking	2011	Ranking	% change in 2011 over 2001
Sikkim	0.9982	1	0.9983	1	0.004
Haryana	0.9560	12	0.9982	2	4.408
Arunachal Pradesh	0.9981	3	0.9981	3	-0.004
Goa	0.9976	8	0.9977	4	0.012
Manipur	0.9982	2	0.9971	5	-0.107
Nagaland	0.9981	4	0.9968	6	-0.122
Meghalaya	0.9975	9	0.9962	7	-0.133
Mizoram	0.9977	7	0.9961	8	-0.164
Bihar	0.4904	19	0.9716	9	98.120
Jharkhand	N/A	-	0.9672	10	N/A
Delhi	0.2583	8	0.9626	11	272.549
Uttrakhand	N/A	-	0.9623	12	N/A
Jammu & Kashmir	0.9979	6	0.95981	13	-3.823
Maharashtra	0.5444	15	0.9416	14	72.941
Himachal Pradesh	0.9435	13	0.9371	15	-0.682
Rajasthan	0.4858	20	0.5937	16	22.217
Uttar Pradesh	0.9642	11	0.5905	17	-38.752
Karnataka	0.4991	18	0.5666	18	13.511
Punjab	0.3480	25	0.5060	19	45.386
Orissa	0.5303	17	0.4997	20	-5.764
Andhra Pradesh	0.4632	22	0.4966	21	7.218
West Bengal	0.4198	24	0.4957	22	18.080
Kerala	0.9657	10	0.4891	23	-49.353
Gujarat	0.4763	21	0.4682	24	-1.706
Chhattisgarh	N/A	-	0.4675	25	N/A
Assam	0.4242	23	0.4544	26	7.129
Tamil Nadu	0.6323	14	0.3732	27	-40.974
Madhya Pradesh	0.5354	16	0.3730	28	-30.333
Tripura	0.9980	5	0.1582	29	-84.147
India	**0.4928**		**0.4833**		**-1.916**

Source : Author's calculation.

Higher the value of the index, higher is the inequality.

followed by Madhya Pradesh (0.3730), Tamil Nadu (0.37328), Assam (0.4544) and Chhattisgarh (0.4675). The $GII_{(EP)}$ ranges from 0.1582 to 0.9983 during the year 2011.

The decadal percentage change in 2011 over 2001 shows that $GII_{(EP)}$ has declined as it has recorded negative percentage change to the tune of -1.916 in India. For most of the states gender inequality in empowerment has declined overtime. Delhi has shown a remarkable positive percentage increase in 2011 over 2001 indicating highest level of gender inequality in this state followed by Bihar, Haryana, and Maharashtra. It may be due to absence of representation of women members in Rajya Sabha in these states during 2011 whereas due to increase in number of women members in Rajya Sabha in the states of Tripura, Kerala, Tamil Nadu, Madhya Pradesh, Utter Pradesh, Jammu and Kashmir and Orissa during 2011, these states have shown significant decadal percentage decline.

Determinants of Women's Financial Inclusion

It has been observed that many factors such as female workforce participation rate (FWPR), Per Capita Net State Domestic Product (PCNSDP) at current prices and female adult literacy rate has affected the women financial inclusion in India. In order to evaluate the effect of various measurable factors on female bank accounts, multiple regression analysis has been applied at three points of time for selected states for which comparable data is available. It should be kept in mind that many social-cultural factors affect gender disparity in financial inclusion, which are difficult to capture statistically. The results of multiple regression analysis with respect to the year 1991, 2001 and 2011 are presented in Table-12.

The regression analysis shows that in 1991, except for female adult literacy rate, no other explanatory variable i.e. PCNSDP and female workforce participation rate has shown significant impact on female bank accounts. Only female adult literacy has positive and highly significant impact on female bank accounts of 1996.

In 2001 and 2011, again only female adult literacy has positive and significant impact on female bank accounts while other two variables have been found to be non-significant.

Conclusion

- Share of women representation in total Lok Sabha seats has increased from the first election to sixteenth election. Though the percentage share of women representation has improved during the study period, but it is very low as compared to men.

Table-12 : Factors Affecting Various Indicators of Gender Disparity in Financial Inclusion across States in India, 1991, 2001 and 2011.

Independent Variables	Dependent Variable : Female Bank Accounts, 1991						
	Coefficients	Standard error	t-value	R^2	Adjusted–R^2	p-value	Durbin-Watson
Constant	15.876	2.464	6.444	.408	.324	.000	2.101
Female Adult literacy 1991	.109**	.040	2.709			.013	
FWPR1991	-.016	.049	-.320			.752	
PCNSDP 1991	.000	.000	1.062			.300	
Dependent Variable : Female Bank Accounts, 2001							
Constant	14.545	3.459	4.205	.422	.353	.000	2.177
Female Adult literacy 2001	.119**	.055	2.183			.039	
FWPR 2001	.021	.079	.260			.797	
PCNSDP 2001	.000	.000	1.883			.071	
Dependent Variable : Female Bank Accounts, 2011							
Constant	9.989	4.744	2.106	.292	.207	.045	2.103
Female Adult literacy 2011	.135***	.074	1.833			.079	
FWPR 2011	.014	.090	.156			.877	
PCNSDP 2011	3.508E-005	.000	1.165			.255	

*, ** and *** significant at 1%, 5% and 10% level of significance.
Refer Appendix-I.

In 2014, the number of elected women Lok Sabha MPs has been found to be highest in West Bengal followed by Uttrakhand, Madhya Pradesh and Jammu Kashmir while the proportion of elected women Lok Sabha MPs in rest of the states has been found to be less than 15 per cent during the sixteenth Lok Sabha election. Moreover, in many states such as Arunachal Pradesh, Goa, Haryana, Himachal Pradesh, Jharkhand, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura, there is not a single woman MP in Lok Sabha.

- Women representation in Rajya Sabha is also very low. The proportion of female members has increased from

6.9 per cent to 10.61 per cent during 1952 to 2011, which shows some improvement in women representation in Rajya Sabha. It is very much surprising that in Tripura, all the Rajya Sabha seats are occupied by female members in the year 2011. This was mainly due to the fact that there is only one Rajya Sabha seat which is either occupied by the male or female members. Other states having high women participation in upper house are Himachal Pradesh followed by Madhya Pradesh, Chhattisgarh, Gujarat, Assam, Punjab and Orissa. Twenty five per cent of the women members in Rajya Sabha have been nominated by the President of India in the year 2011.

- In case of individual account holders, share of males is much larger then females' share. The per cent share of females in the total bank accounts in scheduled commercial banks has increased from 1996 to 2012 in India. In State Bank of India and its associates, females' share has remained stagnant during the same period. However, the share of women accounts is recorded highest in Regional Rural Banks whereas the same is recorded lowest in foreign banks in 2012. Women have occupied only one-third share in the total bank accounts in India. Compared with semi-urban, urban and metropolitan, the part of the female population living in rural areas has better financial accessibility as the female population is holding highest share with respect to total bank accounts during the year 2012.

- In the year 2012, Mizoram has the highest female share in the total bank accounts followed by Goa, Tamil Nadu and Kerala whereas Jharkhand recorded the smallest females' share followed by West Bengal, Chhattisgarh, Madhya Pradesh and Arunachal Pradesh.

- Three top companies out of major 100 top most industries listed in BSE in 2014, Tata Consultancy Services Ltd., Reliance Industries Ltd and Oil and Natural Gas Corporation Ltd have no woman board members. On the contrary, highest share of women members as directors has been found in Titan Industries Ltd followed by Cairn India Ltd., LIC Housing Finance, Hindustan Zinc Ltd., Infosys Ltd., Axis Bank Ltd., Idea Cellular Ltd., Lupin Ltd. and HCL Technology Ltd.

- At the national level, in relative terms, Gender Empowerment Disparity Index (GEpDI) has declined indicating increase in the empowerment status of women. The lowest GEpDI has been recorded for Karnataka in 1991 followed by Madhya Pradesh, Maharashtra,

Bihar and Orissa whereas highest GEpDI has been found in Assam followed by North Eastern states of Nagaland, Manipur and Mizoram due to zero representation of women in Lok Sabha and Rajya Sabha in these states during 1991. In 2001, Delhi has shown lowest value of GEpDI followed by Punjab, West Bengal, Assam and Uttar Pradesh. The highest GEpDI has been found in Sikkim followed by Manipur, Arunachal Pradesh, Nagaland and Tripura again due to the reason discussed above. In 2011, Manipur maintains the first position in terms of highest level of GEpDI followed by Sikkim, Nagaland, Haryana and Arunachal Pradesh whereas Madhya Pradesh has shown lowest level of GEpDI for the same time period followed by Tamil Nadu, Assam and Chhattisgarh.

- During the period 1991 to 2011 in India, percentage change in GEpDI has been recorded to be -22.56 per cent indicating declining trends in gender disparity in women empowerment. The states of West Bengal, Tamil Nadu, Orissa, Mizoram, Haryana and Andhra Pradesh have shown change more than the national level whereas in the states of Assam, Delhi, Goa, Himachal Pradesh, Karnataka, Kerala, Manipur, Nagaland, Rajasthan, Sikkim and Tripura, the gender disparity in empowerment of women has increased.

- At the national level, the value of Gender Inequality Index $GII_{(EP)}$ has declined indicating increase in the empowerment status of women between the periods 2001 to 2011. In 2001, Sikkim and Manipur has recorded the first rank in terms of gender inequality with highest value of $GII_{(EP)}$ followed Arunachal Pradesh, Nagaland and Tripura whereas lowest value of $GII_{(EP)}$ has been recorded in Punjab followed by West Bengal, Andhra Pradesh and Assam. For the year 2011, again Sikkim has registered the first rank in terms of gender inequality as the value of $GII_{(EP)}$ followed by Haryana, Arunachal Pradesh, Goa and Manipur. The lowest value of $GII_{(EP)}$ is recorded for Tripura in 2011 followed by Madhya Pradesh, Tamil Nadu, Assam and Chhattisgarh.

- The decadal percentage change in 2011 over 2001 shows that $GII_{(EP)}$ has declined as it has recorded negative percentage change to the tune of -1.916 in India. For most of the states gender inequality in empowerment has declined overtime. Delhi has showna remarkable positive percentage increase in 2011 over 2001 indicating highest level of gender inequality in this state followed by

Bihar, Haryana, and Maharashtra. It is due to absence of representation of women members in Rajya Sabha in these states during 2011. Whereas due to increase in number of women members in Rajya Sabha in the states of Tripura, Kerala, Tamil Nadu, Madhya Pradesh, Uttar Pradesh, Jammu and Kashmir and Orissa during 2011, these states have shown significant decadal percentage decline.

- The regression analysis shows that in 1991, except for female adult literacy rate, no other explanatory variable i.e. PCNSDP and female adult lite-racy rate has shown significant impact on female bank accounts. Only female adult literacy has positive and highly significant impact on female bank accounts of 1996. In 2001 and 2011, again only female adult lite-racy has positive and significant impact on female bank accounts while other two variables have been found to be non-significant.

Policy Implications

- The political environment of instability, criminalization and absence of political ideology are factors which influence the extent of political participation of women. These factors need to be identified and curbed.
- Government of India should implement the schemes like 'Jan Dhan Yojana' and 'Sukanaya Samridhi Yojana' all over the country on a large-scale to boost female financial inclusion.
- The guidelines issued by the SEBI (Security Exchange Board of India) to promote gender diversity in corporate boards for the listed companies should be expanded to unlisted companies.

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Appendix-I : Factors Affecting Various Indicators of Gender Disparity in Financial Inclusion across States in India, 1991, 2001 & 2011

States	1991				2001				2011			
	Female Adult Literacy	FWPR	PCNSDP current prices	Female Bank Accounts	Female Adult Literacy	FWPR	PCNSDP current prices	Female Bank Accounts	Female Adult Literacy	FWPR	PCNSDP current prices	Female Bank Accounts
Andhra Pradesh	26.43	34.81	5204	21.64	42.48	35.11	18198	25.02	53.01	36.2	62912	24.65
Arunachal Pradesh	23.59	39.61	6537	21.24	38.36	36.54	18304	20.83	52.32	35.4	55789	21.74
Assam	37.63	21.29	5363	18.81	50.37	20.71	12714	21.32	61.52	22.5	30569	18.60
Bihar	18.47	15.69	3032	19.66	28.15	18.84	6815	20.93	42.21	19.1	20708	17.98
Chhattisgarh	N/A	NA	N/A	NA	43.59	40.04	11746	20.29	52.97	39.7	41167	18.33
Delhi	61.82	7.67	14104	24.33	70.81	9.37	47672	27.02	78.33	10.6	150653	21.83
Goa	61.54	20.48	10545	31.39	72.19	22.36	50899	34.09	83.16	21.9	168572	30.69
Gujarat	41.62	27.08	7088	19.98	52.22	27.91	20416	23.59	65.17	23.4	75115	21.05
Haryana	31.23	11.29	8762	21.42	47.58	27.22	25781	24.77	60.78	17.8	94680	20.23
HimachalPradesh	43.45	34.79	6863	25.29	60.84	43.67	24367	29.17	73.01	44.8	65535	18.13
Jammu & Kashmir	NA	NA	5803	22.25	36.47	22.45	16037	26.15	49.75	19.1	37496	23.11
Jharkhand	N/A	NA	N/A	NA	32.48	26.41	12310	21.25	46.41	29.1	29786	15.32
Karnataka	37.46	29.97	5798	24.57	49.98	31.98	19959	28.38	63.39	31.9	60946	28.39
Kerala	83.64	16.9	6052	29.43	86.24	15.38	22029	32.70	91.28	18.2	71434	30.79
Madhya Pradesh	22.86	29.27	5429	18.59	42.56	33.21	12658	21.94	51.21	32.6	32222	17.36

Maharashtra	45.33	16.9	8383	22.8	60.81	30.81	25267	26.26	72.64	31.1	83471	20.43
Manipur	41.86	37.5	5327	20.63	57.62	39.02	14030	19.66	67.71	38.6	29684	15.98
Meghalaya	42.61	36.69	6342	26.14	58.67	35.15	17814	36.28	70.33	32.7	50427	27.55
Mizoram	77.39	43.94	6008	20.99	86.91	47.54	19611	31.65	88.94	36.2	48591	29.93
Nagaland	50.58	39.25	9981	19.72	58.62	38.06	24574	22.53	74.51	44.7	52643	19.26
Orissa	29.69	20.85	3895	15.61	45.07	24.66	11278	18.98	58.81	27.2	40412	15.39
Punjab	43.39	6.78	9248	23.36	57.92	19.05	27993	28.64	67.33	13.9	69737	19.83
Rajasthan	16.89	27.01	5722	17.87	35.61	33.49	14325	21.03	43.55	35.1	42434	20.81
Sikkim	37.78	52.74	6566	20.17	54.78	38.57	18038	18.66	71.60	39.6	81159	17.90
Tamil Nadu	43.87	30.88	6418	24.5	59.25	31.54	22916	28.20	69.81	31.8	72993	29.19
Tripura	44.06	14.31	5013	20.38	84.83	21.08	17073	24.15	80.42	23.6	44965	19.88
Uttar Pradesh	20.99	12.87	4378	20.56	34.24	16.54	10436	23.68	49.20	16.7	26355	18.07
Uttrakhand	N/A	NA	N/A	NA	51.91	27.33	16383	24.28	64.82	26.7	66368	18.15
West Bengal	42.98	11.67	5413	20.28	54.76	18.32	16564	20.68	66.29	18.1	48536	15.60
India	34.09	22.69	N/A	21.99	47.84	25.68	17662	24.92	59.28	25.5	N/A	21.36

Source : 1. FWPR, Female Adult literacy, Sex Ratio, child sex ratio, TFR, AFR, Death rate, IMR and UMR from Office of Registrar General of India.

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Corporate Governance Practices of Central Public Sector Enterprises in India : A Study with Special Reference to Maharatna CPSEs

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The term 'Corporate Governance' denotes the controlling mechanism through which corporate entities are directed and controlled 'for the best interests of all'. Going through the genesis of corporate governance literature around the world over the decades, it may appear that the Corporate Governance can be aptly related to the private organizational set up where principal-agent relationship from the point of view of shareholders and professional managers are quite prevalent. However, in a mixed economy like India where having predominance of large public sector enterprises used to be a common practice, the issue of maintaining good governance practices keeping in mind the public interest is a sine qua non. Globally, in recognition of the growing concern over the corporate governance practices of public sector enterprises, the transnational organizations like Organization for Economic Co-operation and Development (OECD) had prescribed specific Guidelines for State-Owned Enterprises in 2015. India is not far behind. Department of Public Enterprises (DPE), Government of India had time to time prescribed Guidelines on Corporate Governance for CPSEs, the latest is on 2010. DPE is also used to grade corporate governance affairs of the CPSEs. Against this backdrop, the present study is envisaged to make a review on the corporate governance practices of major CPSEs in India i.e. Maharatna CPSEs. It can be observed that the corporate governance practices of the seven Maharatna CPSEs are not so promising showing non-conformities on issues that are considered to be the parameters of good governance as recommended by various codes of good governance like having sufficient number of independent directors in the board, gender diversity in board, separation of position of Chairman and CEO, proper composition of various board committees with outside directors etc. Continuous vigil by regulatory bodies like DPE, SEBI on uplifting the spirit of corporate governance practices of CPSEs are the need of the hour taking into consideration the larger public interests.

Keywords : Corporate Governance; Central Public Sector Enterprises; Department of Public Sector Enterprises.

Introduction

The word (good) governance has a universal application across the various

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organizational structures at different context and capacities. This is a controlling mechanism which points out how an organisation should be directed and controlled under a set of mission, values and philosophy for the best of interests of all stakeholders (Cadbury, 1992). But unfortunately, over time, the common investors all over the globe have suffered a lot in the hands of the greedy managers and scams like Enron, Adelphia, Tyco, Worldcom, Xerox, Paramalt, Satyam etc., have shattered the trust in the very mechanism of corporate management and governance. In order to restore the common investors trust and to ensure transparent and fair corporate practices a lot of initiatives had been taken around the world in the form of codes/laws for ensuring good governance for corporate sector. However, the issue of corporate governance in emerging markets, especially in Indian markets, has not been studied as intensively as in developed markets. As Shleifer and Vishny (1997) pointed out in their survey, there has been only a little research done on corporate governance outside the USA, besides from a few developed countries such as Japan and Germany. Going through the genesis of corporate governance literature around the world over the decades, it may appear that the corporate governance can be aptly related to the private organizational set up where principal agent relationship from the point of view of shareholders and professional managers are quite prevalent. However, in a mixed economy like India, predominance of large public sector enterprises used to be a common practice, the issue of maintaining good governance practices keeping in view the public interest is a *sine qua non*. Globally in recognition of the growing concern over the corporate governance practices of public sector enterprises, the transnational organizations like Organization for Economic Co-operation and Development (OECD) had prescribed specific Guidelines for State-Owned Enterprises in 2015. However, the state of affairs of corporate governance scenario of major Public Sector Enterprises (PSEs) is not at all promising. As per PTI reports on February, 24, 2013 around 80 Central Public Sector Enterprises (CPSEs) failed to submit corporate governance reports on time. Even on various good governance parameters like appointment of requisite number of independent directors on board, appointment of women directors in board (vide Sec. 149 of new Companies Act, 2013), separation of role of Chairman and CEO, formation of mandatory board committees etc., these PSEs are miles behind from the desired practices. As per the Global Investor Opinion Survey (2002) conducted by McKinsey & Co, a global

consultancy house, more than 2/3rd of the global investors put 'corporate governance' high on their agenda before investing in any concern and they are even willing to pay premium for good governed companies. Against this backdrop, the present study is envisaged to make a review on the corporate governance practices of major CPSEs in India i.e. Maharatna CPSEs.

Review of Related Literature

So far as the study of corporate governance practices of CPSEs in India, a few studies have been envisaged. A brief review on the recent studies on CG in CPSEs is elucidated here –

- KPMG (2010) made a detailed perceptual study on corporate governance issues of CPSEs in the areas like overall standards, trusteeship vs stewardship, functioning of PSU boards, two-tier board structure, compliance status, selection policies of directors, the role of the government as promoter, audit practices etc., and gave pertinent recommendations on each of these issues. World Bank (2010) observed that the governance framework for CPSEs is consistent with several aspects of international good practice. Substantial progress has been made in removing barriers to competition, reducing government financial support, and listing of CPSEs on the capital markets. Almost all CPSEs are corporatized and come under the same laws as private sector companies. Clause 49 of the Listing Agreement has helped put listed CPSEs on the same footing as private companies and the 2007 Corporate Governance Guidelines have helped to extend these practices to non-listed CPSEs. However, in that report World Bank had recommended a number of policy decisions including imposing market discipline, strengthening the state ownership roles, professionalizing CPSEs boards and enhancing transparency and disclosure practices of the CPSEs. Lalita Som (2013) had studied the current corporate governance regime for CPSEs in India and the corporate governance challenges faced by CPSEs and measures up the current governance practices of CPSEs against the OECD Guidelines on Corporate Governance of SOEs. It also looks at how government's recent measures negatively affect the CPSE oversight structure, rights of minority shareholders, ownership structure of CPSEs, board functioning, and risk management. However, in this study the challenges of CPSEs have been

identified like easing out complexities in oversight structure, tunnelling of funds of CPSEs, ensuring rights of minority shareholders of PSEs, ensuring effective board functioning, devising proper risk management policies etc.

- Indian Audit and Accounts Department (2014)pointed out that DPE guidelines on corporate governance though mandatory are not being complied by some of the CPSEs in issues like board composition, independence in board, gender diversity, composition of various board committees like audit committee, remuneration committee, stakeholder relationship committee, CSR committee etc. Moreover, compliance to the provisions of CPSEs on the pertinent provisions of corporate governance needs to be ensured as well as DPE guidelines are also required to be modified regarding audit committee provisions as laid down by the new Companies Act, 2013.

- P.K. Jain (2014) observed the role of CPSEs in shaping the path of the Indian economic development. It also delineates changes since the 1990s after the liberalization and globalization of Indian economy, key sectors for PSE operations, operational excellence initiatives adopted by PSEs, and the contribution of them towards Indian economy. It is observed that corporate governance for PSEs should adhere to the provisions of code of best practices for SOEs like ensuring equitable treatment of shareholders; recognizing, respecting, and reporting on relations with all key stakeholders; maintaining high standards of transparency and disclosure; and having requisite systems and practices for its board of directors to discharge effectively its role of guiding and monitoring the PSEs.

- Annual DPE Survey on CPSEs for 2014-15 (2015) listed out the key aspects of performance of CPSEs including various corporate governance issues like board structures, professionalization of boards, appointment of directors, criteria of appointment of directors, formation of various board committees like audit committee, disclosure practices as well as compliance status of CG in tune with DPE guidelines and relevant applicable regulatory provisions of the country. The DPE had also taken the initiative to grade CPSEs on the basis of their compliance with guidelines and such grading

will be used for MoU awards. Findings of grading report of CPSEs for the year 2010-11 on the basis of their self-evaluation report on the compliance of Guidelines on Corporate Governance for such 249 CPSEs is available in the website of the Department of Public Enterprises.

- Ingovern, India's first proxy advisory and independent corporate governance research firm (2016) made a study on corporate governance non-compliance status of top 16 PSEs revealed that CPSEs have registered poor corporate governance record. All the top-16 listed non-banking PSEs are in violation of at least one mandatory corporate governance requirement as per Companies Act/SEBI (LODR) Regulations and many companies even having multiple violations. PSEs have also been given many relaxations and exemptions from disclosures that are of investors' primary interest. Board and committee independence and delays in director appointments remains a big issue in PSEs. It had been opined that PSEs need to lead by example by adopting good governance practices and ensuring that rules and regulations are being complied with at any given point in time.

Objective of the Study

The objective of the present paper is to have an overview on the state of affairs of corporate governance practices of Central Public Sector Enterprises (CPSEs) in India. DPE, Government of India had classified CPSEs into four categories :–

- Maharatna CPSEs (Seven Companies),
- Navaratna CPSEs (Seventeen Companies),
- Miniratna Category-I CPSEs (Fifty eight Companies) and
- Miniratna Categry-II CPSEs (Fifteen Companies).

With a view to ascertain the state of affairs pertaining to the CG aspects of CPSEs, seven(7) such Maharatna CPSEs have been studied in detail in the light of provisions of various corporate governance codes like Guidelines of Corporate Governance as proposed by DSEs, Clause 49 of Listing Agreement, relevant provisions of the new Companies Act, 2013 and other national and international code of best practices like OECD Guidelines for State Owned Enterprises (SOEs), 2015, Cadbury Code of best practices for corporate etc.

Hypothesis

Keeping the above objective in view, the following hypothesis had been framed :

i) The Corporate Governance Scores of surveyed Maharatna CPSEs are the same.

Research Methodology

Research Design

The present study was conducted on the seven Maharatna CPSEs as on 31.03.2016.

For the purpose of the study, the following governance vectors have been considered viz. board structure, frequency of meetings of board, nature, formation and functioning of different committees e.g., Audit Committee, Nomination and Remuneration Committee, Stakeholder Relationship Committee, Corporate Social Responsibility (CSR) Committee, complaints against the company/SEBI stricture, separate meeting of independent directors, gender diversity in boardroom etc.

Data Source

Data were collected mainly from the secondary sources. The secondary data for this present study was based on Prowess Corporate Database provided by the Center for Monitoring Indian Economy (CMIE), Mumbai. Moreover, corporate annual reports, research publications, books, journals, reports in newspapers, electronic newsletters of different professional institutions, corporate houses, websites of the companies, publication of corporation rankings by different Indian as well as different international agencies as well as by DPEs were also consulted as and when required.

Scheme of Investigation

The present study was aimed to examine the general degree of compliance of corporate governance codes by selected major Indian companies. Here, 110 significant recommendations from 23 nationally and internationally accepted codes of corporate governance are selected viz.

Indian Codes / Law for Promoting Good Corporate Governance

K.M. Birla's recommendation/Clause 49 of listing agreement of SEBI (1999), *Naresh Chandra Committee's recommendations on Corporate Audit and Governance* (2002), *Narayana Murthy Committee Report* (2003), *J.J. Irani Committee Report* (2005), *Guidelines on Corporate Governance for Central Public Sector Enterprises (CPSEs)* (2010) and *Companies Act,* (2013) and Some

highly acclaimed international codes/ Law for promoting good corporate governance.

Cadbury Report (U.K., 1992), *Greenbury Report* (U.K., 1995), *Viénot II Report* (France, 1999), *Commonwealth Association of Corporate Governance (CACG) Guidelines / Principles for Corporate Governance in the Common wealth* (Commonwealth, 1999), *Combined Code of London Stock-Exchange* (U.K., 2000), *Euro shareholders Guidelines (*Europe, 2000*), Code of Corporate Governance for listed companies in China* (China, 2001), *TIAA-CREF Policy Statement on Corporate Governance* (U.S., 2000), *Norby Committee's Report on Corporate Governance* (Denmark, 2001), *Sarbanes-Oxley Act* (U.S., 2002), *Hermes Principles* (U.K., 2002), *King II Report* (South Africa, 2002), *The Cromme Code* (Germany, 2002 & 2003), *NYSE Listing Standard* (U.S., 2003), *Securities Exchange Commission Listing Rules* (U.S., 2003), *Higgs Report* (UK,2003), *Smith Report* (UK, 2003), *International Corporate Governance Network* (ICGN)*Statement on Global Corporate Governance Principles* (ICGN, 2005), *Revised Combined Code of London Stock-Exchange* (U.K., 2006) *OECD Guidelines on Corporate Governance of State-Owned Enterprises* (2015) etc.

Summary of Findings

Some of the significant observations emanated from this survey conducted on Maharatna CPSEs are presented below.

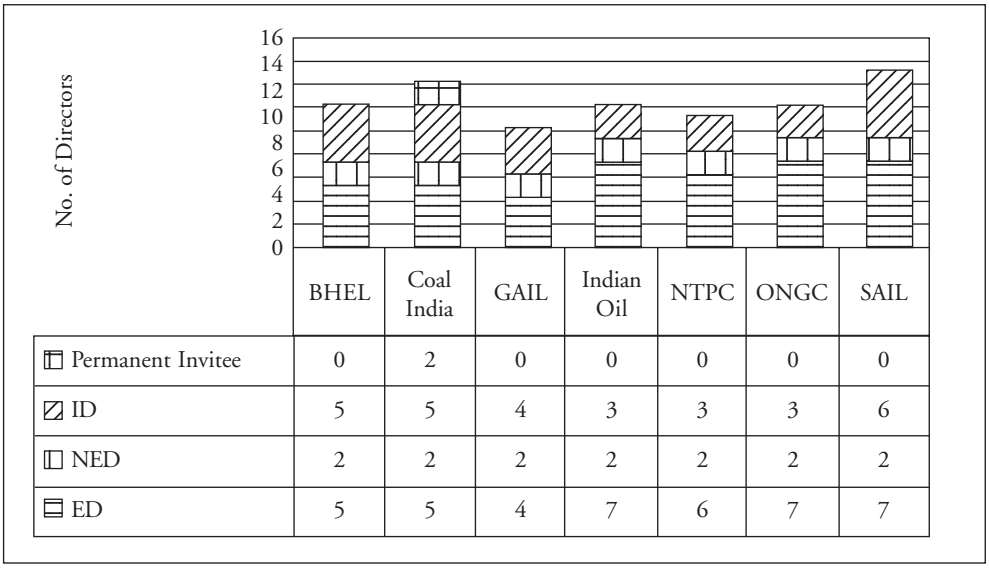
(i) Compliance of Codes

Regarding compliance of mandatory provisions of Clause 49 of Listing Agreement (originated from the recommendations of *Kumar Mangalam Birla Committee*) and the Guidelines of DPEs on CG, the surveyed companies showed commendable performance except the cases of board composition by required number of independent directors by companies like BHEL, GAIL, Indian Oil, ONGC and SAIL as reported in the auditors report followed after CG Report.

(ii) Independence of Board

The aforementioned observations points out that 5 out of 7 Maharatna CPSEs have not complied in tune with the provisions of having at least ½ of the board should be comprised of independent directors which was reported duly in the auditor's report regarding compliance of CG. Moreover, company like ONGC failed to fill up the vacancies in the post of independent directors in due time. However, with respect to the number of nominee directors in board, the CPSEs duly adhered to the guidelines of DPE of having 2 nominee directors in their respective boards. The composition of board of the Maharatna CPSEs are shown.

Chart-1 : Composition of Board of Directors of Maharatna CPSEs



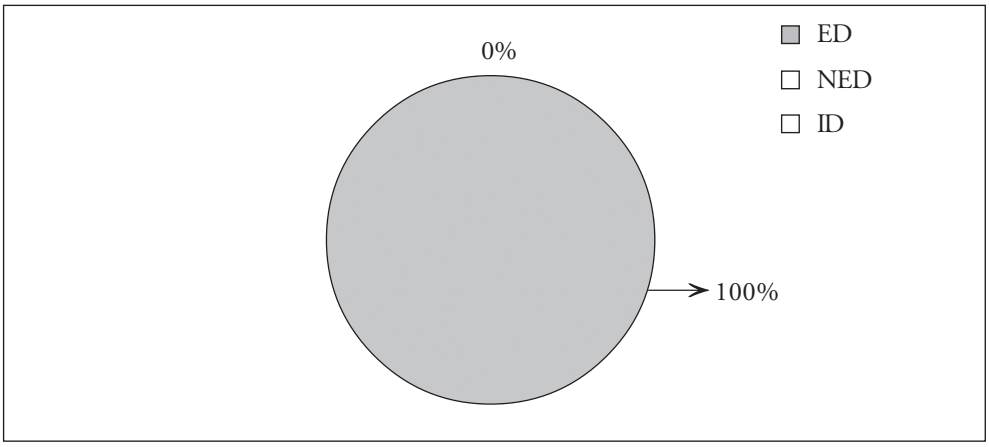
	BHEL	Coal India	GAIL	Indian Oil	NTPC	ONGC	SAIL
Permanent Invitee	0	2	0	0	0	0	0
ID	5	5	4	3	3	3	6
NED	2	2	2	2	2	2	2
ED	5	5	4	7	6	7	7

Source : Calculated by Author from the Corporate Disclosure Practices, 2015-16.

(iii) Status of Chairman of the Board

It was found that all the Maharatna CPSEs had executive managing director as the chairman of the organization. The issue of appointing a non-executive or Independent director in the board of CPSEs does not arise here.

Chart-2 : Status of Chairmanship in Maharatna CPSEs

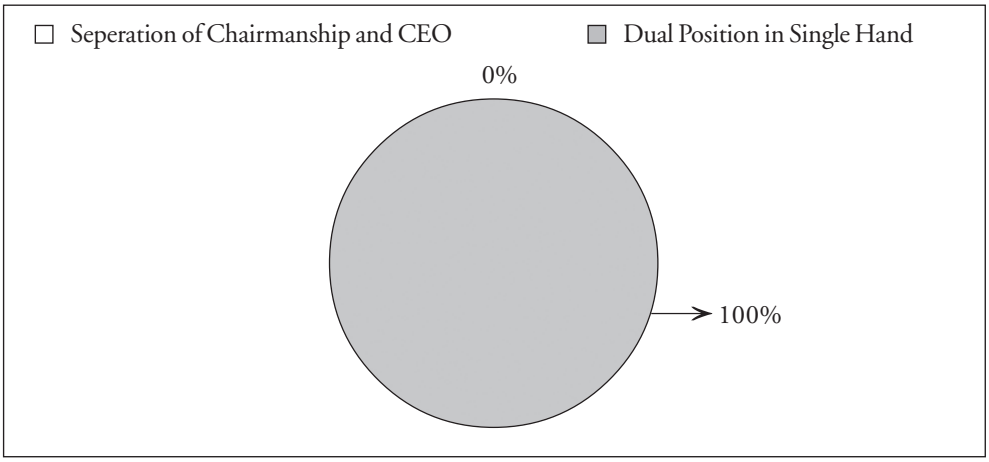


Source : Calculated by Author from the Corporate Disclosure Practices, 2015-16.

(iv) Separation of Role of Chairman and CEO

Around the world a growing interests have been laid on the issue of separation of the role of chairmanship and CEO in the organization in order to ensure the flow of alternative thoughts, avoidance of concentration of power and aversion of conflicts of interests. However, in this front all the Maharatna CPSEs, as discussed in the above point, shows a miserable performance in keeping with the position of chairmanship and CEO in single hand.

Chart-3 : Separation of the Position of Chairmanship and CEO of Maharatna CPSEs



Source : Calculated by Author from the Corporate Disclosure Practices, 2015-16.

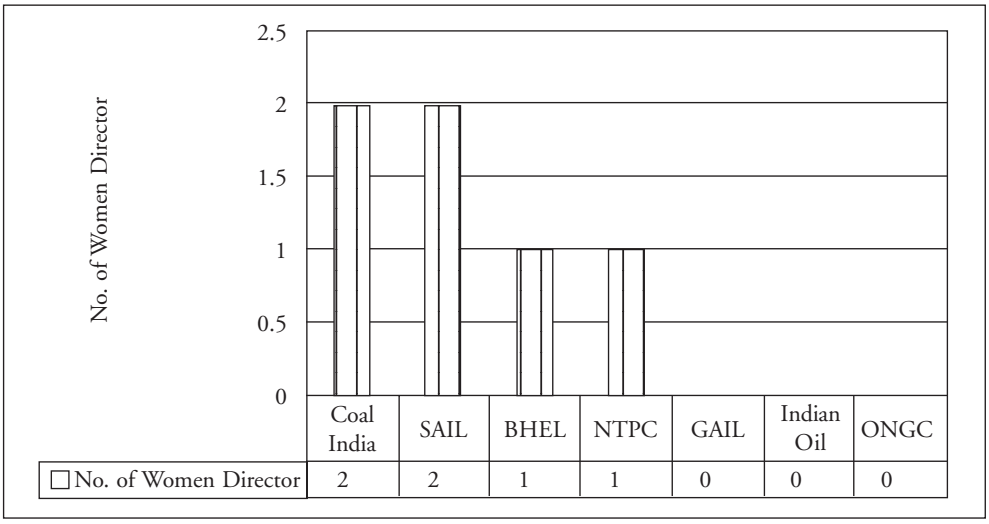
(v) Gender Diversity in Board

The Companies Act, 2013 requires that every listed company with a minimum paid up share capital of ₹100 crore or an annual turnover of at least ₹300 crore, is required to appoint a woman director. However, in this aspect 7 Maharatna CPSEs failed to register remarkable performance. Only 4 out of 7 Maharatna CPSEs (BHEL, Coal India, NTPC, SAIL) had at least one woman director in the board. On the other hand, CPSEs like GAIL, Indian Oil, ONGC had no woman director in the board.

(vi) Composition of Audit Committee

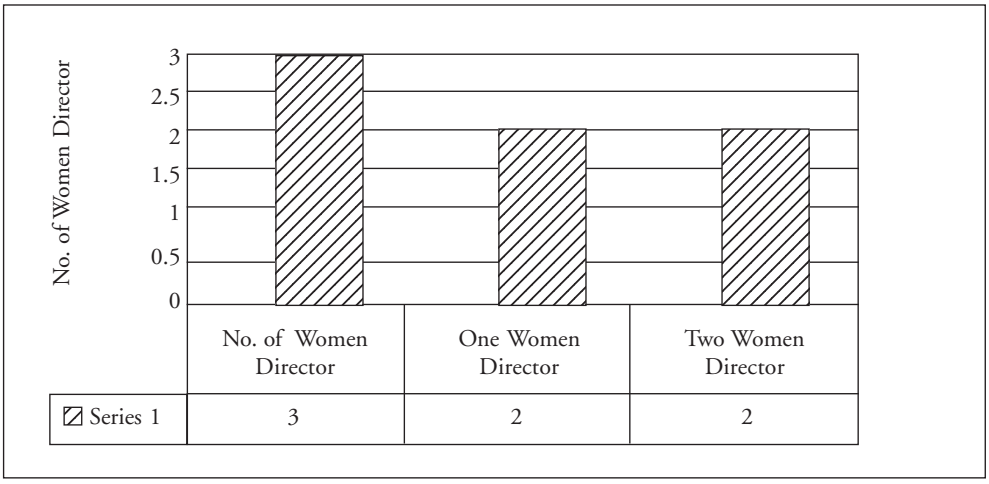
It was found that only 3 out of 7 Maharatna CPSEs had audit committees (AC) composed either by independent directors or by non-executive nominee directors

Chart-4 : No of Women Director in Maharatna CPSEs



Source : Calculated by Author from the Corporate Disclosure Practices, 2015-16.

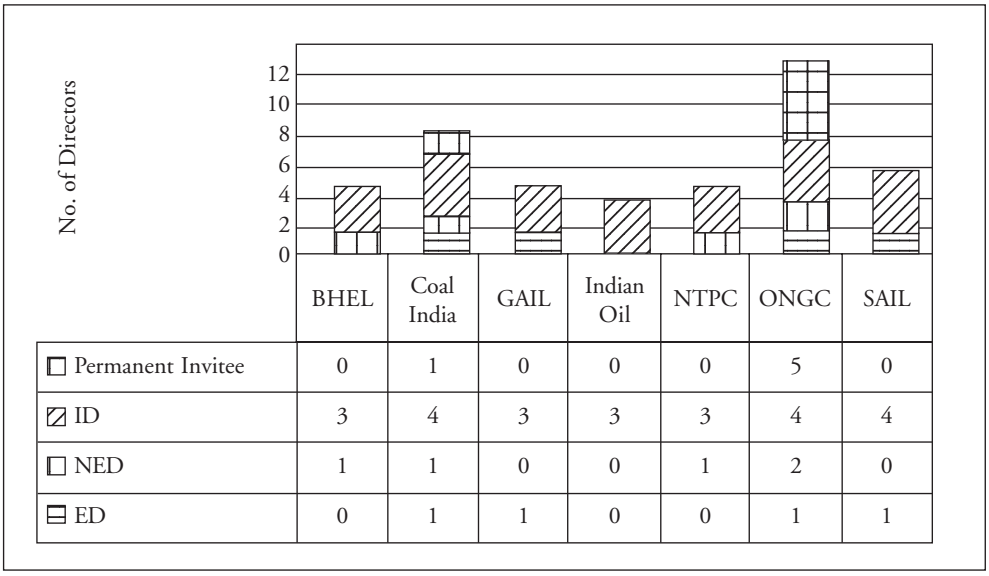
Chart-5 : Gender Diversity in the Boardroom of Maharatna CPSEs



Source : Calculated by Author from the Corporate Disclosure Practices, 2015-16.

and other 4 CPSEs have executive directors (ED) in the audit committee. It was found that all the surveyed companies had all if not, at least one member with strong background in accounting and financial discipline. Moreover, all the surveyed companies did not appoint any person who was the former member of executive board as the chairman of AC.

Chart-6 : Composition of Audit Committee of Maharatna CPSEs



	BHEL	Coal India	GAIL	Indian Oil	NTPC	ONGC	SAIL
Permanent Invitee	0	1	0	0	0	5	0
ID	3	4	3	3	3	4	4
NED	1	1	0	0	1	2	0
ED	0	1	1	0	0	1	1

Source : Calculated by Author from the Corporate Disclosure Practices, 2015-16.

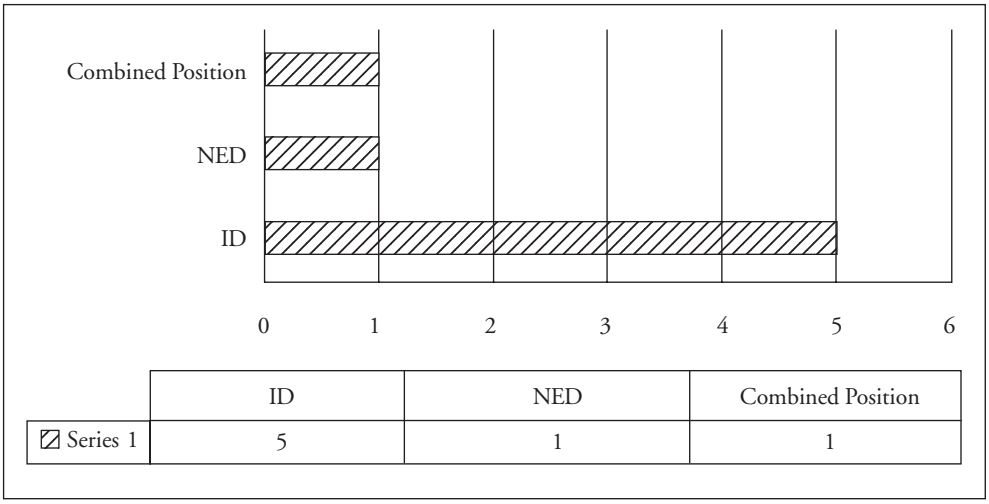
Regarding the status of chairman of audit committee of Maharatna CPSEs, it was revealed that 5 out of 7 CPSEs had independent director as the chairman of the audit committee, where one CPSE (ONGC) had non-executive director (NED) as the head of the audit committee. The position of chairman of audit committee of Coal (India) depicted a typical state of affairs where up to a time period the committee was headed by an ID, followed by an ED and finally by an NED.

(vii) Functioning of Board and Audit Committee

Regarding the meetings of board and audit committee, all Maharatna CPSEs had a minimum of four board meetings in each year with a time gap of not more than 120 days between any two board meetings as well as they had also organized meeting for audit committees-once every 6 months and once before finalization of accounts.

The average number of board meetings of Maharatna CPSEs is 12.57 with SD 2.70. On the other hand, the average of audit committee meetings of Maharatna CPSEs is 10.14 with SD 2.91. With regard to disclosure of minutes of board meeting and AC meetings in annual reports,none of the MaharatnaCPSEs had maintained it. However, regarding liaison with the external and internal auditors of the company, the audit committee of Maharatna CPSEs strictly

Chart-7 : Status of Chairman of Audit Committee of Maharatna CPSEs



Source : Calculated by Author from the Corporate Disclosure Practices, 2015-16.

followed it in line with the Guidelines of Corporate Governance of DPE, 2010.

(viii) Meetings of Independent Directors separately

For promoting transparent and effective corporate governance it was prescribed that outside directors should meet as a group at least once a year without the chairman or executive directors presence and the annual report should include a statement on whether such meetings had occurred. In that particular issue, a highly discouraging performance by the Maharatna CPSEs had been observed-only 2 out of the 7 CPSEs (BHEL and ONGC) had organized such a meeting.

(ix) Composition of Nomination and Remuneration Committee

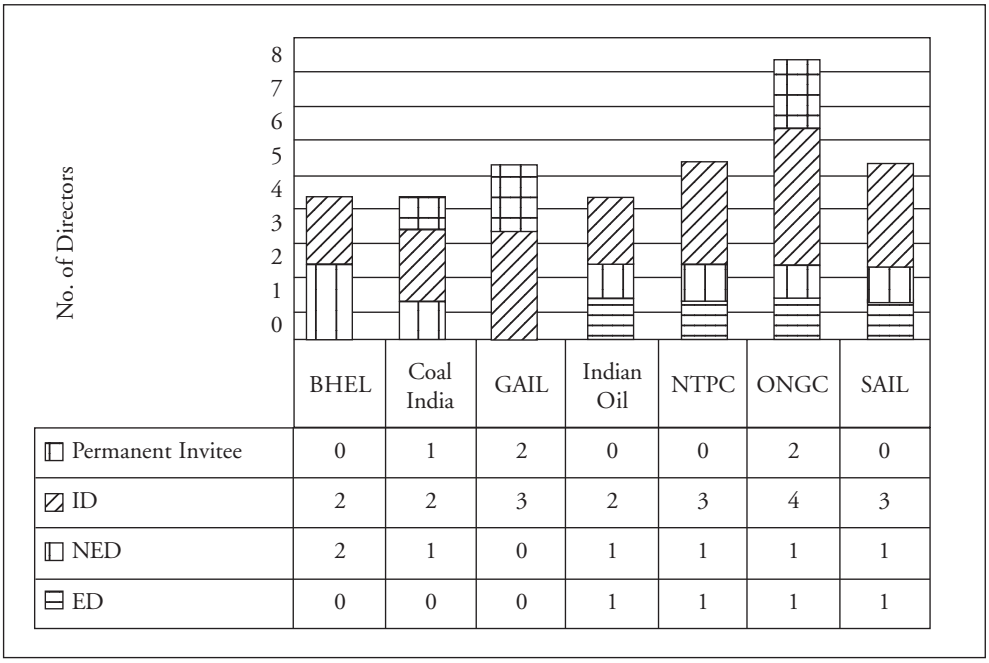
Regarding composition of nomination and remuneration committee (NRC) fully by at least 3 non-executive directors, only 3 out of 7 Maharatna CPSEs adhered to the issue. The average number of NRC meetings of Maharatna CPSEs is 2.29 only with SD 2.63.

However, regarding the status of chairman of NRCs of Maharatna CPSEs, it had been observed that all the NRCs were headed by the independent directors.

(x) Disclosure of Executive Remuneration Package

All the surveyed Maharatna CPSEs had disclosed the remuneration of corporate officers by breaking down into

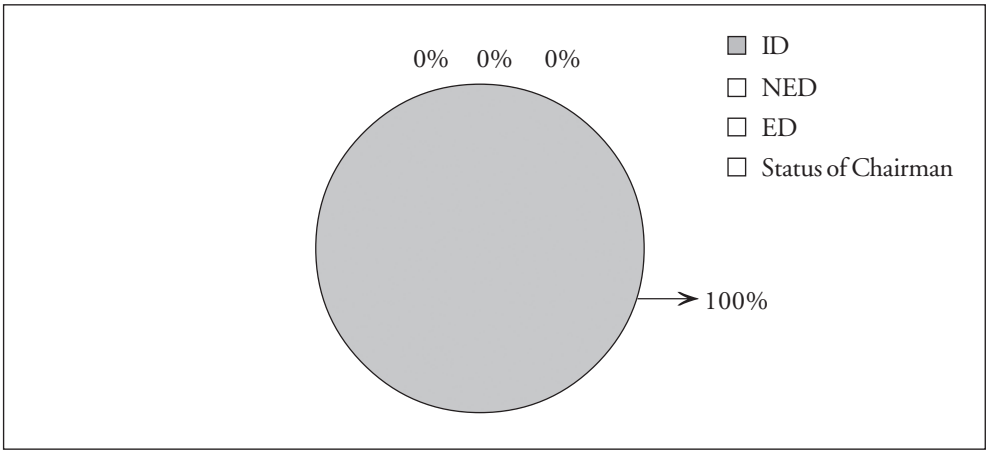
Chart-8 : Composition of Nomination and Remuneration Committee of Maharatna CPSEs



	BHEL	Coal India	GAIL	Indian Oil	NTPC	ONGC	SAIL
Permanent Invitee	0	1	2	0	0	2	0
ID	2	2	3	2	3	4	3
NED	2	1	0	1	1	1	1
ED	0	0	0	1	1	1	1

Source : Calculated by Author from the Corporate Disclosure Practices, 2015-16.

Chart-9 : Status of Chairman of Nomination and Remuneration Committee of Maharatna CPSEs



Source : Calculated by Author from the Corporate Disclosure Practices, 2015-16.

fixed and variable part. Since the remuneration policies of CPSEs are governed by the policies of central government alongside as per the provisions of the Companies Act, 2013, hence a greater transparency can be observed in these fronts.

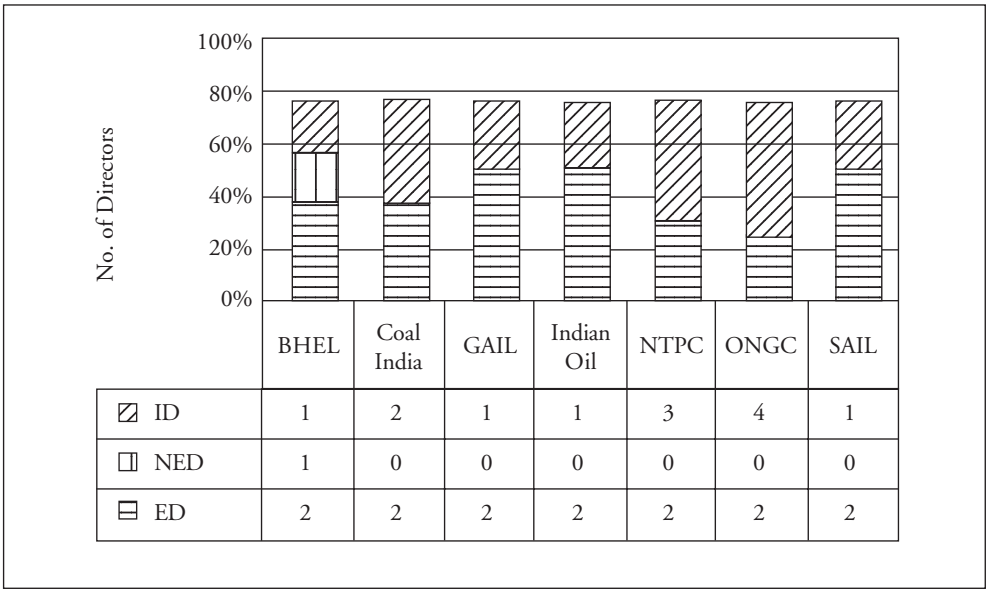
(xi) Composition of Stakeholder Relationship Committee

All the Maharatna CPSEs had established a separate stakeholder relationship committee (SRC) to address the grievances of investors and other related parties with appropriate combinations of inside and outside directors under the chairmanship of an independent director in line with the provisions of Companies Act, 2013 and Clause 49 of Listing Agreement. The average number of SRC meetings of Maharatna CPSEs is 2.43 only with SD 1.62.

(xii) Composition of Corporate Social Responsibility Committee

In pursuance to Sec. 135 of Companies Act, 2013 and vide Cl. 55 of Listing Agreements, all the Maharatna CPSEs have started to properly constitute a corporate social responsibility committee comprising of at least three directors with one independent directors to formulate and recommend to the Board, a corporate social responsibility

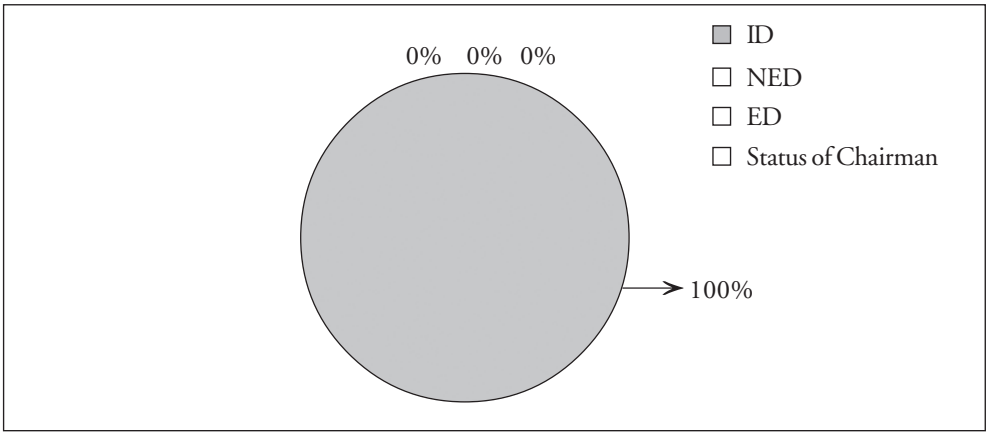
Chart-10 : Composition of Stakeholder Relationship Committee of Maharatna CPSEs



	BHEL	Coal India	GAIL	Indian Oil	NTPC	ONGC	SAIL
ID	1	2	1	1	3	4	1
NED	1	0	0	0	0	0	0
ED	2	2	2	2	2	2	2

Source : Calculated by Author from the Corporate Disclosure Practices, 2015-16.

Chart-11 : Status of Chairman of Stakeholder Relationship Committee of Maharatna CPSEs



Source : Calculated by Author from the Corporate Disclosure Practices, 2015-16.

policy, which shall indicate the activities to be undertaken by the company as specified in Schedule-VII and to recommend the amount of expenditure to be incurred on the CSR activities. The average number of CSR committee meetings of Maharatna CPSEs is 4.5 with SD 2.41.

(xiii) Corporate Disclosure Practices

Regarding disclosure of price sensitive information and communication of information through electronic media, all Maharatna CPSEs had gone for such disclosure through their official websites and/or electronic newsletters or electronic media. Moreover,all Maharatna CPSEs had disclosed the number of stock held by each director in his or her personal capacity in the corporation concerned through their annual report, 'investor service' section of their home pages and through notice calling the meeting of shareholders.

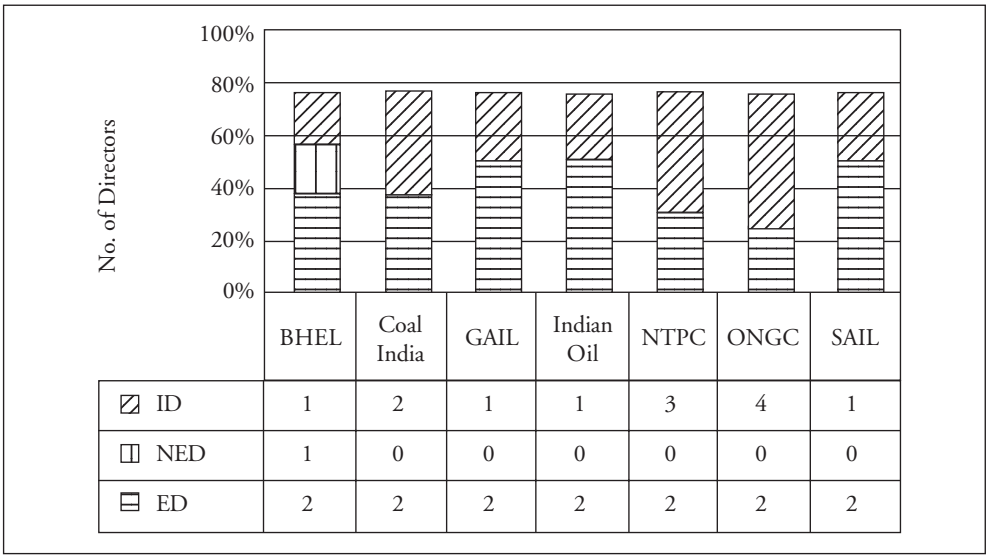
(xiv) Whistle Blower Policy

It was believed that in order to promote good corporate governance, the existence of *"Whistle Blower Policy"* in terms and conditions of service contract of employees should be there. In the present survey it was found that all Maharatna CPSEs had followed the policy in letter and spirit.

(xv) Performance Evaluation of Directors and Board

It was found that regarding the performance evaluation of non-executive directors by a peer group comprising the entire Board of Directors of Maharatna CPSEs conformed to this aspect.

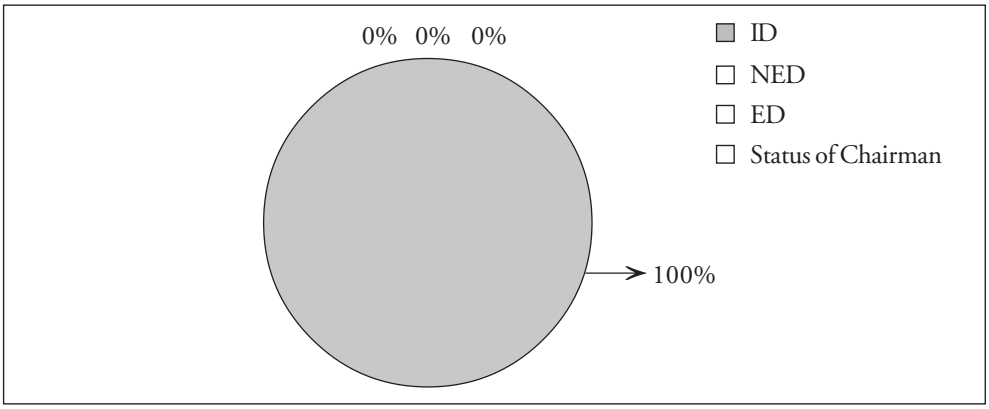
Chart-12 : Composition of Stakeholder Relationship Committee of Maharatna CPSEs



	BHEL	Coal India	GAIL	Indian Oil	NTPC	ONGC	SAIL
ID	1	2	1	1	3	4	1
NED	1	0	0	0	0	0	0
ED	2	2	2	2	2	2	2

Source : Calculated by Author from the Corporate Disclosure Practices, 2015-16.

Chart-13 : Status of Chairman of Stakeholder Relationship Committee of Maharatna CPSEs



Source : Calculated by Author from the Corporate Disclosure Practices, 2015-16.

A similar circumstances had happened in review and reassessment of the adequacy of the audit committee charter on an annual basis. However, regarding the disclosure of whether directors were participating in director training and orientation programs, the surveyed Maharatna CPSEs had actually practiced such issue as per the Guidelines of CG of DPE, 2010.

(xvi) Code of Business Ethics

So far as disclosure of corporate governance guidelines/code of business ethics in organizations was concerned, all the Maharatna CPSEs strictly adhered to the norms of business ethics. Moreover, regarding prescribing a separate code of conduct/ethics for the board members, almost all the Maharatna CPSEs had such a code in place.

(xvii) Other Board Committee

In compliance with the guidelines of CG of DPE to constitute various board committees to facilitate smooth operations of governance practices of CPSEs, the surveyed Maharatna CPSEs conformed to the aspect by duly constituting various board committees like human resource management committee, healthy, safety and environment committee, financial management committee, committee on dispute resolution, committee for review of operations, committees for subsidiaries and joint venture, committee of directors for issuance of duplicate share certificate, project evaluation committee, project review committee, R&D committee, and risk management committee etc.

Individual Company-wise Analysis of Maharatna CPSEs

With regard to individual company-wise corporate governance performance, the Maharatna CPSEs endeavour towards promoting good governance has been measured by "Corporate Governance Score" (CGS) (constructed with the help of binary scaling i.e. by putting '1' for compliance of any issue and '0' for non-compliance/non-explanation for each of the 110 issues considered for the survey taken from 23 nationally/internationally acclaimed codes of corporate governance/law/clause/provisions or recommendations based on the committees for prescribing best practices in corporate governance. In the following Tables, the corporate governance scores of all seven Maharatna CPSEs had been presented and supplemented by the frequency distributions computed with the help of IBM SPSS 23.0.

Hypothesis Testing

In order to check the degree of difference in corporate governance scores across the seven Maharatna CPSEs, the K-independent samples Kruskal-Wallis test has been used for testing null hypothesis H_0 : CGS across the Maharatna CPSEs are the same, against the alternative hypothesis H_1 : CGS across the Maharatna CPSEs are different at ∞=0.5. The inference have been found by using IBM SPSS 23.0 that the p value is 0.423 hence we cannot reject Ho and may conclude that the corporate governance score across the CPSEs has no statistically significant differences.

Table-1 : Corporate Governance Score of Maharatna CPSEs

Rank	Name of the Maharatna CPSEs	Corporate Governance Score (CGS)
1	BHEL	76.36
2	GAIL	69.09
3	NTPC	69.09
4	Coal India	68.18
5	Indian Oil	63.64
6	ONGC	63.64
7	SAIL	60.00

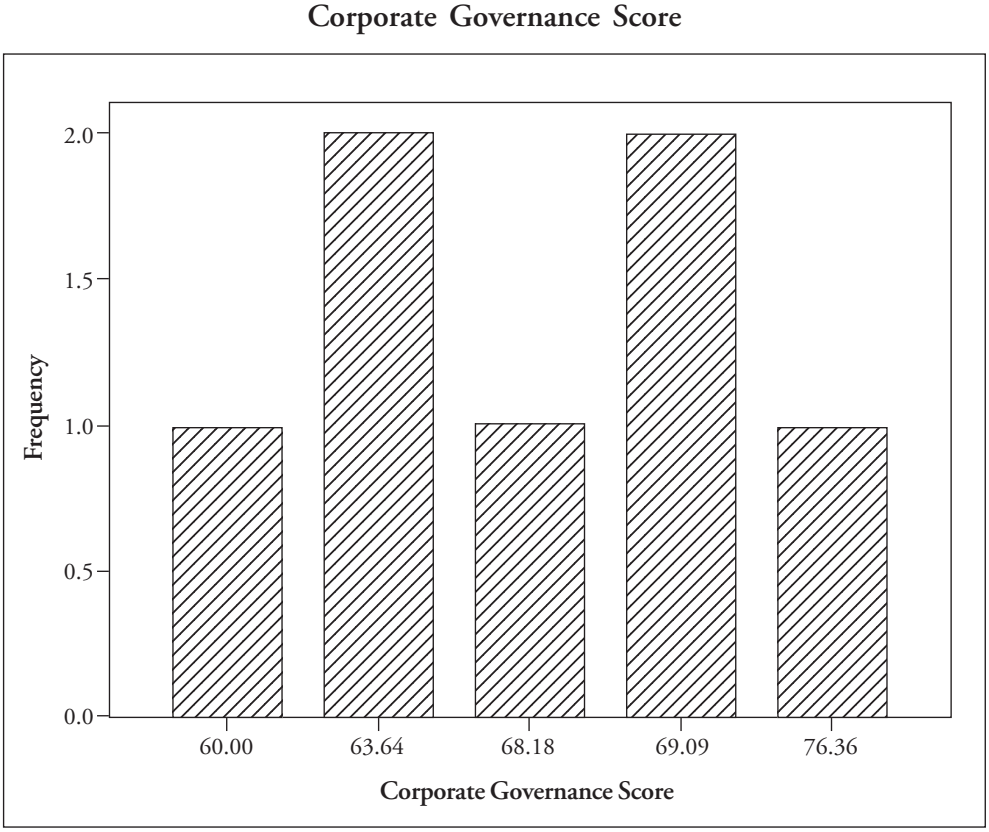
Source : Calculated by Author from the Corporate Disclosure Practices, 2015-16.

Corporate Governance Score

N	Valid	7
	Missing	12
Mean		67.1429
Std. Deviation		5.30997
Variance		28.196
Range		16.36
Minimum		60.00
Maximum		76.36
Percentiles	25	63.6400
	50	68.1800
	75	69.0900

Corporate Governance Score

		Frequency	Per cent	Valid Per cent	Cumulative Percent
	60.00	1	5.3	14.3	14.3
	63.64	2	10.5	28.6	42.9
Valid	68.18	1	5.3	14.3	57.1
	69.09	2	10.5	28.6	85.7
	76.36	1	5.3	14.3	100.0
	Total	7	36.8	100.0	
Missing	System	12	63.2		
	Total	19	100.0		



Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Corporate Governance Score	7	60.00	76.36	67.1429	5.30997	.543	.794	.559	1.587
Valid N (listwise)	7								

Source : Result generated though IBM SPSS 23.0.

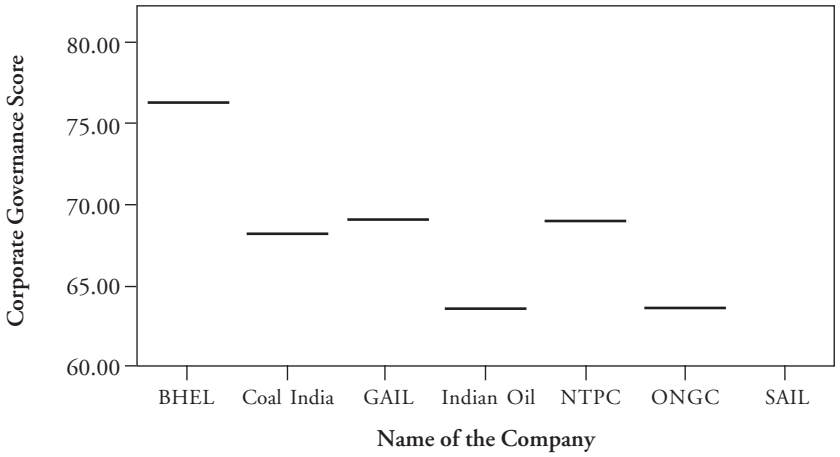
Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Corporate Governance Score is the same across categories of the Company.	Independent-Samples Kruskal-Wallis Test	.423	Retain the null hypothesis.
Asymptotic significances are displayed. The significance level is .05.				

Conclusion

It can be inferred from the study that the state of affairs of overall corporate governance practices of Maharatna CPSEs, professedly the top CPSEs of India had a mixed bag of outcomes. In a number of aspects pertaining to promoting independence in board, gender diversity in boardroom, separation of chairmanship and CEOs position, functioning of various board committees like remuneration and nomination committees, stakeholder relationship committees, the Maharatna CPSEs registered a dismal performances. However, with regard to the effectiveness of audit committees and adherence to socially responsible business practices as laid down in the CSR norms, the CPSEs had shown commendable performance historically. Implicit in this observation is the continuous monitoring by the Department of Public Enterprises (DPE), Government of India, and the regulatory bodies of all CPSEs. The DPE has formalized a set of norms and guidelines for compliance of CPSEs and its adherence to professionalized

Independent-Samples Kruskal-Wallis Test



Total N	7
Test Statistic	6.000
Degrees of Freedom	6
Asymptotic Sig. (2-sided test)	.423

1. The test statistic is adjusted for ties.
2. Multiple comparisons are not performed because the overall test does not show significant.

board room practices since 1992 has been amended from time to time and the latest of such guidelines came in the year 2010. Moreover, the DPE through its endeavours like annual CPSE survey as well as grading of CPSEs on corporate governance parameters invariably tried to uplift the standard of corporate governance practices of CPSEs stymied by bureaucratic mindset of top management and procrastination habit due to red tapism which need to be professionalized and be put on the road in terms of transparency, discipline, fairness, accountability, trust worthiness and diversity for ensuring the holistic development and managing and directing the organization for the best interests of all connected stakeholders in true spirit.

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Defect Free Management System : A Case Study of Bharat Sanchar Nigam Ltd.

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This paper examines the state-of-the-art at Bharat Sanchar Nigam Limited (BSNL) in terms of identifying the bottlenecks in reaching the target of zero-defect. Normally when large number of employees are there, technology is employed widely and leveraged, finances are deployed towards infrastructure and creating the operating facilities, given employee gender diversity in the workforce, wide differences in the education levels, quality becomes more uncertain and so the Zero-defect. The success of quality management system lies in the clear integration of all these diverse factors through a proactive approach with employee engagement and high performance work culture strategies aligning to the demands and expectations of stakeholders. Against a backdrop of analysis of prevailing practices in different functional areas such as operations, maintenance, finances, billing, customer relations management, acknowledgement systems, Human Resource Development, cell towers installed, procurement of equipment, stores management, Information Communication and Technology (ICT) practices, this study recommends an organization-wide, conscious effort to enhance the quality of operations through an intensive promotion of quality circles and implementation of quality philosophy across the different levels of hierarchy at BSNL. It is also proposed that the executives in the senior positions should undergo the green/yellow/ black belt certification apart from the six sigma orientation.

Keywords : Employee Engagement, High Performance Work Culture, Six Sigma Orientation, Zero-defect.

Zero-Defect System

Zero-defect system is an outcome of responsible way of handling several functions of a given organization whether it is into production or services. In the words of Phillips B Crosby, the purpose of defect management system is to communicate to all its stake holders including employees that everyone should do their best and strive hard in a right way in the first step itself. Zero-defect is a management led program to eliminate defects and provide confidence to the stakeholders about the overall effectiveness of the organization.

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Zero-defect (ZD) is a new dimension in quality assurance and a tool aimed at reduction of defects through prevention. It is intended to motivate the employees to prevent mistakes by developing a constant and conscious desire to do their best on the job for the first time. Defect prevention is a preferable strategy and it does away with quality inspection and correction. Zero-defect implies confirmation to quality standards.

Zero-defect concept looks very illusory and difficult to achieve. But in reality, there are many companies have adopted Zero-defect system and thus successful in their production and marketing operations. Some of the prominent companies/organisations include General Electric (GE), International Telephone & Telegraph (ITT) Corporation, Montgomery Ward, Rolls Royce Ltd, United States Army, American Telephone and Telegraph (AT&T) etc.

A close look at many organizations in India reveals that there is a long way to attain Zero-defect. Every function in the organization needs to be done effectively and efficiently. The larger the size of the organization, the larger is the complexity in implementing the Zero-defect philosophy. To understand this philosophy, a blend of top down and bottom up approaches is required, identify where performance is defective and explore the best possible solution to correct and improve. Unless organizations reengineer and reposition their functions, products and services aligned to customer and corporate expectations, the concept of Zero-defect continues to be a distant dream.

Theory of Absolute Defects Management System

Adoption of philosophical approach towards Defects Management System will help modern organizations evolve themselves as true learning organizations in general and high tech organizations such as BSNL in particular. It is not only an age-old but historically and scientifically evolved method. It reinforces all modern organizations at foundation level giving a cutting edge over their competitors. On the contrary, organizations which aim at adoption of management programs more as an abstract, imaginary, theoretical and idealistic, unrealistic activity devoid of concreteness from the given organizational condition with respect to the universal business environment are likely to wither away from business scenario in the days to come. In the modern era of globalization and electronic revolution almost all the leading organizations are adopting Defects Free Management System with modern management methods and techniques which are by and large

revolving around better and optimum utilization of electronic and information technology for harnessing all other resources at the disposal of organizations, so as to transform organizations as 'knowledge organizations' by adopting better methods of organizational learning and practice/application. Till the end of 19th century, political philosophers such as Niccolo Machiavelli and classical economists namely Ricardo, Weston, Proud Han and Adam Smith used to consider land, labour and capital as the three Ss' for sound organizational functioning and business fortification. In modern era, all those things are negated by information and knowledge management. Capital is increasingly finding its expression through better and sophisticated harnessing of organizational knowledge with respect to portfolio management, production management, materials management, human resources management, operations management to supply chain management. Thus modern business management has acquired the dual characteristics of science and art, that is, theory and skill as well. The four recognized major components of high-technology organizations are viz., orga-ware, human-ware, techno-ware and info-ware. There is a greater need for research and development as part and parcel of Defects Management System and for their sound application of programs in the modern technology based organizations.

A Step towards Absolute Quality Control System

The chief objective of Defect Free Management System is harnessing of knowledge for generating concrete awareness about suppliers, manufacturing process, distribution process-study of channel partners-advertising, market research, evolving better marketing strategies, organizational image promotion, training the trainers with all the modern knowledge, skills and training methods and other aspects such as recruitment of qualified, talented, skilled and multi-faceted personnel to meet the modern complex production and environmental challenges. Knowledge in regard to the given business environment will become real only as long as it reflects the changing production and distribution methods, techniques and strategies which are constantly changing, updating, enriching, concretizing and undergoing both evolutionary and revolutionary changes. It is real business knowledge which is evolutionary in character as it is reflecting the slow but steadily changing the business environment which includes the HR, marketing, finance, operations research and control, finance and modern management information

systems. Thus business knowledge and Defects Free Management System will become real only when that knowledge inherently carries the evolutionary and revolutionary characteristics of business environment in its form and spirit. Real Defects Free Management System will aim at reducing the level of defects in various functional areas and thereby paves the way for attaining the Defects Free Management System. Knowledge about business environment, which includes business processes in its totality, will empower the team leaders and workforce in its true spirit.

This paper examines the state-of-the-art at Bharat Sanchar Nigam Ltd to identify the bottlenecks in reaching the target of defect free management. Normally, when large number of employees are there, technology is employed widely and leveraged, finances are deployed towards infrastructure and creating the operating facilities, given employee gender diversity in the workforce, wide differences in the education levels, quality becomes more uncertain and so the Defect free management.

Review of Select Literature

This section focuses on the concept of Defect Free Management (DFM) linked with Total Quality Management (TQM) on the background of literature review. Basically the concept of TQM is the foundation for understanding the concept of DFM. Different management gurus had given their own interpretations on TQM and that lead to DFM implementation in telecom sector particularly in BSNL.

Development of new manufacturing technologies and usage of Integrated Information, Communication and Technology (ICT) solutions will make the work more efficient to reduce product and process defects, energy consumption and to achieve organisation goals in producing zero defect products/ services (WestKamper & Warnecke, 1994). The automation in switching, transmission, external plant, billing and CRM helped BSNL in reducing various defects in operation and maintenance, thereby contributing to improving the customer satisfaction.

Deming stressed the responsibilities of top management to take the lead in changing the processes and systems. Leadership is a vital role in achieving the quality management because the top management take a lead to create and communicate a vision to move the firm towards the gradual improvement. Deming (1986) also emphasised the importance of identification and measurement of customer requirements, and demand, creation of wonder management, use of functional teams to identify and solve quality problems, enhancement of employee skills,

employee participation, and pursuit of continuous improvement. The BSNL management is taking initiative to introduce the change management concept for attaining the continuous growth in its development and quality of services.

To improve the quality of a product/ service, the role of the management is vital in achieving control on the processes and the systems. Juran considered quality management as three basic processes (Juran Trilogy : quality control, quality improvement, quality planning). Juran and Gryna (1993) believed that ZDM is nothing but TQM, a system of activities directed at achieving delighted customers, empowered employees, high revenues, and lower cause according to him it is very important to understand the customer needs. The requirement applies to all sectors in marketing, design, manufacture, and services. To identify the customer needs, a vigorous understanding is required to ensure best product for meeting the customer needs. He proposed the use of techniques : quality function deployment, experimental design, reliability engineering and concurred engineering. The BSNL is using digital techniques and ICT solutions widely for improving its telecom network and to ensure hassle free and seamless services.

Crosby (1975) identified a number of important principles and practices of successful quality improvement programme, which include management participation; management responsibility for quality employee recognition, education, reduction of cost of quality (i.e. prevention cost, appraisal cost, and failure cost). His emphasis on prevention rather than after-the-event inspection, doing the things right the first time and zero defects. Crosby analysed the causes for mistakes are lack of knowledge and lack of attention education and training can eliminate the first cause and personal commitment to excellence (Zero Defects) and attention will cure this second. The BSNL is getting Telecom Engineering Centre (TEC) approval and its certification in procuring telecom equipment as a first and vital step for ensuring the DFM in operation management of its network. Apart from that BSNL is taking up in-service courses to their employees as a part of skill development whenever inducting new advancing technology in its network.

Feigenbaum (1991) defined Total Quality Control (TQC) as "An effective system for integrating the quality-development, quality-maintenance and quality-improvement efforts of various groups in a firm so as to enable marketing, engineering, production, and service at the most economical levels

which allow for full customer satisfaction". He emphasised on quality chain that starts with identification of various customer requirement and ends with product/service delivery up to the customer satisfaction. He claimed that the TQM requires a higher degree of effective functional integration among people, missions, information, stressing a system approach and quality. Ishikawa (1985) emphasised that quality management extends beyond the product and encompasses after-sale service. He further affirmed that the success of the firm is highly dependent on treating quality as never-ending quest. He stated that quality begins and ends with it. With that view, BSNL had accorded top priority to the customer and has coined a slogan "Service with a Smile" (S.W.A.S).

In 1987 US Congress passed the Malcolm Baldrige National Quality Improvement Act, established an Annual Quality Award with an aim to encourage American firms to improve quality and customer satisfaction, improvement in the overall company performance and their capabilities. This model frame work used to assess the company's current quality management practices, benchmark performance against key competitors and world-class standards, and to improve the relations with and customers.

According to Kanji and Asher (1996), the TQM is continuous process of improvement for individuals, group of people, and whole firms; it encompasses a set of four principles-delight the customer, management by fact, people-based management and continuous improvement, and eight core concepts such as customer satisfaction, internal customers, all the works in process, measurement, team work, people make quality, continuous improvement cycle and prevention. BSNL has developed its own ICT solutions : customer relation management (CRM), online payments, central web-care, and computerised billing, etc., for the customer convenience. Various customer related reports are generated through its big data-centres for accessing the customer demand and service expectations. Computer based Integrated Voice Recording System (IVRS) is used for fast and prompt response to the customer complaints and maintaining their service history records.

Halpin et al (1996)stated that "zero-defect is a management tool aimed at reduction of defects through prevention. It is directed at motivating people to prevent mistakes by developing the constant, conscious desire to do their job right the first time". In the telecom sector, the manufacturers are taking utmost care in designing the switching

equipment considering the high precision control so as to ensure the Zero-Defect (ZD) in operation and maintenance of the equipment. On similar lines, the BSNL is taking care in planning the transmission media to provide seamless services in connecting the telecom network all over the India. While providing the required infra, the ZD philosophy is adopted to avoid any power interruption to the telecom equipment.

The Six Sigma (SS) concept itself has evolved out of ZD system. Implicit in this is the SS tool which primarily aims at the improvement in terms of the product quality as well as in service quality. Quantitatively the SS is well-defined calibrating 3.4 Defects per Million Opportunities (DPMO). The SS concept is adopted in BSNL to have better customer relation response and in collecting the customer data records from various exchanges that helps in billing. In general, the SS provides maximum benefit to the company in increasing the profits and reducing the wastage.

According to the Defect-Free system as a part of TQM concept, a company analyses the requirement of its customers, plans the activities (short-term & long-term) to meet the customer needs, sets-up and fixes the process requisite to provide the customer services in order to obtain the best possible satisfaction of the customer. The TQM is widely used in the telecom sector infrastructure towards development and designs.

Bharat Sanchar Nigam Ltd – A Brief Profile

Bharat Sanchar Nigam Ltd. (BSNL) was incorporated under the Companies Act (1956) taking over the then existing business of providing telecom services and network management from the erstwhile central government Department of Telecom Services (DTS) and Telecom Operations (DTO), with effect from 1st October 2000 on a going concern basis. It is one of the largest and leading public sector units providing comprehensive range of telecom services in India.

BSNL has installed quality telecom network in the country and currently has a distinct focus improving it, expanding the network, introducing new telecom services with Information and Communication Technology (ICT) applications in villages and gaining the customer's confidence. As on December 2016, it has the largest network with about 36.42 million line basic telephone capacity, 7.13 million Wireless in Local Loop (WLL) capacity, 95.96 million Global System for Mobile (GSM) capacity, 34,727 fixed

exchanges, 1,17,090 GSM Base Transceiver Stations (BTS), 9,594 Code Division Multiple Access (CDMA) Towers, 102 satellite stations, 7,73,976 RKM (Route KM) of OFC, 4,751 RKM of microwave network connecting 646 districts, 4,519 cities/towns and 6.25 lakhs villages all over India.

BSNL has been the only service provider, making focused efforts and planned initiatives to bridge the rural-urban digital divide in ICT sector. In fact, there is no telecom operator in the country to beat its reach with its wide network giving services in every nook and corner of the country and operates across India except New Delhi and Mumbai. Whether it is inaccessible areas of Siachen Glacier or North-Eastern regions of the country, BSNL serves its customers with a wide bouquet of telecom services namely Wireline, CDMA mobile, GSM mobile, Internet, Broadband, Carrier service, MPLS-VPN, VSAT, VoIP, IN Services and FTTH, etc.

BSNL is numero uno of India in all services in its license area. The company offers a wide range of tariff schemes designed to suit every customer. BSNL has 94.36 million cellular and 1.02 million WLL customers as on 31.10.2016. The facility of 3G has been given to all 2G connections of BSNL. In basic services, BSNL is ahead of its rivals, with 13.88 million wireline phone subscribers i.e. 56.96 per cent share of the wire-line subscriber base. During 2015-16, the turnover of BSNL was around ₹32,919 crores.

BSNL has set up a world class multi-gigabit, multi-protocol convergent IP infrastructure that provides convergent services like voice, data and video through the same backbone and broadband access network. At present, there are 21.86 million broadband customers. The company has vast experience in planning, installation, network integration and maintenance of switching and transmission networks and also has a world class ISO 9000 certified telecom training institute.

Apart from this, it caters to various other services like leased circuits, satellite communications, etc., throughout India. The Government of India has chosen BSNL to provide various telecom services at affordable prices to the common public and also to provide free access to the interior/far-flung areas within the country.

To play a vital role in telecom sector, the BSNL has developed its own philosophy of Absolute Defect Management System to render the seamless service to its customers. It has introduced defect free environment in its various segments viz., customer care,

HRD, O&M, infrastructure, CSR, transmission network, finance and billing, etc.

In BSNL also the ZD concept is widely used in various sectors to ensure defect free service to gain utmost customer satisfaction. The best example is the recent Hud-Hud cyclone in Vizag area (Andhra Pradesh) and the floods in Chennai. BSNL is the only successful organisation in providing communication facilities to assist the disaster management and providing relief arrangement.

Functional Performance of BSNL : An Insight

Here is an insight into the performance of different functional areas such as operations and maintenance, finance, billing, customer relationship management, IVRS systems, HRM, material management, and information communication and technology (ICT) practice.

1. *Operations and Maintenance*

BSNL is basically a service sector providing telecom services to its customers. In order to ensure zero-defective service, sufficient care has been taken in planning, designing and installing various equipment/systems with 100 per cent redundancy. To monitor the perfect functioning i.e., operation and maintenance of the telecom equipment, a specially designed software based Network Management System (NMS) is introduced to monitor all the equipment 24x7. Thus, the telecom equipment has taken sufficient care for zeroing the defects in its systems with the help of ICT solution. To ensure fault-free service to the customers, the world class standard equipment and ICT solutions are adopted in BSNL.

In the transmission arena, Digital Cross Connect (DXC) system is introduced to automatically switch over the network to the alternate one instantaneously whenever any transmission route becomes faulty. Apart from this, concentrated transmission ring maintenance systems are also in operation to provide uninterrupted inter communication between the exchanges and inter-city communication.

In the case of external network, the cables are laid in alternate routes following the alternate management system to ensure continuous service like leased circuits and data circuits. To maintain uninterrupted service to the customers, a powerful sophisticated digitally controlled Fault Monitoring System (FMS) is also introduced. Aiming at zero-faults towards the last mile outdoor network, Fibre to the Home (FTTH) service has been introduced in BSNL. All the associated technologies are implemented for ensuring the zero-defect telecom services.

2. *Finance and Billing*

Finance and Billing play a prominent role to enhance the revenue to any organization. On the introduction of ERP in BSNL, the overall financial status with respect to the cash flow management, supply chain management has improved tremendously. The computerized Call Data Records (CDR) system is operated so efficiently and Six-Sigma concept is introduced in collecting CDRs from various exchanges spread all over the country. The error CDRs are monitored and are recovered in real time so as to plug the leakages in the revenue. Subsequently, the billing is also centrally processed using highly advanced computer systems to avoid customer billing complaints. The error rate in this system is decimal which is closer to six sigma and in tune with Zero Defect quality standards. The CDR error record for the year 2014 is enclosed for ready reference. (Table-1)

Analysis of CDRs of South Data Centre

With the adoption of ERP, the overall financial management architecture has been well established in BSNL to keep

Table-1 : CDR Error Statistics of South Zone Billing System

Mon-YY	Input CDR Count (in crores)	CDR Error Count (in crores)	CDR Errors (per cent)
Jan-16	174.17	0.0000031	0.0000018
Feb-16	163.16	0.0000024	0.0000015
Mar-16	179.65	0.0000039	0.0000022
Apr-16	179.29	0.0000096	0.0000054
May-16	182.02	0.0000080	0.0000044
Jun-16	176.03	0.0000114	0.0000065
Jul-16	182.49	0.0000271	0.0000149
Aug-16	181.65	0.0000270	0.0000149
Sep-16	179.41	0.0000168	0.0000094
Oct-16	189.16	0.0000215	0.0000114
Nov-16	189.27	0.0000382	0.0000202
Dec-16	196.76	0.0000396	0.0000201

track of the budget/financial requirements in various segments instantaneously and thereby facilitate smooth allocation of the funds. The latest computerized SAP based system has been providing efficient finance management,with a built in mechanism to detect and alert the fraud management, while concomitantly putting an effective check at mishandling of the cash reserves. The complete bill payments are updated and utmost transparency is maintained by sending timely SMS alerts to the customers. Different payments remitted through e-seva, post offices and banking channels are reconciled in time to avoid disconnections. The direct online payments has perceptibly improved customer satisfaction and revenue collection as well. The Payment Management System (PMS) has also become absolute defect free in accoun-tability and facilitated quick resume of service through timely reconnection.

3. *Interactive Voice Response System (IVRS)*

BSNL is having a well-established customer care, fault recording and response system in the maintenance of telecom network. The acknowledgement is given to the customer allocating the system generated complaint numbers by Interactive Voice Response System (IVRS) and it is well integrated with the CRM,PMS and Clarity systems. Upon receipt of complaint from IVRS, it automatically routes the issue or complaint to the concerned maintenance units for restoration. In the event of any inquiry arising from the customers pertaining to the status of their complaint, the real time position is updated and intimated accordingly. Upon restoration of service, the customers are duly informed as a follow up through SMS for their confirmation. The fault records are systematically documented to analyze the frequency of defaults with a view to obviate repeated technical glitches.

In BSNL, IVRS is introduced to register the customers complaints, advance booking of requests for new connections and change of plans/schemes. The IVRS system responds to the customer calls (offered) and duly acknowledges by system generated unique id for further reference. The IVRS response itself is one of the classic examples for the successful implementation of Defect Free IVRS System. (Table-2)

A centrally Controlled Contact System (CCS) is designed to facilitate customers seeking registration for a new service plan or opt for a change in their suitable tariff plans offered by BSNL. The operator in the contact centre will listen to the client in person, assist and advise suitably, enabling the customers to choose a range of affordable options.

Table-2 : IVRS Call Statistics of South Zone

Month	Total Calls Offered by IVRS	Total Calls Answered Successfully	Calls Completed Call in Progress	Disconnections during the Errors	Per cent of
Jan-16	3343388	3252902	3252792	110	0.00329
Feb-16	3290018	3186204	3186010	194	0.00590
Mar-16	3583537	3511179	3511130	49	0.00137
Apr-16	3430380	3346993	3346845	148	0.00431
May-16	4129295	4043857	4043600	257	0.00622
Jun-16	4124333	3984030	3983975	55	0.00133
Jul-16	3964892	3885063	3885008	55	0.00139
Aug-16	3886577	3797424	3797363	61	0.00157
Sep-16	4235791	4064033	4063974	59	0.00139
Oct-16	3807305	3712792	3712728	64	0.00168
Nov-16	3312097	3231423	3231395	28	0.00085
Dec-16	3480141	3423215	3423166	49	0.00141

Besides this, the well-designed follow-up mechanism has been working efficiently and effectively to offer a bouquet of services catering to the specific needs of the customer satisfaction. By and large, amidst cut-throat competition, all these inter-related technology oriented systems is poised to boost the overall image of BSNL in the eyes of the customer and win their confidence and satisfaction.

4. *Human Resource Development*

Central to the overall corporate philosophy, human resource is by far the priced and precious asset of the organisation. The strength of BSNL lies in the repository of highly skilled and experienced work force numbering around 2.01 lakhs. All of them are well-trained and talented in rendering the telecom services to their customers. To meet the technological changes and challenges, 100 per cent of the employees are trained through in service courses, in technology up-gradation, particularly in handling the ICT solutions like ERP, CRM and FMS, etc. Two apex training centres – one at Ghaziabad and the other at Ghaziabad and 43 zonal training centres are also conducting various capacity building programmes to impart skill development.

In BSNL, efficient HRM system is introduced. Talented employees are recruited through tough competition and are groomed for handling the high technology equipment being inducted in the system to meet the competition in the sector. Awarding and rewarding systems are continued for motivation of the employees. Proactive work environment is maintained. However, there are some inherent shortcomings in HRM which are discernible is briefly presented.

1. Post-training in the advanced technology, the employee is not properly placed in the areas where sh/e is trained in terms of knowledge, skill and attitude.

2. Performance management system is not implemented effectively.

3. The early recruits (non-professional) and under qualified staff, given their age constraints, is not able to cope up with the changing digital technologies.

4. Front end teams are not equipped with sufficient product/service knowledge about new plans and schemes and the threat of losing existing and prospective customers to the cut-throat competition unleashed from the private operators is invariably imminent.

5. The high employment cost (57 per cent of total expenditure) being the main impediment, has been hindering the CAPEX investment.

With a view to turnaround the BSNL from unsustainable losses, Defect Free Management System concepts should be introduced in HRM policies in terms of downsizing the employment, adopting periodical promotional avenues, performance based incentive schemes, etc.

5. *Infrastructure*

Infrastructure is the core strength of BSNL which is worth ₹42,507 crores of asset value. The BSNL infrastructure includes lands and buildings, GSM towers, UG/Fiber network in prime locations in urban and rural areas. If that vast infrastructure is utilized optimally and encashed smartly by renting/leasing, it has the prospect of earning crores of alternate revenue to the organization. Earlier, some assets are not brought into records. On implementation of ERP under REM module, all the BSNL assets are totally accounted for. It is high time a strategy is explored to use such huge infrastructure to get additional revenues, for which the following suggestions and guidelines are delineated hereunder.

1. Speedy implementation of tower sharing agreements with other cellular operators.

2. Sharing of inter-city transmission network with other service providers.

3. Leasing out the buildings in prime locations for commercial purposes i.e., ATMs, quarters, guest houses and holiday homes, etc.

With a view to maintain the telecom equipment such as switching, transmission, mobile towers and data centres, and power supply being the lifeline of BSNL, it must be uninterruptedly provided 24x7 through big capacity UPS, battery and generators. The necessary power infrastructure is basically designed with defect free multi-level redundancy. The interruption on the infra units is almost negligible due to the high standard quality selected and designed for defect free functioning.

While constructing the BSNL buildings for exchanges and quarters, rugged standards/ specifications are followed scrupulously. Of the recent disasters that struck in India i.e., Hud-Hud Cyclone in Vizag and Chennai floods, it is found that BSNL infrastructure could withstand the onslaught of natural calamities and could, at the same time, render uninterrupted services. Thus it has amply proved that absolute Defect Free Management System is designed and implemented both in constructions and maintenance of infrastructure in BSNL.

6. *Information and Communication Technology (ICT)*

On the implementation of ICT in BSNL, various traditional procedures/ systems are streamlined and unified all over the country. Aided by Information Technology and having created different applications like Websites and Portals, BSNL is able to share various plans/offers and other marketing strategies with the internal and external customers. On the sharing of product/ service knowledge with the public, the business exploitation by greedy marketers can be avoided. The updated information about various products and plans are kept before the customers for their choice.

All the information related to CRM and marketing is made available to the customers through SMS, email, etc. The aggrieved customers can approach the concerned BSNL personnel for redressal of their grievances with readymade information on hand. By virtue of widely sharing the information with complete transparency in its business activities, BSNL is able to maintain good customer relations and trust.

Walk the Talk

BSNL has an insightful vision and mission in terms of being a leading telecom service provider in India with

global presence, creating a customer focused organization with excellence in customer care, sales and marketing, leveraging technology to provide affordable and innovative telecom service/ products across the customer segments.

The company has been performing great in terms of its commitments but has been a losing player given the market conditions where the private players have an edge over men and matters. The only way for BSNL is to get reinvent, reorient and demonstrate quality performance in tune with the global best practices and bench marks. Defect Free Management System can be a theme for BSNL to reorient its staff across cadres imbibing quality consciousness in the functional areas like HRM and Operations and Maintenance of the last mile network where ZD management has still has a better scope.

Conclusion

- BSNL has been working towards evolving Defect Free Management System as a comprehensive management system with respect to all of its functional sub-systems.
- HR system is tuned to the modern era of globalization and electronic revolution with qualified, talented and highly skilled personnel with inherent limitations.
- A timely acknowledgement is evolved particularly with respect to commercial/ billing and HR sub-systems.
- Financing and billing was totally automated with the introduction of Enterprise Resource Planning system.
- Infrastructure in BSNL has been designed in a standard way to withstand any kind of unforeseen eventualities and natural calamities.
- IT has played a vital role in the evolvement of modern digital systems particularly with respect to modern telecom, transmissions systems and power systems.
- Being a premier public undertaking, BSNL as part of corporate social responsibility, assist the public in times of disasters and also extends timely concessions to the deprived.

Recommendations

1. In the wake of advanced technology, playing a decisive role, there is a greater need for the induction of qualified and talented technical personnel at all levels, right from the bottom level staff to the top management.
2. Lacunae with respect to operations and maintenance, systems shall be filled up at the earliest by further modernization of all the BSNL wings.

3. More customer friendly plans and tariff packages shall be devised to minimise the burden on the customers.

4. Underutilized infrastructure may be optimally used.

5. Due weightage may be given in financial budgeting towards provision for CAPEX to adopt new technology and to improve the quality of service.

6. Global level information technology solutions similar to British Telecom (BT) and AT&T shall be adapted to meet the growing competition in the Indian telecom market.

7. There is a need to intensify organisation-wide conscious effort for enhancing the quality of operations through intensive promotion of quality circles and implementation of quality philosophy across the different levels of hierarchy at BSNL.

8. The executives in the senior positions should undergo the green/ yellow/black belt certification as a part of six sigma orientation. Bell curve performance appraisal system shall be adopted among the staff to identify their talents.

9. The company should examine the level of employee engagement and ensure how best they can be productively engaged at work.

10. It is time for BSNL to emerge as a centre for high performance work culture through proactive HR practices.

11. Transparency in measuring KPIs to be maintained for assessing the involvement of staff in DF drives which is practiced in Siemens Telecommunications.

12. Service Level Agreements (SLA) with clients (B2B) to be made to create awareness of QOS and to have mutual benefits in business.

13. IT systems such as ERP, MPC, BIS, SCM, etc., has to be effectively used for ensuring best products/ services which can withstand in competitive environment.

14. A state-of-the-art modern technology shall be adopted as practised in the case of Jio communications to excel as market leader.

15. Latest global level BPR techniques/ models shall be implemented in BSNL to improve its organisational performance and to attain maximum customer satisfaction.

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GST – A Game Changer for the Indian Economy : An Overview

Sreetama Ghosh*

With the Rajya Sabha and Lok Sabha having passed the long-awaited Goods and Service Tax GST) enabling Constitution (122nd Amendment) Bill, 2014 and Assam becoming the first state to ratify the same, India is well set on the course for the biggest tax reform since independence. Implementation of GST in India would integrate a large number of taxes into one single legislation while minimising the cascading effect of taxes, making available tax credits across the chain, development of a common national market and making Indian product and services more competitive in the global market. The all new beneficial tax regime will replace a patchwork of levies by the central and state governments with a single nationwide sales tax, thereby bringing immense benefits to the economy, to the industry and eventually to consumers. The central government has been taking various steps towards the implementation of the country's most ambitious indirect tax reform of Goods and Service Tax which is expected to roll out from 1st July 2017. This paper tries to evaluate whether the new GST regime has the potential of being a game changer for the Indian economy.It also points out certain issues and concerns which need to be addressed to gain effectiveness of this tax.

Keywords : GST, Indian Economy.

Introduction

Goods and Service Tax (GST) is considered to be one of the biggest Indirect tax reforms in India. A tax aimed to replace the current complex structure of multiple indirect taxes like excise duty, service tax, VAT, CST, luxury tax, entry tax etc., in favour of a comprehensive dual GST. With a clear road map being laid down by the Finance Minister, the government seems on course to fast track the entire process to achieve the targeted GST implementation effective from 1st July 2017.

On 12th April 2017, the central government enacted four GST Bill :

- Central GST (CGST)
- Integrated GST (IGST)

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- Union Territory GST (UTGST)
- Bill to compensate States

Types of GST

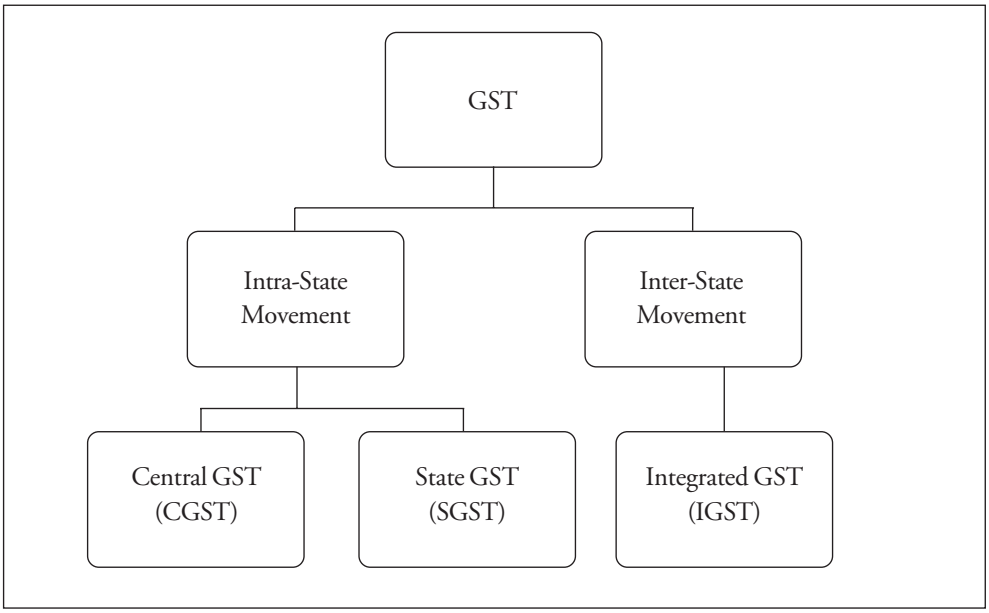
The GST to be levied by the centre on intra-state supply of goods or services is CGST and by the State is SGST. On inter-state supply of goods and services, Integrated GST (IGST) will be collected by centre. IGST will also apply on imports.

GST is consumption based tax i.e., the tax should be received by the state in which the goods or services are consumed and not by the state in which such goods are manufactured. IGST is designed to ensure seamless flow of input tax credits from one state to another. Each state has to deal only with the central government to settle the tax amounts and not with every other state thus making the process easier.

Till date, more than half the States have passed the State GST (SGST) law in the respective state assemblies, while other States are expected to do it by May 2017. Union Territory with legislature i.e., Delhi and Puducherry, will adopt SGST and balance 5 Union Territories without legislature will adopt UTGST Act.

The purpose of UTGST bill is to apply a collection of tax on every Intra Union Territory supply of goods and services

Figure-1 : Types of GST



in the Union Territories in the absence of legislature and has similar properties as that of SGST. UTGST is applied to Union Territories of India namely Chandigarh, Lakshadweep, Daman & Diu, Dadra & Nagar Haveli, and Andaman & Nicobar Islands.

Example : *A dealer in West Bengal sold goods to the consumer in West Bengal worth ₹10,000. Suppose the GST rate is 18% comprising CGST rate of 9% and SGST rate of 9%. In such case, the dealer collects ₹1,800 and ₹900 will go to the central government and ₹900 will go to the West Bengal Government. However, if the dealer in West Bengal had sold goods to a dealer in Gujarat worth ₹1,00,000 and the GST rate is 18% comprising of CGST rate of 9% and SGST rate of 9%. In such case, the dealer has to charge ₹18,000 as IGST. This IGST will go to the centre.*

Objectives of the Study

- To study the effect of implementation of Goods and Services Tax (GST) among the manufactures, traders and society at large,
- To study about the challenges of introduction of Goods and Service Tax (GST in India),
- To study the prospects in the implementation of Goods and services Tax (GST) in India.

Research Methodology

An exploratory research technique has been applied based on past literature from respective journals, annual reports, newspapers and magazines and websites covering wide collection of academic literature on Goods and Service Tax. According to the objectives of the study, the research design is of descriptive in nature. Available secondary data was extensively used for the study.

Adopting GST

For adopting GST with an open arm the following initiatives has been undertaken by the Central Government.

- ***GST Network (GSTN)***

  The enrollment process for migrating existing taxpayers to the proposed tax regime through GST common portal has already commenced. GST Network (GSTN), an IT backbone for GST will soon carry out the test run of its portal. GSTN moves over from 'islands' of compliance to an 'ecosystem' of incremental compliance by each player. GSTN provides the IT backbone for enabling such a comprehensive compliance network. Each person only verifies inward information already populated and supplies incremental new information to the portal. This makes ownership clear and remedy inarguable.

- *Validation by Handshake*

  After the 'shock and awe' settled down, industry has hailed the validation of tax paid mutually by supplier and recipient as an administration master stroke. Handshake is how this validation method is best described, where the two parties involved in supply, shoulder the additional responsibility of ensuring deposit of tax for claim of credit.

- *Minimal Personal Interaction*

  GST delivers an ideology of minimal personal interaction between tax administration and industry with all information handled by GSTN on the common portal, paper pushers will pass.

- *New Tax Payers*

  With the subsuming of over 17 different tax legislations, GST will see the induction of different kinds of 'new' tax payers –

  – Those who may have remained immune from local taxes and duties – UIN allottees, SSI units, health care and education industry.

  – Those who have paid tax based on composite system.

  – Those who have not paid a 'credit' based multi-point tax – Entertainment, betting and gambling Industry.

- *Newly Taxed Articles*

  GST promises to embrace the following that lay on the fringes in the current tax regime or not at all considered :

  – Actionable Claims

  – Rights to Immovable Property

  – Intangible/Incorporeal Property

  – E-payment Instruments

  – Internet Economy Trade

The GST Council consisting of representatives from the central as well as state government, met on fourteen occasions in the last six months and cleared – GST Law, GST rules, tax rate structure including compensation cess, classification of goods & services into different rate slabs, exemptions, thresholds and tax administration.

GST Rate

- *Dual Control and Assessment*

  On dual control, it has been decided that 90 per cent assessees with turnover up to ₹1.5 crore will be assessed by states and 10 per cent by centre. However, for turnover above ₹1.5 crore assessments would be made in the ratio of 50:50 by states and centre.

- ***Four-Tier GST Tax Structure***

  Moving swiftly on the road to formalizing the biggest reform of the indirect tax regime, the GST Council decided a four-tier GST tax structure of 5 per cent, 12 per cent, 18 per cent and 28 per cent, with zero rate for essential items and the highest for luxury and de-merits goods which are also expected to attract an additional cess. GST Council on 16th March 2017 has also approved the higher tax rate of 20 per cent under the CGST Bill and SGST Bill; meaning thereby that the peak rate of GST could be raised up to 40 per cent in aggregate in future. Another rate of zero per cent is decided to cover the essential items including food, which presently constitute roughly half of the consumer inflation basket. Luxury cars, tobacco, pan masala and aerated drinks would also be levied with an additional cess on top of the highest tax rate. The interest of common man has been duly taken care of which is evident from finalization of 5 per cent tax rate on common use items, as against 6 per cent proposed earlier.

Classification of different items under various tax slabs of GST has created an environment of anxiety and concern among the trading community. About 1,211 goods and 36 services have so far been classified under GST out of which nearly 43 per cent goods have been placed under 18 per cent rate; 14 per cent under 5 per cent rate; 17 per cent under 12 per cent rate and 19 per cent under 28 per cent rate.

Rate Classification of Goods

Figure-2 : Rate Classification for Goods

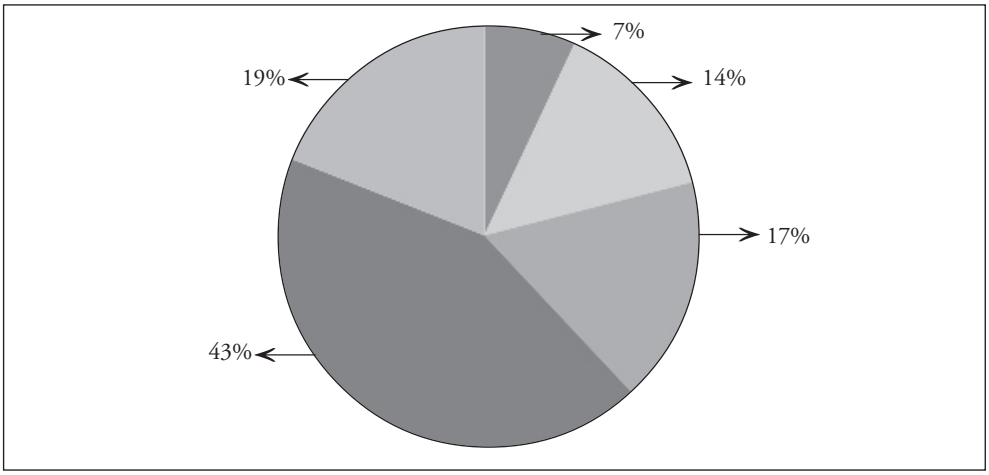


Table-1 : Category-wise Classification of Goods under GST Rate

Exempt	5%	12%	18%	28%	28% + Cess
• Food • grains • Cereals • Milk • Jaggery • Common • Salt	• Coal • Sugar • Tea & Coffee • Drugs & Medicine • Edible Oil • Indian Sweets	• Fruit Juices • Vegetable Juices • Beverages • Containing Milk • Bio-gas fuel • Fertilizers	• Capital goods • Industrial intermediaries • Hair Oil • Soap • Toothpaste	• Air conditioner • Refrigerators	• Small cars (1%/3% cess) • Luxury cars (15% cess)

Rate Classification for Services

Table-2 : Category-wise Classification of Services under GST Rate

Exempt	5%	12%-18%	28%
• Education • Healthcare • Residential • accommodation • Hotel/Lodges with tariff below INR 1000	• Goods transport • Rail tickets (other than sleeper class) • Economy class air tickets • Cab aggregators • Selling space for advertisements in print media	• Works contract • Business Class air travel • Telecom services • Financial services • Restaurant services • Hotel/Lodges with tariff between INR 1000 and 5000	• Cinema tickets • Betting • Gambling • Hotel/Lodges with tariff above INR 5000

Only rates of select goods and services have been mentioned here

- ***Threshold Exemption Limit***

  GST Council decided that the basic threshold exemption limit may be upheld at ₹10 lacs for special category states and ₹20 lacs for all other states.

- ***Jewellery***

  On June 2, 2017 the GST Council also fixed a GST rate of 3 per cent on silver, gold jewellery and processed diamonds, which is higher than the industry estimate. With an existing 10 per cent import duty, consumers will have to pay an effective duty of 13 per cent on gold jewellery, up from the earlier 12.5 per cent, which comprised 10 per cent import duty, 1 per cent value-added tax, 1 per cent excise duty and 0.5 per cent cess.

What GST Brings with it

GST is expected to be a destination-based tax that should replace the current central taxes and duties such as

excise duty, service tax, counter vailing duty (CVD), special additional duty of Customers (SAD), central charges and cess and local state taxes i.e., value added tax (VAT), central sales tax (CST), octroi, entry tax, purchase tax, luxury tax, state cesses and surcharges and entertainment tax (other than tax levied by the local authorities).

It will be a dual levy with State/Union Territory GST and Central GST. Moreover, inter-state supplies would attract an Integrated GST, which would be the sum total of CGST and SGST/UTGST.

Petroleum products i.e., petroleum crude, high speed diesel, motor spirit, aviation turbine fuel, natural gas will be brought under the ambit of GST from such date as may be notified by the government on recommendation of the council. Alcohol for human consumption has been kept outside the perview of GST.

A well-designed GST in India is expected to simplify and rationalise the current indirect tax regime, eliminate tax cascading and put the Indian economy on a high growth trajectory. The proposed GST levy may potentially impact both manufacturing and service sectors for the entire value chain of operations, namely procurement, manufacturing, distribution, warehousing, sales and pricing.

Calculation of GST

Valuation

The value of supply of goods and services would be the price actually paid/ payable for transaction between unrelated parties with price as a sole consideration. Where the price is not influenced due to the relation, then that value would be accepted. The various methods have been prescribed for the valuation, if transaction value is tainted. The options are transaction value of goods and services of like kind; computed value and residual method. If value cannot be determied as per these, then the value shall be determined using reasonable means consistent with the principles and general provisions of these Rules.

Input Tax Credit

Every registered taxable person is entitled to avail credit of tax paid on inputs, input services and capital goods provided goods and/or services have been received and tax has been deposited by the supplier with certain other conditions being satisfied. The restriction of receipt of goods and/or services is a paradigm shift from the present law. It is important to note that time limit of one year is provided for taking the credit. Credit needs to be taken by the month of September following the end of financial year to which the credit pertains.

TCS

Every e-commerce operator engaged in facilitating the supply of any goods and/or services (aggregators like Amazon, Flipkart, etc.) shall collect tax at source (TCS) at the time of credit or at the time of payment whichever is earlier. The GST collected by e-commerce players would be paid to the government within 10 days after the end of the month in which collection was made.

Computation of GST

Table-3 shows the difference in the amount of payment of tax and the advantage of input credit available to manufacturer/dealer in case of Intra-State Sales and Inter-State Sales.

For the purpose of calculation we have assumed that VAT rate is 12.5 per cent and GST rate is 12 per cent.

Intra-State Sale : GST Computation – An Example

Assessment

There are three crucial changes to be noted from the accompanying Table.

1. ***Subsuming of Excise Duty*** : Excise is charged on capital goods which are used by the manufacturer during production. Under GST, excise on capital goods would be eliminated, as there will be just a single rate of tax for each type of goods. Removal of excise should bring relief to end consumer.
2. ***Reduction in Costs :*** Due to the elimination of VAT, service tax, excise, there will be a reduction in cost for manufacturers/wholesalers/retailers. As seen in the Table, there is a reduction in the cost from ₹2,12,254 to ₹1,86,996 under GST. GST would help in further reduction of total cost to the manufacturer as procurement cost would reduce due to better logistics.
3. ***Reduction in Input Tax Credit :*** There will be a reduction in input tax credit for the wholesaler/retailer under the GST law. The amount of input tax credit reduced is merely an effect of the reduction in cost under GST.

Inter-State Sale : GST Computation- An Example

Assessment

A new concept of IGST has been introduced under the GST law. Earlier CST was charged over and above VAT and the excise duty for movement of goods between two states, whereas IGST will be a single tax levied on the goods moving across state borders. Manufacturers/retailers/dealers would see reduced cost of the goods sold within the state or intra-state under GST as it is evident from the above example.

Table-3 : Calculation of Intra-State GST

Particulars	Value and Tax Amount under Current Laws	Value and Tax Amount under Current Laws and Tax Amount under GST Law
Value to Manufacturer		
	Rs.	
Production Cost	1,00,000	1,00,000
Add : Profit Margin @10%	10,000	10,000
Add : Excise Duty @ 12%	13,200	—
Total Cost of Production	1,23,200	1,10,000
Add : VAT @ 12.5%	15,400	—
Add : SGST @ 6%	—	660
Add : CGST @6%	—	660
Invoice Value for Manufacturer	1,38,600	1,23,200
Value to Wholesaler		
Cost of Goods	1,38,600	1,23,200
Add : Profit Margin @10%	13,860	12,320
Total Value	1,52,460	1,35,520
Add : VAT @ 12.5%	19,058	—
Add : SGST @ 6%	—	8,131
Add : CGST @6%	—	8,131
Invoice Value to Wholesaler	1,71,518	1,51,782
Value to Retailer		
Cost of Goods	1,71,518	1,51,782
Add : Profit Margin @10%	17,152	15,178
Total Value	1,88,670	1,66,960
Add : VAT @ 12.5%	23,584	—
Add : SGST @ 6%	—	10,018
Add : CGST @ 6%	—	10,018
Invoice Value to Retailer	2,12,254	1,86,996

Table-4 : Calculation of Inter-State GST

Particulars	Vaue and Tax Amount under Current Laws	Vaue Vaue and Tax Amount under Current Laws & Tax Amount under GST Law
	Rs.	
	Value to Retailer	
Cost of Goods	1,00,000	1,00,000
Add : Profit Margin @10%	10,000	10,000
Total Value	1,10,000	1,10,000
Add : VAT @ 12.5%	13,750	—
Add : IGST @ 12%	—	13,200
Add : CST @ 2%	2475	—
Total Value to Retailer	1,26,225	1,23,000

Benefits of GSTand Drawbacks of GST

GST has been envisaged as a more efficient tax system, neutral in its application and attractive in distribution. At the same time, it has its own share of drawbacks.

Impact of GST on Indian Economy

Amidst economic crisis across the globe, India has posed as a beacon of hope with ambitious growth targets supported by a slew of strategic missions. GST is one such mission which is expected to provide the much needed stimulant for economic growth in India by transforming the existing basis of indirect taxation towards free flow of goods and services within the economy and also eliminating the cascading effect of tax on tax. In view of the important role that India is expected to play in the global economy in the years to come, the expectation of GST being introduced is high not only within the country but also the neighbouring countries and in developed economies of the world.

Impact of GST in Indian economy can be observed in the following areas :

- ***Increased FDI***

  The flow of foreign direct investments may increase once the GST is implemented as the present complicated multiple tax laws are one of the reasons foreign companies are wary of coming to India in addition to widespread corruption.

Benefits of GST Law	Drawbacks of GST Law
• GST will create an uniform indirect tax structure which will create wider tax base. If the tax base increases it will be easier for the government to lower the tax rate and eliminate classification disputes.	• Small businesses in the manufacturing sector will be most effected by the implementation of GST. Under the existing Excise Law, only manufacturing business with a turnover of more than ₹1.50 crores have to pay excise duty. However, under GST, the turnover limit has been reduced to ₹20 lakh, thus increasing the tax burden for many manufacturing SMEs.
• GST will replace all other indirect taxes hence there will be elimination of multiplicity of taxes and reduce cascading effect. This will rationalise the tax structure and compliance procedures will be simpler.	• The tentative GST implementation date is 1st July 2017. So in the F.Y. 2017-18 businesses will follow old tax structure for the first three months of the year and GST for rest of the period. It is impossible to crossover from one tax structure to the other in just a day's time and hence businesses will end up running both tax system in parallel, resulting in more confusion and compliance issues.
• GST will harmonise Centre and State tax which will reduce duplication of taxes.	• GST requires every business to register in all the states they are operating in. This will increase the burden of compliances.
• GST will introduce automation of compliance procedures which will reduce errors and increase efficiency.	• GST will increase the overhead expenses of the business as all the businesses will have to train their employees in GST compliance.
• GST is a great avenue for the development of under-developed states as the inter-state laws which levy 2 per cent currently will be completely dissolved. This would provide more opportunities for individual states.	• Petroleum products are being kept outside the scope of GST as of now. States will levy their own taxes on this sector. Tax credit for inputs will therefore not be available to related industries like the plastic industry which are heavily dependent on petroleum products. Unavailability of input tax credits on petroleum products will most probably push up the final price of all manufactured goods.Recently, Finance Minister Arun Jaitley said that GST will apply on petroleum only after all the States, through the GST Council agreed on it. So, an inclusion of petrol in GST is expected but there is no deadline on the horizon yet.
• GST would result in creating a common market across India and this would reduce compliance costs. The GST benefit sectors cover almost all the primary sectors in India.	• Every country that follows GST experienced a hike in inflation when they first introduced it. They countered the inflation by keeping tab on prices and initiating anti-profiteering measures at the retail level to protect consumers from price swindling.While there have been similar discussions in the GST Council, India still does not have concrete anti-inflationary measures to curb the inflation that is an inevitable outcome of GST.

- *Growth in Overall Revenue*

  It is estimated that India could get revenue of $ 15 billion per annum by implementing Goods and Service Tax as it would promote exports, raise employment and boost growth.

- *Reduce Tax Burden*

  This double taxation prevents manufacturers from producing to their optimum capacity and related growth. GST would take care of this problem by providing tax credits to the manufacturer.

- *Input Tax Credits*

  GST provides credits for the taxes paid by producers earlier in the goods/services chain. This would encourage these producers to buy raw material from different registered dealers and would bring in more and more vendors and suppliers under the purview of taxation.

- *Exports*

  GST also removes the customs duties applicable on exports. Our competitiveness in foreign markets would increase on account of lower cost of transaction. A National Council of Applied Economic Research study suggests that GST could boast India's GDP growth by 0.9 to 1.7 per cent.

- *Gross Domestic Product (GDP)*

  In terms of growth impact of GST implementation, the near term could be a mess, with adjustment costs for the private sector grappling with inter-sector implications, and the central government trying to compensate states for revenue loss. If the GST rate is set at around the 17-18 per cent, service producers would face an increased tax burden while manufacturers would see a fall. That could cause manufacturers not to pass through benefits and service providers to pass on costs. This would lower consumption and overall growth. At present, the effective indirect tax rates on services and goods are 15 per cent and 22.5 per cent, respectively.

- *Inflation*

  Initially, the implementation of the GST in the near-term could bring some upturn in inflation; however, the effect should be transitory. The service tax rate could shoot up from the current level of 15 per cent. Under the GST tax regime, this tax rate goes up to 18 per cent. This has led to fears that inflation could rise in the short-term. A revenue-neutral rate (RNR) of 15 per cent with a low rate of 12 per cent and a standard rate of 18 per cent would have

a negligible inflation impact. But a higher RNR with a lower rate of 12 per cent and a standard rate of 22 per cent meanwhile, would have a 0.3-0.7 percentage point impact on aggregate inflation. Consumer Price Inflation (CPI) could rise by 0.2 percentage points, if the GST rate is kept at 18 per cent. If the rate is set at 22 per cent, CPI could increase by 0.7 percentage points.

- ***Foreign Exchange***

  The GST will be welcome news for the Indian rupee (INR). So far, the currency has yet to see a GST boost. It is believed that GST will lead to wider foreign direct inflows of investment and a narrow current account deficit-factors that should help the INR to eventually outperform other Asian and emerging market currencies.

- ***Clean-Up India***

  The clean-up of the Indian taxation system will reduce the number of excise duty exemptions. According to the government's estimates, excise tax exemptions results in foregone revenues of ₹1.8 lakh crore. The comparable figure for the states is about ₹1.5 lakh crore. Together, India loses about 2.7 per cent of GDP because of exemptions.

Conclusion

Change is definitely never easy. It is important to take a lesson from global economies that implemented GST and overcome the teething troubles to experience the advantage of having a unified tax system. The introduction of GST would be very noteworthy step in the field of indirect tax reforms in India. By amalgating a large number of central and state taxes into a single tax it would alleviate cascading or double taxation in a major way and pave the way for common national market. From the common point of view, the biggest advantage would be in terms of reduction in the overall tax burden on goods and services. Introduction of GST would also make Indian products competitive in the domestic and international markets. Last but not the least, GST because of its transparent character, would be easier to administer. However, once implemented, the system holds great promise in terms of sustaining growth for the Indian economy.

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Announces Admission for Doctoral Fellowship 2017-18

ICSSR / IPE DOCTORAL FELLOWSHIP

Under the aegis of Indian Council of Social Science Research (ICSSR), IPE offers ICSSR Doctoral Research Fellowships in social sciences. Applications are invited for the year 2017-18 from interested and eligible doctoral candidates. IPE Doctoral Fellowships are also instituted for eligible Ph.D applicants.

ELIGIBILITY

- Candidates holding a Master's degree of a recognized university in any of the social science subjects having secured second class with minimum 55% marks or equivalent grade are eligible to apply. For SC/ST candidates a relaxation of five percent is admissible, i.e. having secured second class with minimum 50% marks or the equivalent grade.
- Candidates should not be more than 40 years of age(relaxation in age by 5 years permissible in case of SC/ST candidates) as on 1 July 2017.
- The candidates must have confirmed Ph.D. registration on the date of Application. Candidates must be registered for the Ph.D. programme in either a UGC recognized Indian University/ Institute or in an ICSSR funded/ recognized Research Institute, that is recognized for the conduct and award of the Ph.D. degree.

FINANCIAL SUPPORT

The period of Fellowship is for 2 years. The value of the fellowship is Rs. 16,000/- p.m + Contingency Rs. 15,000 p.a . Any revisions to this pay will be administered as approved by ICSSR.

NOTE

Last date for submission of applications:
September 30, 2017

For more details Visit : www.ipeindia.org

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INSTITUTE OF PUBLIC ENTERPRISE

(Centre for Corporate Social Responsibility)
And

CREATING WEALTH FOR WELL BEING

Neyveli Lignite Corporation Limited
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Organizes a Two day
5th International Conference on
'Corporate Social Responsibility'
(1st - 2nd February, 2018)

at

Institute of Public Enterprise, Hyderabad

Conference Chair
Prof. R K Mishra

Convener
Dr. Shulagna Sarkar

Jt. Convener
Ms. Pragya Acharya

"A good company delivers excellent products and services, and a great company does all that and strives to make the world a better place."

-William

Ford Jr., Chairman, Ford Motor Co.

There is a growing realization that long-term business success can only be achieved by companies that recognize corporate social responsibility (CSR) as part of the process of wealth creation and as providing a competitive advantage. The conference aims at discussing CSR in the existing perspective and future outlook with focus on lighting up the challenges and the best practices in CSR.

Conference Objectives

- To discuss the existing practices and future prospects of Corporate Social Responsibility in a globalized economy.
- To highlight the 'Best Practices in CSR' in the context of business sustainability.
- To discuss implementation models and structures that can be used in all sectors of industry.
- To explore ways of aligning CSR to the business agenda for sustainability.
- To create awareness of the latest thinking on CSR and governance issues as a driver of change, innovation and sustainable profit.

Discussion Themes at the conference (Yet not limited to…)

- Perspectives of CSR in the Global Economy
- CSR and Sustainability
- Governing CSR
- Evaluation, Monitoring and Documenting CSR practices
- Accounting for value: Measuring and managing social investment
- Social Auditing Integrating CSR with Business Policy
- Cascading the CSR strategy
- Creating impact and ensuring sustainability of community based programmes
- Partnership Engaging Stakeholders
- Ethical issues in CSR
- Leading Sustainability Change
- Benchmarking CSR practices
- Turning CSR into Corporate Social Innovation (CSI)
- Case Studies on Best practices in CSR (Private and Public sector)
- Making CSR mandatory
- CSR: Sectoral perspective
- Empowering the next generation: Engaging youth in CSR
- Entrepreneurship opportunities within CSR Participation
- Best practices in CSR

Participation

The conference is a platform for intellectual deliberations related to the area of Corporate Social Responsibility is open to:

- Businesses – Corporate and Small & Medium Enterprises (SMEs)
- Company Chairmen, Directors and Practicing Managers
- NGOs
- Consultants
- Academicians, Research Scholars and Management students,
- Government Policymakers

Call for Papers: Submission guidelines

All submissions must be in MS Word form in around 3500 7000 words, text typed in Times New Roman in 12 font size with heading in 14 font size. It should be printed on A4 size white paper. Each paper should include Title page that should contain title of the paper, name(s), affiliation(s), complete mailing address, telephone and fax number, and e-mail ID. All papers should use Harvard style of referencing only.

Please visit website for detailed guidelines for authors. Only those papers that adhere to the author's guidelines will be considered *for review.* **All papers are to be submitted by electronic mail to: *gcsrcongress@ipeindia.org***

Conference Schedule

The conference will be held in the City of Hyderabad, India at Institute of Public Enterprise. The program will be divided into technical sessions. Each session shall be chaired by an expert from academia/ industry. Each author will be given 10 minutes to present which will be followed by discussion for about five minutes.

Important Dates

15th November, 2017 : Last date for submission of full papers
30th November, 2017 : Confirmation of paper acceptance
20th December, 2017 : Last date for registration & submission of power point presentation
15th January, 2018 : Communication of final schedule
1st - 2nd February, 2018 : Conference

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The Journal of Institute of Public Enterprise

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Content

Research Papers

Perspectives

Guidelines to Authors

General Framework

- Abstract should contain in brief – objectives, methodology and findings – with 5 to 6 key words.
- The author(s) present position, other affiliations, complete mailing address(es) (both postal and e-mail), mobile numbers should be provided.
- Any special circumstance concerning the article such as its earlier presentation at a meeting, seminar, workshop or conference should be mentioned.
- The article should be professionally proof-read in terms of clarity, grammar, spellings, punctuation and consistency of references to minimize editorial changes.
- Submit the articles as e-mail attachment to **ktrivikram@gmail.com / trivikramk@ipeindia.org**
- Papers will be acknowledged via e-mail upon receipt.
- IPE reserves the right to reject any article it may deem unsuitable for publication, without assigning reasons.
- Articles can be processed speedily if they conform to the style and format listed hereunder.
- Editors have the right to edit the text to improve its clarity and make it conform to the journal style.
- Author(s) will receive one complimentary copy of the journal.

Format

- Limit the levels of headings within an article to two at the most three.
- Avoid lengthy sub-headings.
- Every sub-heading should be bold and other matter should be typed in double space.

Quotations & Acronyms

- All quotations should be checked carefully for accuracy and should be unaltered except for ellipses and bracketed insertions.
- Acronyms should be spelt out on first occurrence. Capitalization should be kept to the minimum and applied consistently.
- However, where two forms are widely in use such as liberalise/liberalize, consistency should be maintained in terms of usage throughout the article.

Numbers & Percentage

- The word per cent, not the symbol % should be used in the text.
- Figures below 10 should be spelt out in words, eleven and above in figures, unless the reference is to percentages 3 per cent, distance 6 kms or age 9 years old.
- Sources and unit of measurement should be precisely stated.

Tables & Figures

- Tables and figures should have captions and numbers.
- Tables, charts, illustrations, quotations should be numbered, cited and referenced properly.

Notes & Referenes

- All notes and references should be at the end of the paper–first **'Notes'** and then **'References'.**
- Notes should be serially numbered in the text using superscript and the corresponding notes should be listed out separately at the end of the article.
- Please ensure that every reference cited in the text is also present in the reference list and vice versa.
- References listed at the end should be arranged alphabetically by the names of the author.

For example :

Reference		Format Outline
Book	Book with Single Author	Surname, Initials (year) Title, Place of Publication : Publisher.
Book	Book with more than two Authors	Surname, Initials & Surname Initials, (year) Title, Place of Publication : Publisher.
Book	Chapter in an edited Book	Surname, Initials (year) Chapter, Title in Surname, Initials & Surname, Initials (Eds) Title, Place of Publication : Publisher.
Books	Books (with no Author)	Corporate / Govt. / Dept. Name (year) Title, Place of Publication : Publisher.
Journal Articles	Author	Surname, Initials (year) Title of the Paper, Journal Name, Volume Number : Issue Number.
Economic& Business Dailies	Author	Surname, Initials (year) Title of the Paper, Newspaper's Name, Month, Day .
Business Magazines	Author	Surname, Initials (year), Title of the Paper, Business Magazine's name Volume Number : Issue Number.

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