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BOOK REVIEW

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Provision and Financing of Higher Education across States: Does It Converge?

P. Geetha Rani*

Abstract

The present paper makes an attempt to examine the interstate disparity in the provision and financing of higher education across states from 1990-91 up to 2018-19. An attempt has been made to test the convergence hypothesis on the select indicators on the provision and financing of higher education. The paper adapts descriptive data analysis and also applies simple regressions to test the beta and sigma convergence. Using various secondary data sources, the paper estimates two indicators on the provision, viz the size of higher education institutions (HEI) and gross enrolment ratio (GER) in higher education. About financing, per student public expenditure on higher and technical education and education loan per capita has been estimated. Using the convergence analysis, the paper makes an effort to understand whether the Indian states have converged in this respect during the selected period of study around the last three decades --- across and within states in India. The empirical analysis and evidence suggest that there is neither sigma nor beta convergence on the selected provision and financing of higher education. However, one needs to further explore whether this divergence is attributable to the income divergence across states in India.

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Introduction

The decades after economic reforms depict a number of detrimental moves in the financing of higher education in India. Paradoxically, at a time when India urgently needs to prepare her bulging youth for the fourth revolution, where her comparative advantage in the service sector and in knowledge-based work depends on it, at the macro level there has been a clear shift in the approach to financing higher education from public or (state) funding to household (private) funding from family resources and borrowings (Tilak, 2004). A paradigm shift is visible from 'state' resources to market-based assistance through soft and hard education loans to institutions and individuals respectively. At the systems level, the change can be evidenced from the increase in fees, privatisation of publicness in state institutions, increasing role of private sector in higher education paving the way for more cost recovery from households inducing borrowings from various sources including education loans from banks. At the institutional level, a shift in funding is visible from the block grants to scheme oriented or component specific and earmarked funding under the centrally sponsored scheme like *Rashtriya Uchchatar Shiksha Abhiyan* (RUSA).

As the economic reforms deepen, yet another recent shift has been a new regime in financing, viz, from a centrally sponsored scheme to a market based system of lending to support institutions, such as setting up of Higher Education Funding Agency. It can be broadly said that the shift has been from supply side financing to demand side financing. It is pertinent to note that these shifts imply profound changes in the fee structure; course structure offered by institutions; course choices by students resulting in changes in enrolment pattern such as the divide between general and professional courses; divide between centrally funded and state funded, private or self-financing institutions and universities; promotion of world class (institutes of eminence) universities, etc.

But higher education as well as research and development are instrumental for growth and development of an economy. Theories of endogenous growth state that apart from physical capital, technology and human capital contribute significantly in influencing economic growth across countries and regions (Barro & Sala-i-Martin, 1995). According to the convergence hypothesis, there is a tendency for per capita income (or output) to grow faster in lower income countries than in higher-income countries so that the lower-income countries are "catching up" over time (Barro & Sala-i-Martin, 1995). On the contrary, Perroux (1955) was one of the first who asserted that growth does not appear everywhere at the same time and manifests itself in points or poles of growth with variables' term effects of the economy as a whole. This idea was developed further by Myrdal (1957). He illustrates the impact of a growing region on the rest of the economy with the help of two differing forces: backward and spread effects. The former refers to all adverse effects like movement of labour, capital and trade, from backward to developed regions as development takes place.

Nonetheless, interstate disparity in the levels of economic and educational development is a major concern in India. The most serious form of inequality arises from regional disparities rather than from social, ethnic or class variables (Foster, 1977). These disparities across the states are well recognised and a number of policy measures are in place to correct the regional imbalances. Yet in reality, the relative economic and social level of different states depends on their rate and pattern of economic growth which are influenced by several other economic, social, political, cultural and region-specific factors.

Higher education plays a vital role in shaping the economic, social and political aspects of a state. In India, higher education and development fall largely under the jurisdiction of the state governments, though the central government does play an important role. Further, it is equally important to note that more than 80 per cent of the enrolment in higher education comes from state universities and from colleges affiliated to state universities.

One of the important aspects of financing of education is allocation of resources to education. Yet another two important aspects of financing education include mobilisation and utilisation of resources.[1] In this light, an attempt has been made in the present paper to examine how the provision and financing of higher education is distributed across states. However, with economic reforms and policies that were adopted such as the LPG, the nature of state and the approach to provision and financing of education has been more and more in a neo-liberal framework. In these changing circumstances, the alternative methods of provision and financing of higher education include the increasing participation of private sector in higher education, reducing publicness in the financing of public higher education, student loans, newer methods of cost recovery from students, educational cess, voluntary contributions; corporate social responsibility, etc. A few of these select aspects have been examined in the paper with inter-state disparity as the framework of analysis.

The Convergence Hypothesis

Convergence of income growth is primarily based on the *'catchup'* hypothesis, derived from the neo-classical school of thought in growth economics, starting with Solow's steady state. The catch up effect, in other words the theory of convergence, states that low income or developing economies grow quicker compared to economies with more per capita income, and thus the former eventually reach high levels of per capita income. Hence, all economies, over time, may converge in terms of income per head. The convergence hypothesis assumes that the poor countries will have a natural tendency to steadily approach the income levels of the developed countries because of higher possibilities of growth which implies a higher growth rate. Thereby, this hypothesis points to the narrowing down of the differential existence of factor prices across the regions as the main driving force behind the convergence of income across economies.

This theory of convergence of incomes is based on the logic of better opportunities of growth available for developing economies, like access to technological knowhow from the developed world and increasing returns to capital, etc. However, it is equally important for the poor or growing economies to have both the physical and the human capital bases in order to adapt to these technical knowhows and thus reap the social externalities. However, the empirical evidence suggests that while some developing economies have been able to successfully tap the available edges to grow faster and catchup with strong economies, this has not been true for a large part of the developing world. The confinements of the hypothesis are based on grounds of social, institutional or political variances, which concurrently influence growth. The present paper examines the convergence hypothesis in the educational arena, focussing on the provision and financing of higher education across states in India.

[1] Not much work that has focused on effective utilisation of resources in education.

Two concepts of convergence exist in the discussions of economic growth across the nations/states/regions (Barro & Sala-i-Martin, 1992, 1995, 1997, 2007). They are: (i) β-convergence and (ii) σ-convergence.

Beta (β) Convergence

There is β-convergence when a poor economy tends to grow fast to catchup with the rich one in terms of levels of income or product. β-convergence takes place if it is found that when a group of cross-sectional units (states in this case), starting out the sample period with below average (variable), tend to grow faster than other groups of the cross-sectional units that start with the above average levels. β-convergence emerges if a poor economy tends to grow faster than a rich one, so that the poor economy tends to catchup with the rich ones in terms of level of income or output. This disparity within states is studied by examining the means of the selected variables concerned at the latest point and growth rates of the same variable over the period under study.

Sigma (σ) Convergence

The second concept relates to cross sectional dispersion (Barro & Salai-Martin, 1992, 1995, 1997, 2007). The concept of σ-convergence focusses attention on the dispersion of the variable of interest per capita outputs over a cross-section of states at each point of time. The economies are said to satisfy the condition of σ-convergence if this dispersion decreases over time. The σ-convergence hypothesis tests whether the disparities have declined or not in terms of the standard deviation of the chosen variable. The trend rate of the log of standard deviation of income / expenditure / the variables of interest is estimated by fitting a log-linear time trend model.

$$\text{STDEV of } X = \mu + \alpha\, t + \varepsilon \qquad \text{.....(1)}$$

It is an average index of inequality for all regions. If the coefficient value is negative and statistically significant, then we can say that there is sigma convergence. Alternatively, σ-convergence is tested by estimating the time trend of coefficient of variation[2] of income or expenditure or the variables of interest under study. σ--convergence is tested by fitting the regression line:

$$\text{CV of } X = \mu + \alpha\, t + \varepsilon \qquad \text{.....(2)}$$

Sigma convergence prevails if the coefficient value is negative and statistically significant. The present paper tests σ-convergence using both SD and CV.

With this backdrop, the paper is organised as follows. The next section provides an overview of the theoretical rationale for the convergence and divergence. Then comes a brief review of relevant literature, focussing on the inter-state disparity on financing education in general and higher education in particular. This is followed by a mention of the data and

[2] C.V = S.D/MEAN*100

methodology employed for analysis. Next comes an empirical analysis, followed by the results and discussions, and then the provides concluding remarks.

Review of Earlier Studies

Diverging income growth performance across states has been a major concern in India.[3] These divergences are partially due to historical developments and growth experience. There are disparities in other areas in the development sector, such as education, health, infrastructure, population growth, government and private investments, central and state policies, and the structure of regions, among others. Earlier studies found that the regional disparity in economic growth, measured in terms of income, widened after economic reforms but human development indices depict a decline in regional inequality.

India is a vast country and the national picture does not necessarily represent the regional disparities across different sections of states and union territories. Each state is unique in its approach to education. Similarly, the state policies on education vary across states, though the centrally sponsored scheme SSA, RMSA, RUSA, etc make the states standardise many of the provision under different levels of education.

The earlier studies highlighted a few significant trends: (i) government allocation towards social sector has been on the decline, indicating the state's withdrawal ensuing more private sector participation and privatisation of social services (Panchamukhi, 2000; Mooji & Dev, 2004; Pal & Ghosh, 2007); (ii) economic divide between states has been accentuating during economic reforms, resulting in a widening of uneven development in economic and social sectors (Sridhar & Reddy, 2011); (iii) a distinct divide was observed between educationally better off states; educationally worse off; and the middle category. Kerala, Himachal Pradesh, Tamil Nadu and Goa, needless to say, fall in the first category, attained threshold levels of educational development and are moving ahead. Conversely, educational backwardness in Bihar, Uttar Pradesh, West Bengal, Orissa, Rajasthan, Madhya Pradesh, Andhra Pradesh and Assam continue to persist (Bashir, 2000; Filmer and Pritchett, 2001; Kulkarni, 2002).

Despite various handicaps, Rajasthan and Madhya Pradesh have performed better with the state governments' commitment. Medium developed yet economically better off states, such as Maharashtra, Gujarat, Punjab, Haryana and Karnataka, neither allocate a higher share of expenditures to education nor signal a strong commitment towards education (Mehrotra *et al*, 2005); (iv) a few fundamental causes identified for such lopsided development include fiscal capacity; inclination and/or capability of state governments to ensure good governance in delivery of quality government schooling (Mehrotra *et al*, 2005). (v) a major centrally sponsored scheme like the Sarva Shiksha Abhiyan failed to allocate resources where they were required most, as is evident from a mid-course review during the middle of the 2000s (Chakraborty, 2009; Jhingran and Shankar, 2009).

Higher education expansion in India is accompanied by disparities between regions and groups. Some of the studies have examined the interstate disparities in higher education in India. Chakrabarti and Joglekar (2006) examined the patterns of and changes in the allocation of government funds for education, including higher education during 1990-91 to

[3] This concern is supported by various statistical analyses. Yet, conclusions are sensitive to what measures of attainment are used.

1999-2000 across 15 major states. They estimated that state per capita income is found to significantly enhance educational expenditure at the aggregate, elementary, secondary and higher levels. Education expenditure at all levels has been significantly lower after liberalisation in comparison to the pre-economic reform era. On similar lines, , using data on sixteen states from 2001-2010, Chatterji *et al* (2014) found that richer states spend more on education compared to the poorer states. They basically tried to identify the determinants of per capita education expenditure of state governments, by using some economic, demographic and political variables. Other economic variables such as tax revenue and grants from the central government also exert a positive impact on education expenditure. A lower share of child population (0-14 years) is found to significantly enhance education expenditure at the state level. They did not find any evidence that political factors such as political ideology of the ruling party and level of corruption affect education expenditure of state governments.

A few of the studies have examined the regional disparity across states in the provision and financing of higher education in India. The basic issue addressed in the present paper is: How unequally the provision and financing of higher education is distributed across states?

Data and Methodology

The paper uses several secondary sources such as Selected Educational Statistics, Selected Statistics on Higher and Technical Education, All India Higher Education Survey, and Analysis of Budgeted Expenditure on Education published by the Ministry of Human Resource Development (MHRD); statistical tables relating to banks in India, basic statistics relating to banks in India published by the Reserve Bank of India; and Economic Surveys of India published by the Ministry of Finance. It covers all the states and union territories (UTs) of India from 2000-01 to 2016-17. In order to avoid outliers, all UTs have been clubbed in one category. Similarly, all north eastern states including Sikkim but except Assam have been grouped as another (NES) category.

The paper adopts an empirical and analytical methodology to explain the interstate disparity in the provision and financing of higher education in the new millennium. It attempts to test the convergence / divergence using standard measures on the following aspects:

(i) *Provision of higher education*: The twin aspects that have been examined include the size of higher education institutions and the gross enrolment ratio (GER) in higher education. The rationale for selecting these indicators explains the capacity of higher education institutions. This is proxied using the average size of higher education institutions. It takes the approach of total higher education institutions and enrolment so as to understand the capacity of HEIs at the state level.

(ii) *Financing higher education*: The paper proposes to examine the financing of higher education by looking at per student budget expenditure on higher and technical education and on education loan per capita. Education loan per capita is estimated by dividing the number of loan accounts. This was why it was called as education loan per capita.

The study uses the standard tools to analyse the level of disparity across states, viz, beta and sigma convergence. Sigma convergence is the usual test used to prove the presence of convergence or divergence. To test the hypothesis of convergence, it is necessary to examine the data cross-sectionally at discrete points in time, i.e., the panel data. The data in the present paper cover 23 cross-section units (states and UTs) and over a period of 1990-01 to 2018-19. The paper adapts descriptive data analysis as well as apply simple regressions to test the beta and sigma convergence.

Analysis and Discussion

Provision of Higher Education

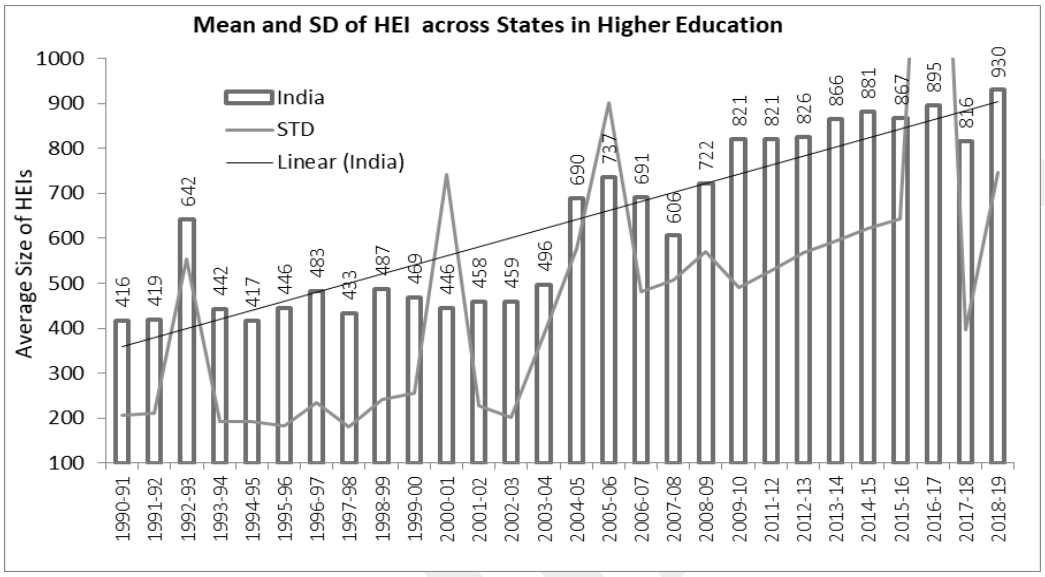
Growth and development of higher education is influenced to a larger extent not only by the available places and higher educational institutions but also by the enrolment of students therein. Further, unlike basic education, for students to get enrolled in higher education, the basic preparedness at the secondary schooling is importance; hence we examined the widely used indicator of GER. This also connotes to what extent higher education is accessed by the eligible age group population. Thus, the provision of higher education has been examined using two indicators: (a) average size of HEIs, and (b) GER in higher education.

Average Size of HEIs

Sigma convergence is examined by looking at the mean values across states over a period of time. This is presented in bar graphs in Chart 1, depicting the disparity in the average size of higher education institutions across the states and UTs over a period from 1990-01 to 2018-19. Thus Chart 1 clearly illustrates that the average size values in bar graphs depict the varying size of HEIs over a period of time. Yet the trend lines over three decades indicate it increased over time.

CHART 1

Mean and SD of Average Size of Higher Education Institutions across States from 1990-01 to 2018-19



Note: Average size = Total Enrolment / Total Institutions
Source: Estimated on the basis of Selected Educational Statistics, Statistics on Higher and Technical Education, and AISHE, corresponding issues

However, the variation between states over a period of time, measured through standard deviation, is indicated in the chart with a line graph. The sigma convergence hypothesis tests whether the disparities have declined or not in terms of the standard deviation of the chosen variable. There were two peaks at 1992-93 and 2000-01, further depicting two saucer shaped distributions till 2008-09, and after that the divergence remain almost stagnant but for a mild increase in 2018-19. To understand it further, the dispersion measure (SD) is regressed on trend and the results are reported in Table 1.

TABLE 1

Regression Results (Sigma Convergence) of Trend Lines of Standard Deviation and CV of Average Size of Higher Education Institutions

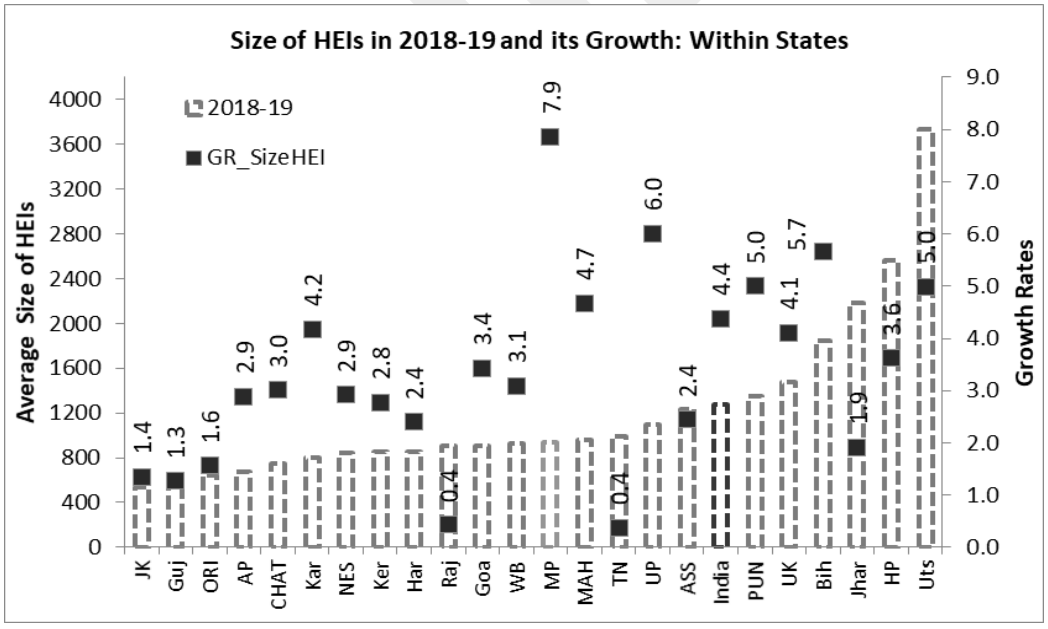
	Co-efficients	*Standard Error*	*t Stat*	*P-Value*
Intercept	139.60	34.342	4.065	0.000372
STDEV trend	10.86	1.999	5.433	0.000000
Intercept	41.029	5.154	7.961	0.000000
CV trend	0.404	0.300	1.346	0.1894

The results indicate that trend of the standard deviation is positive and it is statistically significant. It is clear therefore that for the period under review, the Indian States exhibited ϭ divergence in terms of average size of higher educational institutions. Sigma convergence was further tested by fitting a trend line with CV of average size of higher educational institutions as specified in equation 2. The regression results indicate that trend of the CV deviation is positive but, however, it is statistically insignificant. It is clear that there is no sigma convergence with regard to the average size of HEIs.

Beta convergence was inferred by examining the size of higher educational institutions within each state over a period of time by fitting the trend line from 1990-91 to 2018-19. Chart 2 presents the growth rates of average size of higher education institutions across states and UTs for the period from 1990-91 to 2018-19. The growth rates of the size of HEIs over a period under study are depicted through red squares in Chart 2. The states that are on the left side of the all-India red bar are Jammu & Kashmir, Gujarat, Orissa, Andhra Pradesh, Chhattisgarh, Karnataka, NES, Kerala, Haryana, Rajasthan, Goa, West Bengal, Madhya Pradesh, Maharashtra, Tamil Nadu, Uttar Pradesh, and Assam. These are denoted as regions on the lower side for convenience. On the other side, the states such as Punjab, Uttarakhand, Bihar, Jharkhand, Himachal Pradesh and UTs fall under higher regions.

CHART 2

Growth Rates of Size of HEIs within Selected States from 1990-91 to 2018-19 and Size of HEIs in 2018-19



Source: Estimated on the basis of Selected Educational Statistics, Statistics on Higher and Technical Education and AISHE, corresponding issues

Average values are represented by the dotted blue bar graphs for the year 2018-19 in Chart 2. The mean value of India is 1280, differentiated in red colour with dotted lines in the bar chart. The states which are on the left side of the red dotted bar indicate the size of HEIs are lesser than the all-India average, while on the right side of the same bar chart denote the size of HEIs are more than the national average.

A clear beta divergence can be found through a number of ways: (i) The highest rates of growth reported in the lower regions is 7.9 per cent in Madhya Pradesh, followed by 6 per cent in Uttar Pradesh; (ii) Least growth rates that is below one per cent is reported in Rajasthan and Tamil Nadu which lie in both lower and higher regions respectively. Based on this evidence, we can say that there is no β-convergence or catching up effect across states that are grouped as lower verses higher regions in terms of size of HEIs.

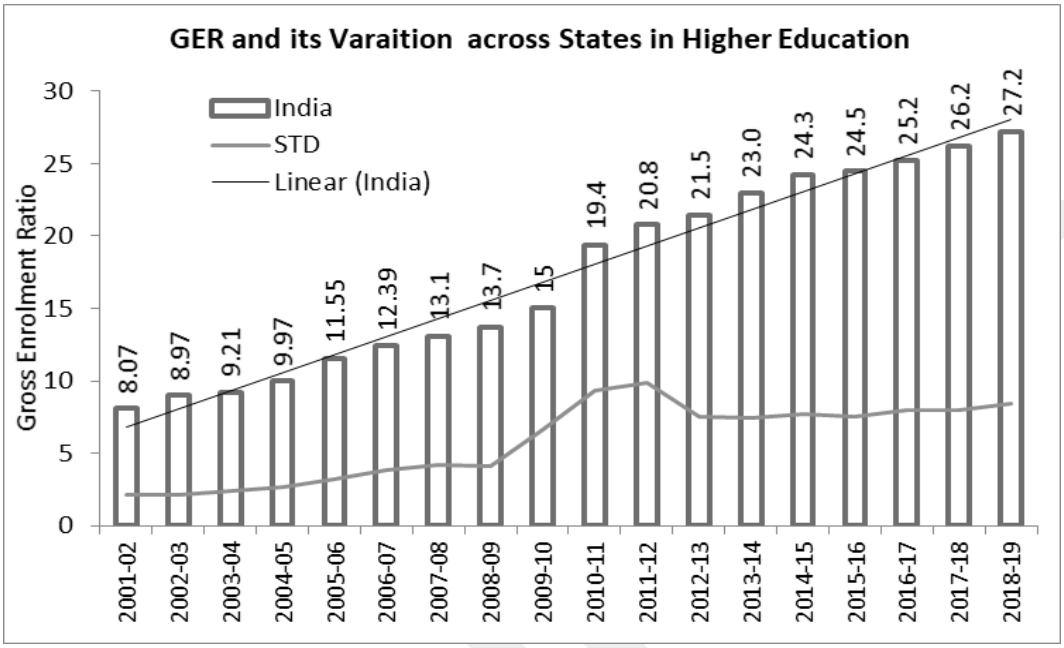
In terms of provision with an indicator of size of HEIs, there is neither beta nor sigma divergence and hence there is no catching up seems to prevail.

GER in Higher Education

As in the case of HEIs, Sigma convergence is examined by looking at the mean values across states over a period of time. The same is the case with the GER in higher education is presented in blue bar graphs in Chart 3. As expected, the GER has improved over a period of time across states, indicated through the blue bars. In 2001-02, the GER was 8.07 and it improved to 27.2 by 2018-19. This has also been clearly shown through the trend line, as depicted through the straight line. However, the concern is the dispersion over time and across states, measured in terms of the standard deviation and depicted through the line chart in red colour. The dispersion steadily increased and peaked in 2011-12 and after that started declining. But the rate of decline is lesser compared to the period prior to 2011-12.

CHART 3

Mean and SD of GER in Higher Education across States from 2000-01 to 2018-19



Source: Estimated based on Selected Educational Statistics, Statistics on Higher and Technical Education and AISHE, various issues

However, this ɑ-convergence or divergence is tested by fitting the trend regression lines and the results are reported in Table 2. The co-efficient value of trend variable with regard to SD is positive and statistically significant. This indicates that there is no ɑ-convergence. When examined in terms of CV, the co-efficient value of trend is positive and statistically insignificant. There is no sigma convergence with regard to GER in higher education.

TABLE 2

Regression Results (Sigma Convergence) of Trend Lines of Standard Deviation and CV of GER in Higher Education

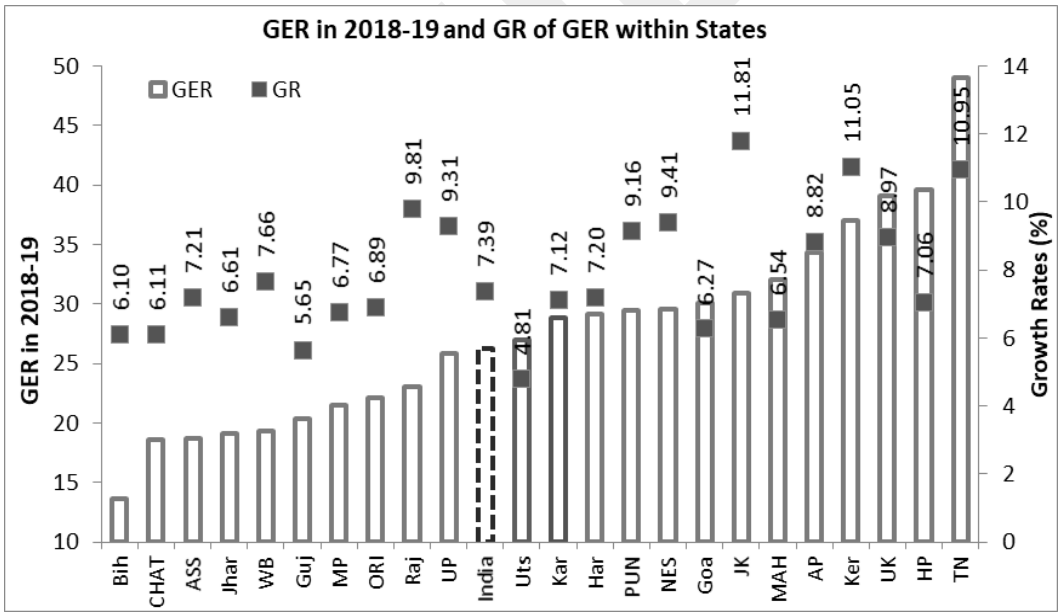
	Co-efficients	*Standard Error*	*t Stat*	*P-Value*
Intercept	1.683	0.678	2.484	0.024
STDEV Trend	0.436	0.063	6.969	0.000
Intercept	28.474	3.372	8.444	0.000
CV Trend	0.425	0.312	1.365	0.191

Beta convergence is inferred by examining the GER in higher education within each state over a period of time by fitting the trend line from 2001-02 to 2018-19. Chart 4 presents the growth rates of GER in higher education across states and UTs for the selected period.[4] Examining the growth rates of GER over a period of sixteen years reveals that no catchup seems to prevail. It can be noted that the least growth rate reported in lower side is 4.81 per cent among the UTs, while on the higher GER side, it was 9.8 per cent in Rajasthan, followed by 9.3 per cent in Uttar Pradesh. At the same time, the highest growth rates reported among the higher GER panel is 11.8 per cent in Jammu & Kashmir.

The GER in 2018-19 are represented by the blue bars in Chart 3, all India GER is exhibited with the dotted bar marked in red colour, with 26.3 per cent. The lowest GER is reported in Bihar with 13.6 per cent and the highest GER reported in Tamil Nadu with 49 per cent. The states which fall on the left-hand side are with lower GER than the national average. These states include Bihar, Chhattisgarh, Assam, Jharkhand, West Bengal, Gujarat, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh. On the other side, the states with higher GER include UTs, Karnataka, Haryana, Punjab, NES, Goa, Jammu & Kashmir, Maharashtra, Andhra Pradesh, Kerala, Uttarakhand, Himachal Pradesh and Tamil Nadu.

CHART 4

Growth Rates of GER in Higher Education within States from 2001-02 to 2018-19 and GER across States in 2018-19 (in %)



Source: Based on Selected Educational Statistics, All India Survey of Higher Education, various issues

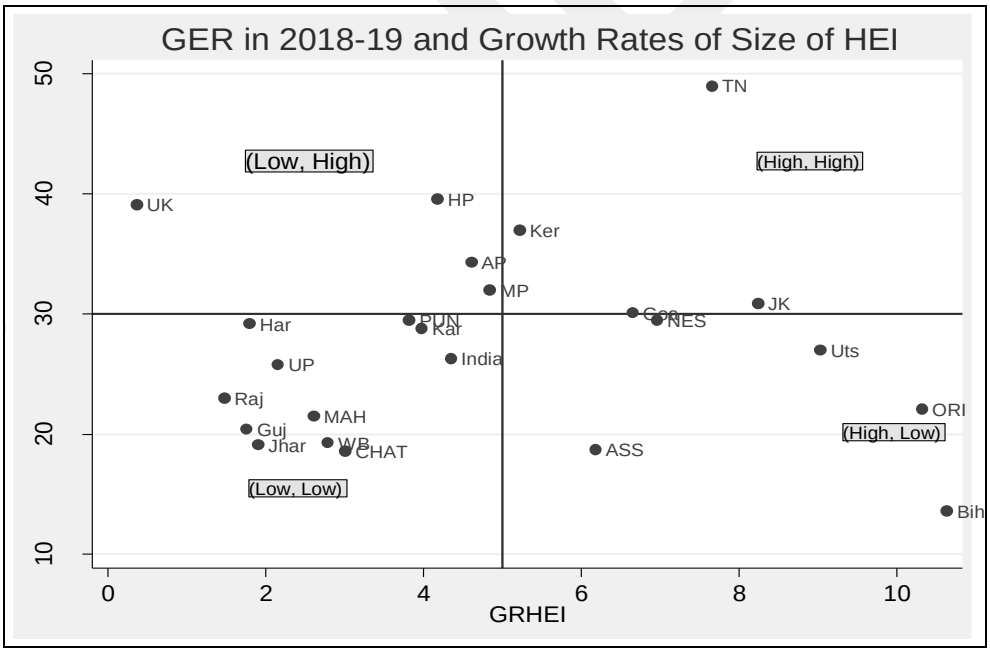
[4] As no GER data in higher education across states are available prior to 2001-02, we have been constrained to limit the study period from 2001-02 to 2018-19

Both the bar graphs and growth rates clearly imply that there is no catchup or beta convergence happening across states in GER in higher education.

Yet another attempt has been made here to see how the states are catching up in terms of both the indicators --- size of higher education institutions and GER in higher Education (Chart 5). This is done by following the four-quadrant analysis. From Chart 5, it can be found that a number of states predominantly educationally backward states fall in the QI (low, low) quadrant, viz, Chhattisgarh, Gujarat, Haryana, Jharkhand, Karnataka, Maharashtra, Rajasthan, Punjab, Uttar Pradesh and West Bengal. It is to be noted that the national average as well falls in QI. In the second quadrant, QII (low, high), Andhra Pradesh, Himachal Pradesh, Madhya Pradesh and Uttarakhand appear with low GER growth but a high growth in terms of the size of HEIs. In the third quadrant QIII (high, high), Goa, NES, Jammu & Kashmir, Kerala and Tamil Nadu fall where the growth rates of in terms of both, size and GER (more than 30 per cent) are higher, that is, more than 5 per cent. In the fourth quadrant QIV (high, low), fall the states like Assam, Bihar, Orissa, and UTs. These states report high growth rates in GER and a lesser growth in size of HEIs.

CHART 5

Distribution of GER in 2018-19 and Growth of Size of HEIs during 2001-02 to 2018-19 within States in Four Quadrants



Source: based on Charts 2 and 4

However, there is a mixed pattern across the growth of both indicators over a period of time, allowing no poosibility of a conclusion. In sum, it can be said that in the provision of higher education neither sigma nor beta convergence prevail across and within states.

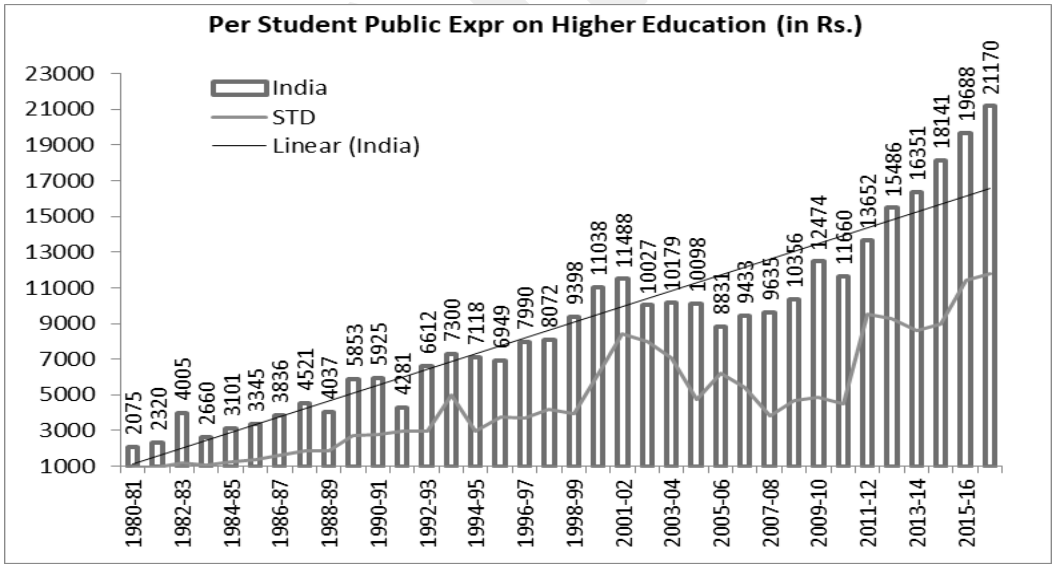
Financing Higher Education

Finances play a critical role in the development and growth of higher education. The sigma and beta convergence hypotheses in the financing of higher education have been examined by looking at (a) per student budget expenditure on higher and technical education, and (b) on education loans per capita.

To start with, sigma convergence has been examined by looking at the mean values across states over a period of time. Chart 6 presents the average of per student public expenditure on higher and technical education, an important indicator which can convey on the public financing of higher and technical education across states from 1980-81 to 2015-16. Unlike the earlier analysis, the time period covered here is from 1980-81 to 2015-16 due to its lags in non-availability of data in the later period. Hence, the coverage of time has been extended backward starting from 1980-81. The mean of per student expenditures is depicted in bar charts. It indicates fluctuations during the period of analysis. However, from 2009-10 onwards, it starts improving. However, the fitted trend line shows an upward trend in the per student public expenditure on higher and technical education, as expected. Per student public expenditures estimated here are at the current prices. The dispersion measure here is standard deviation (SD) which exhibits a saucer shaped curve during the period 2002-03 to 2011-12, indicating that the dispersion increased in the later decades.

CHART 6

Mean and SD of Per Student Public Expenditure on Higher and Technical Education across States from 1980-81 to 2015-16



Source: Estimated on the basis of Selected Educational Statistics, Statistics on Higher and Technical Education, AISHE and Analysis of Budgeted Expenditure on Education, corresponding issues

Sigma (6) convergence in terms of per student public expenditure was tested further by fitting the trend regression lines and the results are reported in Table 3. The co-efficient value of trend variable with regard to SD is positive but statistically insignificant. This indicates that there is no ϭ-convergence. When examined in terms of CV, the co-efficient value of trend is negative but statistically insignificant. It is thereby clear that there is no sigma convergence with regard to per student public expenditure on higher and technical education.

TABLE 3

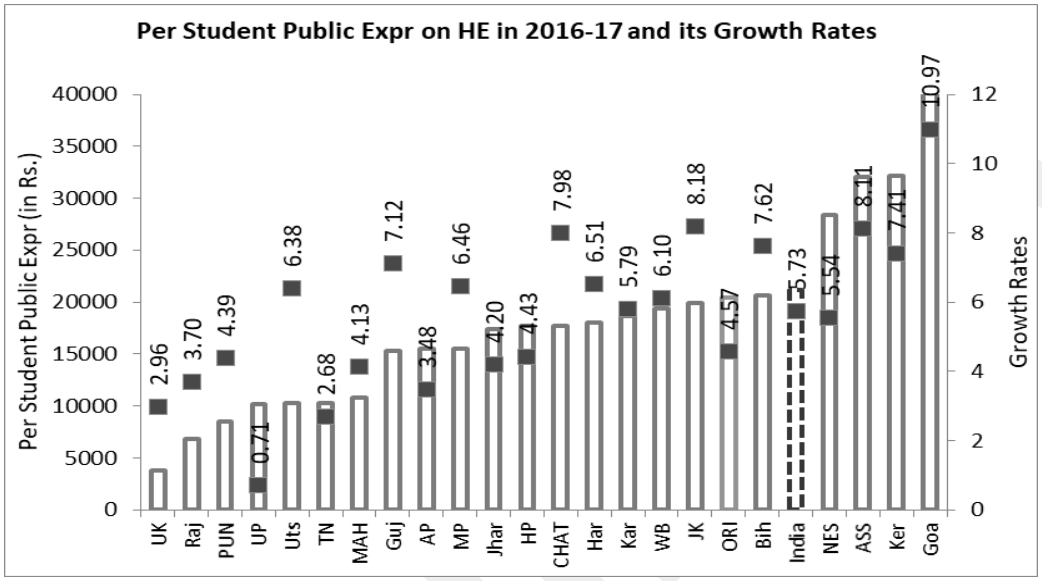
Regression Results (Sigma Convergence) of Trend Lines of Standard Deviation and CV of Per Student Public Expenditure on Higher and Technical Education across States

	Co-efficients	*Standard Error*	*t Stat*	*P-Value*
Intercept	*5399.806*	*1297.037*	*4.163186*	*0.001113*
STDEV	*232.3042*	*142.655*	*1.628433*	*0.127414*
Intercept	68.8855	7.800594	8.830802	7.46E-07
CV	-1.4409	0.857951	-1.67947	0.116919

Beta convergence was inferred by examining the per student public expenditure on higher and technical education within each state over a period of time by fitting the trend line from 1980-81 to 2015-16. Chart 7 presents and its growth rates across states and UTs for the period from 1980-81 to 2015-16. By examining the growth rates of per student public expenditure on higher and technical education over more than three decades, we learn that that no catchup seems to prevail here. It can be noted that the least growth rates reported on the lower side is less than one per cent in Uttar Pradesh, while on the higher side the per student expenditure was 11 per cent in Goa. This clearly suggests that there is no catchup or beta convergence happening across states.

CHART 7

Per Student Public Expenditure on Higher and Technical Education in 2015-16 and its Growth Rates within States from 1980-81 to 2015-16



Source: Estimated on the basis of on Selected Educational Statistics, Statistics on Higher and Technical Education, AISHE and Analysis of Budgeted Expenditure on Education, corresponding issues

The per student public expenditures across states and UTs in 2015-16 are depicted in blue bar charts. The least per student public expenditure was reported in Uttarakhand, as Rs 3,735, and the highest expenditure was reported in Goa as Rs 61,174. The variation between the two states is to the tune of 16 times. The national average is Rs 21,170. Unlike the earlier Charts 2 and 3 in terms of the size and GER respectively, for India the bar is tilted towards the right side and depicted in a similar way --- dotted bars marked in red colour. The states which fall on the left-hand side are with lower per student public expenditures than the national average. These states include Uttarakhand, Rajasthan, Punjab, Uttar Pradesh, UTs, Tamil Nadu, Maharashtra, Gujarat, Andhra Pradesh, Madhya Pradesh, Jharkhand, Himachal Pradesh, Chhattisgarh, Haryana, Karnataka, West Bengal, Jammu & Kashmir, Orissa, and Bihar. The states that fall above the national average are the ones with higher per student public expenditure. These states include the NES, Assam, Kerala and Goa.

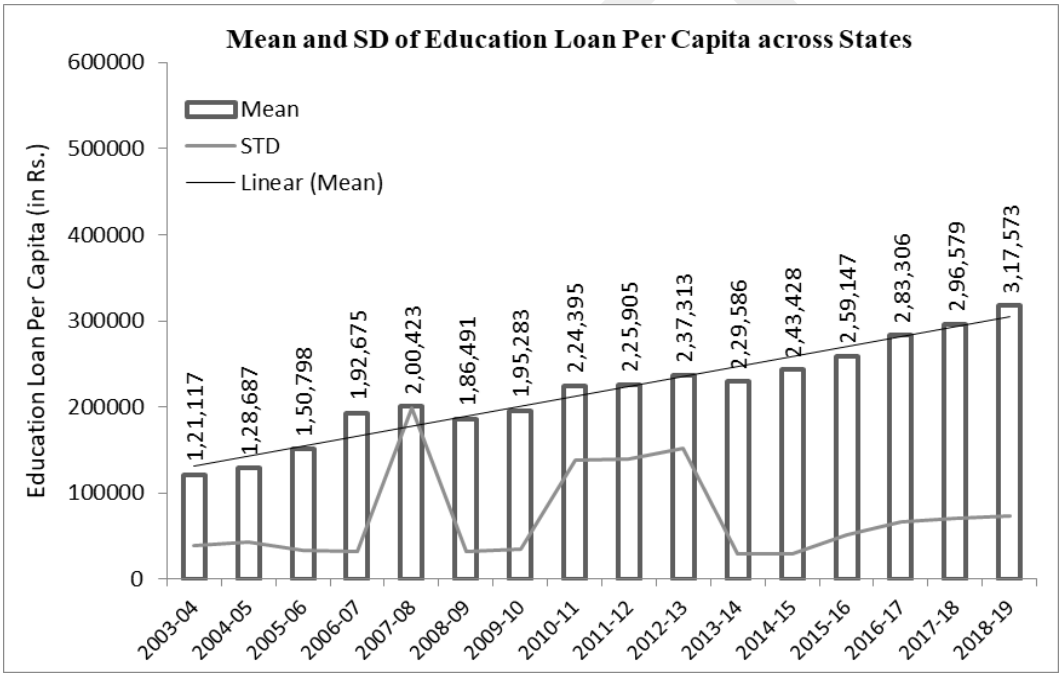
Based on the above analysis, it can be said that *no catching up or beta convergence across poor and better off states is not happening in terms of per student public expenditure on higher and technical education.*

Education Loan Per Capita

Sigma convergence was examined by looking at the mean values of education loan per capita across states over a period of time; this is yet another important indicator which conveys the private financing of higher and professional education across states. These estimates on per capita cover the period from 2003-04 to 2018-19 due to its availability. The education loan per capita is depicted in blue bars in Chart 8, and it indicates one peak in 2007-08. It is due to the very low release of loans in three states Orissa, Kerala and Haryana. The reasons are unknown however. This gets reflected in the SD again with a peak. However, the fitted trend line shows an upward trend. Educational loans per capita are at the current prices. The dispersion measure, standard deviation (SD), exhibits fluctuations though it declined in later years.

CHART 8

Mean and SD of Education Loan Per Capita across States From 2003-04 to 2018-19



Source: Based on Statistical Tables Relating to Banks in India, various years downloaded from www.rbi.org.

Further, σ-convergence was tested by fitting the trend regression lines and the results are reported in Table 4. The co-efficient value of trend variable with regard to SD is negative but statistically insignificant. In terms of CV, the co-efficient value of trend is also negative but statistically insignificant. It is thereby clear that there is no sigma convergence with

regard to education loan per capita as well in terms of the private financing of higher education.

TABLE 4

Regression Results (Sigma Convergence) of Trend Lines of Standard Deviation and CV of Education Loan Per Capita across States

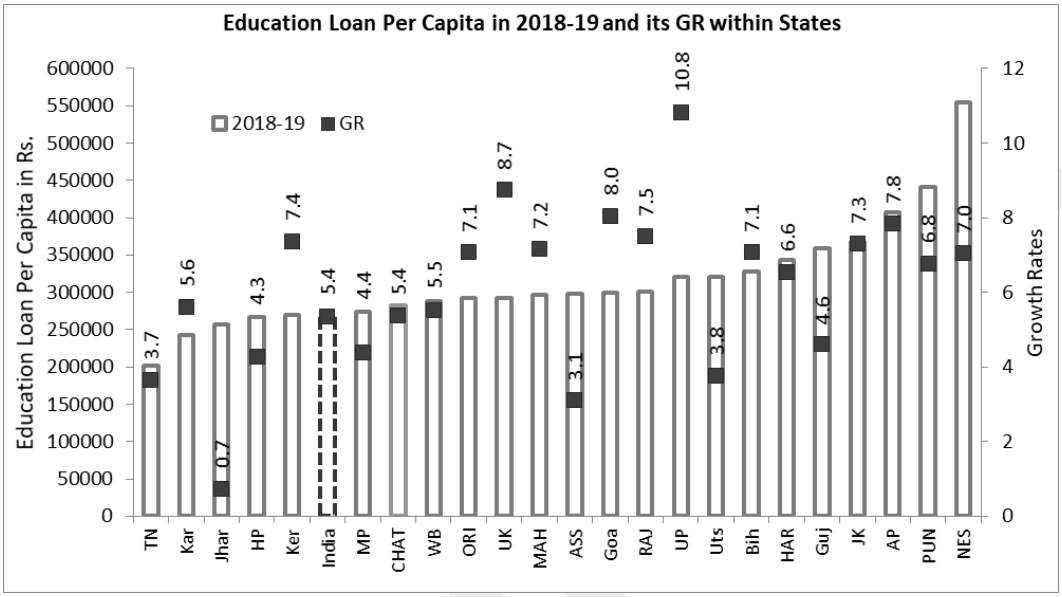
	Coefficients	*Standard Error*	*t Stat*	*P-Value*
Intercept	74146.72	33953.56	2.183769	0.047903
STDEV	86.82743	3401.029	0.02553	0.98002
Intercept	57.191	21.42855	2.668915	0.019304
CV	-1.77922	2.146436	-0.82892	0.42211

Beta convergence was inferred by examining the education loan per capita within each state over a period of time by fitting the trend line from 2003-04 to 2018-19. Chart 9 presents the growth rates of education loan per capita across the states and UTs from 2003-04 to 2018-19. Examining the growth rates of education loan per capita over a period of sixteen years reveals that no beta catchup seems to prevail here. It can be noted that least growth rates reported in lower side is 0.7 per cent in Jharkhand, while on the higher side of education loan per capita; it was 3.1 per cent in Assam. Highest growth rates reported among the lower education loan per capita panel is 7.4 per cent in Kerala and on the higher side of education loan per capita panel, it is 10.8 per cent in Uttar Pradesh.

Education loan per capita across states and UTs in 2018-19 are depicted in blue bars in Chart 9. The least loan per capita was reported in Tamil Nadu as Rs 2,02,191 and the highest loan per capita was reported in NES at Rs 5,54,266. Unlike Chart 7 representing per student public expenditure, the bar meant for India on the whole is tilted towards the left side and depicted as a bar with broken line and in red colour. The states which fall on the left hand side are with lower education loan per capita than the national average. These states include Tamil Nadu, Karnataka, Jharkhand, Himachal Pradesh and Kerala. States that fall above the national average are the ones with higher per capita education loan. These states include Madhya Pradesh, Chhattisgarh, West Bengal, Orissa, Uttarakhand, Maharashtra, Assam, Goa, Rajasthan, Uttar Pradesh, UTs, Bihar, Haryana, Gujarat, Jammu & Kashmir, Andhra Pradesh, Punjab and NES.

CHART 9

Growth Rates (in %) of Education Loan Per Capita within States from 2003-04 to 2018-19 and Education Loan Per capita (in Rs) in 2018-19



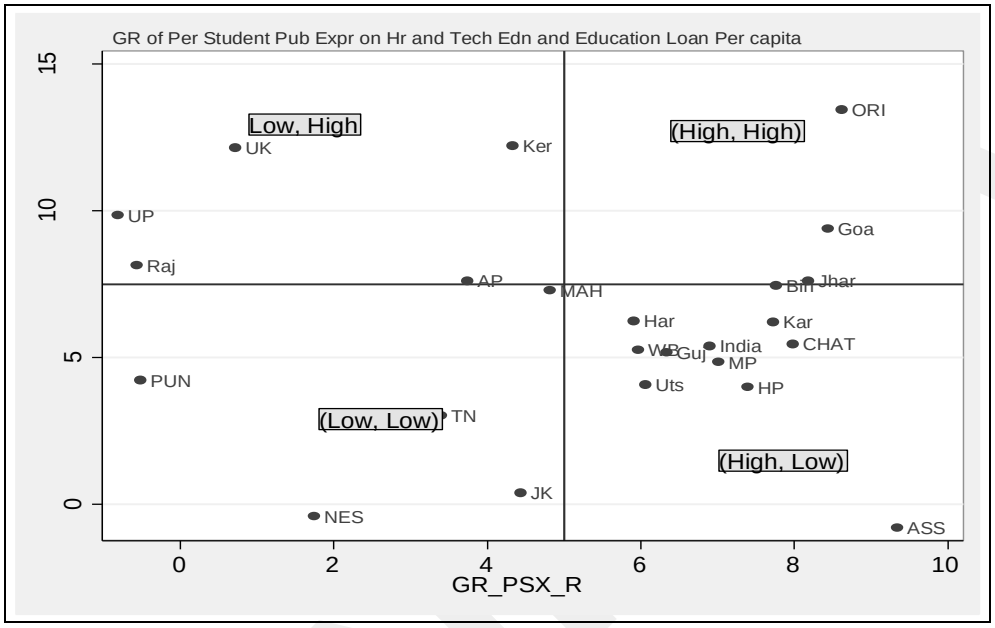
Source: Based on Statistical Tables Relating to Banks in India, various years downloaded from www.rbi.org.

This clearly suggests that there is no sigma or beta catching up happening in terms of education loan per capita across states.

Like in the case of provision of higher education, an attempt is made here to see how the states are catching up in terms of both the financing indicators, per student expenditure on higher and technical education institutions and education loan per capita (Chart 10). This is done by following the four-quadrant analysis. From Chart 10, it can be found that a number of states --- predominantly educationally better off states --- fall in the QI (low, low) quadrant. These are Jammu & Kashmir, NES, Maharashtra, Punjab, Tamil Nadu and UTs. In the second quadrant QII (low, high), Andhra Pradesh, Kerala, Rajasthan, Uttarakhand and Uttar Pradesh appear with low per student public expenditure and high education loan per capita. This indicates that these states are spending less on higher education, and hence, more is the share of loan financing of higher education. In the third quadrant QIII (high, high), only Goa and surprisingly Bihar, Jharkhand and Orissa fall; here the growth rates of both indicators are higher. It is to be noted that Bihar, Jharkhand and Andhra Pradesh fall on the horizontal line, thereby representing growth rates of per student public expenditures on higher education. In the fourth quadrant QIV (high, low), many states, viz, Assam, Chhattisgarh, Gujarat, Haryana, Karnataka, Himachal Pradesh, Madhya Pradesh, UTs and West Bengal fall. It is to be noted that India on the whole also falls in this very quadrant. These states report high growth rates in per student public expenditure and less growth education loan per capita.

CHART 10

Distribution of Growth of Per Student Public Expenditure on Higher and Technical Education and Education Loan Per Capita within States in Four Quadrants



Source: Based on Charts 7 and 9

However, there is a mixed pattern in regard to the growth of both the aspects, namely, the provision and financing of higher education over more than three decades. This has rendered mixed results. So, it can be said that in the provision and financing of higher education, neither sigma nor and beta convergence prevail across states.

Summary of Results and Interpretation

In this section, we summarise the estimated results and their inferences across the selected indictors on provision and financing of higher education. We then compare it with the catchup effect with the beta and sigma convergence or divergence. Table 5 summarises them and it is self-explanatory. Beta convergence has been analysed in the paper by using growth rates over the period from 1990-91 to 2018-19. Also, mean values of the selected indicators at the latest point of time have been examined.

TABLE 5

Summary Table on the Beta and Sigma Convergence on the Selected Indicators

Aspects of Higher Ed.	*Indicators*	*Beta (Growth rates within each state & compared across states)*	*Sigma: Std. Dev*	*Sigma: CV*
Provision	i. Average Size of Higher Educational Institutions	Divergence across & within states	10.86 ** (+ & Significant)	0.404 (+ & not significant)
	ii. GER in Higher Education	Divergence across & within states	0.436** (+ & Significant)	0.425 (+ & not significant)
Financing	i. Per Student Public Expenditure on Higher & Technical Education	Divergence across & within states	*232.3042* (+ & not significant)	-1.4409 (- & not significant)
	ii. Education Loan Per Capita	Divergence across & within states	86.83* (+ & significant)	-1.779 (- & not significant)

*5 % level of significance; ** 1 % level of significance
Source: Based on Tables 1 to 4 and Charts 1 to 10

The summary table above clearly brings out that both in the provision and financing of higher education, there prevails no beta or sigma convergence. There is regional divergence in regard to the provision, and the inducing factor for the provision of financing also is diverging. This is a serious concern, as higher education is one of the factor inputs in the production and hence in the income convergence or the in the catchup process. Since the input factors is diverging, it is instinctive to say that the income of states as well diverging.

Concluding Remarks and Policy Implications

The paper examines the interstate disparity in the provision and financing of higher education since the 1990s, while some indicators pertain to the period since the 1980s. It tests the convergence hypothesis by using the beta and sigma convergence measures. The estimated results and descriptive data analysis bring out the divergence between states in terms of both provision and financing of higher education on the select indicators. There is clearly no catching up across states on the selected indicators. On the contrary, the disparity appears to be widening across the states. This is a cause of apprehension, as higher education is one of the factor inputs in the production and hence in the income convergence of the catchup process. Since the input factors, like the skilled human capital, are diverging, intuition says that the incomes of states as well are diverging. However, this needs to be examined empirically to find out whether and how these two (income and higher education) are converging or diverging.

Increasing divergence occurs due to technology, agglomeration, benefits of bright city lights, besides the possible employment opportunities. Gainers and losers in this development process form two separate groups: (a) the former, ascribing their success to their efficiency and quality of governance; and (b) the latter, underlining the historical burden of post-independence and post--liberalisation neglect. This divergence or regional imbalance needs to be addressed with multi-pronged strategies of providing both access to and financing of higher education, besides creating ample employment opportunities, across states. This will enable the income convergence eventually. More importantly, one may need to further explore whether these divergences are attributable to the income divergences across states in India.

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COVID 19 and Continuance Intention to Use Tech-Based Pedagogy: A Moderating-Mediation Model of Teachers' Satisfaction

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Abstract

The present study was designed to ascertain whether teachers adapted to the digital technology during the recent COVID 19 pandemic and had an intention to continue its usage in the physical classroom settings. For the purpose, a model of moderating-mediation effect of the digital technology on the continuance usage intention of school teachers was developed. The study assumed the Covid-19 pandemic as a moderator between teachers' satisfaction and continuance intention to use it for classroom teaching. Respondents (n = 197) were selected for the study without any physical contact on qualtrics survey platform. The study produced a set of findings: (i) teachers developed e-contents for online teaching; (ii) teachers' satisfaction mediated the relationship between tech-based pedagogy and continuance usage intention; (iii) teachers who were satisfied with the usage of digital technology had low intention to continue it when the pandemic was at the high point, whereas they showed high intention to continue it when pandemic was declining; and (iv) the COVID 19 moderated the positive effect of teachers' satisfaction on continuance usage intention.

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India witnessed a sudden upsurge in the usage of digital technology and open learning resources by school teachers and students during the COVID 19 pandemic. A long stay of the COVID 19 since March 2020 has pressed the need for adoption of digital technology in school education. Adopting digital technology means using digitised learning contents for students and relying less on blackboard for teaching. It means using computer and other e-devices for teaching-learning processes. Digital technology is being viewed as one of the hopes for the ailing government schools in India. Many educational portals and apps have been developed to facilitate the remote learning programme. Though the OECD's Centre for Educational Research and Innovation (2007) had already addressed the upcoming issues of the digital learning, India responded to the need for digital technology very late ---during school closures. A report on digital education in India (2021) has listed a series of digital interventions initiated by the Department of Education and Literacy, Ministry of Education (GoI). NDEAR (National Digital Education Architecture), for instance, is a vision to create a unifying digital infrastructure to energise and catalyse the education ecosystem. NROER (National Repository of Open Educational Resources), SWYAM (Study Webs of Active Learning for Young Aspiring Minds) and DIKSHA (Digital Infrastructure for knowledge Sharing) are some of the web-portals that stimulate teachers' "digital first" mindset for planning and governance.

The present study aimed to ascertain whether teachers' satisfaction mediated a relationship between the digital technology and continuance usage intention. The study further investigated whether the COVID 19 moderated the positive effect of teachers' satisfaction on continuance usage intention. Moving from face-to-face to online classes was an alternative but mandatory exercise to cover the domain of remote education. In India, schools have been opened with certain precautionary measures and teachers engaging their classes in offline mode are blending it with the digital technology. A sudden shift to the tech-based pedagogy has significantly modified teaching practices for physical classroom transactions. The voluminous expansion of digital technology for remote education has generated a debate on the continuance usage intention of teachers. A still debatable issue is whether the blended teaching, resulting from an integration of the digital technology with offline teaching mode, results in teachers' satisfaction.

The Findings So Far

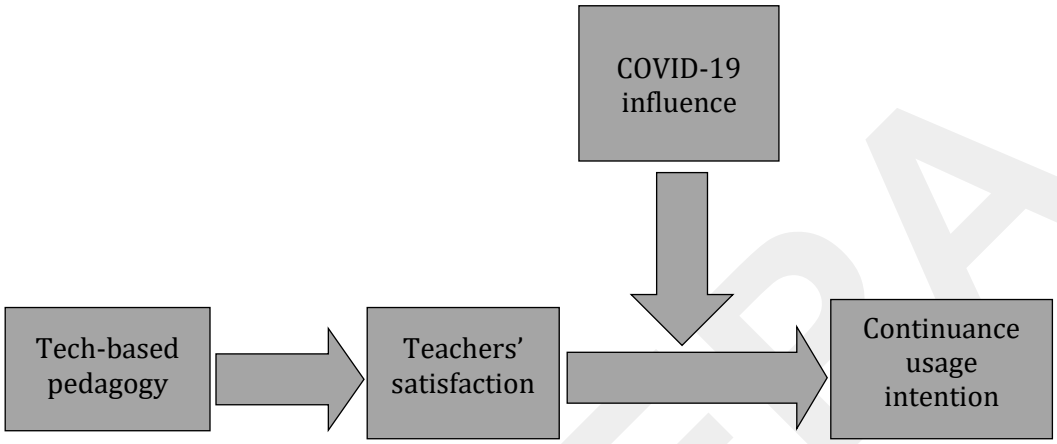
Satisfaction refers to users' evaluation resulting in positive feelings with any product or service (Bhattacherjee, 2001; Chou *et al*, 2015; Fang *et al*, 2011; Mouakket, 2020; Zhang *et al*, 2015). A few studies observed that teachers faced many difficulties while shifting to tech-based pedagogy during the pandemic (Alghamdi & Basahel, 2021; Cahapay & Anoba, 2021). The study traces some cognitive factors influencing the continuance usage intention of the digital technology during the post-COVID 19. Self Determination Theory (SDT) of human motivation explains that people often take decisions on many issues without outside influence (Han *et al*, 2018; Lazar *et al*, 2020). Technology Acceptance Model (Davis, 1989) deals with two key factors of continuance usage intention: (a) the perceived usefulness, and (b) the perceived ease of use. Perceived usefulness refers to "the degree to which a person believes that using a particular system would enhance performance" and perceived ease of use as "the degree to which a person believes that using the system would be free of any complication." The Expectation Confirmation Model (Bhattacherjee, 2001) lays emphasis on

the relationships between perceived usefulness, confirmation, satisfaction, and ultimately continuance intention to use. Previous studies explored users' continuance intention to use various digital technologies such as digital textbooks, teaching blogs, computer-based assessments, mobile social learning and mobile Web 2.0 learning. The Information System Success (ISS) model explains the dynamics of satisfaction resulting from usage of the digital technology and its continuance intention to use it during post crisis period (Mouakket, 2020). The model has six dimensions: information quality, system quality, use, user satisfaction, individual impact and organisational impact. Information quality, for instance, captures the users' perception of desirable outputs; system quality seeks the users' perception of usability and functionality; service quality evaluates support provided to the users (Delone & McLean, 2003). Researches on continuance intention to use tech-based pedagogy are scarce in India. A few studies conducted in the West established a fact that the teachers' continuance usage intention improves performance of classroom transaction (Delone & McLean, 2003). Previous researches on mobile payment behaviour explain that the users' satisfaction with the technology establishes a long-term relationship with its customers (Alghamdi & Basahel, 2021). It has a competitive advantage over competitors attracting new customers rather than maintaining existing customers (Yang, 2021). Kim *et al* (2015) observed that users' satisfaction reinforced a tendency to continue usage of smartphones for payment. A few studies before the COVID 19 noted that teachers' satisfaction with the digital technology promoted a tendency to continue it for classroom teaching (Cao *et al*, 2018; Mohammadi, 2015; Zhou, 2013). Thus, it was hypothesised that satisfaction will mediate the relationship between tech-based pedagogy and continuance intention to use it (Hypothesis 1).

The study assumed the COVID-19's influence as a moderator on the usage of tech-based pedagogy even after post-pandemic period. Previous studies showed a positive relationship between the quality factors of tech-based pedagogy and the users' satisfaction which, in turn, significantly affects continuance usage intention even after the post-post pandemic (Itthiphone *et al*, 2020). To minimise the risk of infection from the Covid-19, people may continue using the digital services despite dissatisfaction with their quality. This assumption needs to be verified. The moderating role of Covid 19 has been confirmed in the field of online shopping (Pham *et al*, 2020). Ali *et al* (2021) investigated the Covid 19's moderating role in inspiring customers' adoption intention to use online food delivery order services. Most of the studies on the COVID 19 as a moderator were conducted in South Asian and Middle East countries. But there exists a dearth of studies in India to ascertain the role of COVID 19 as a moderator between tech-based pedagogy and continuance usage intention. Thus, it was hypothesised that the indirect influence of tech-based pedagogy on continuance usage intention will be significant irrespective of satisfaction when the risk of Covid 19 pandemic is high. More specifically, the COVID 19 will moderate the relationship between tech-based pedagogy and continuance intention to use it through satisfaction. High risk of the COVID 19's influence on digital technology will substitutes the positive effect of satisfaction on continuance intention to use (Hypothesis 2). A framework of mediating-moderation relationship between tech-based pedagogy, teachers' satisfaction and the COVID 19 is presented below (Figure1).

FIGURE 1

Mediating-Moderation Model



In this context, a pertinent issue is whether beneficiaries (students) have access to the digital tools. Digital resources get no meaning unless beneficiaries use it for learning. Previous survey reports conducted in India capture the ground realities of availability and usage of the digital technology by beneficiaries. The 75th round of the National Sample Survey Organisation (2017-18), for instance, explained the trend of computer and internet facilities available in India. About 15 per cent rural families had internet facilities as compared to 42 per cent urban families. By the same token, about 4 per cent rural and 23 per cent urban families had computer facilities. Another breakup made it clear that about 25 per cent males and 16 per cent females (of those 15 to 29 years old) had a knowledge of computer. The survey further indicated that only 6 per cent males and 4 per cent females (of those 5 to 14 years old) in rural areas had the knowledge of internet handling whereas the proportions in the same age group were about 21 per cent males and 18 per cent females in urban area. The National Family Health Survey-5 (2019-20) revealed that the percentage of women who had ever used internet was 38 and 17 in urban and rural areas respectively. Similarly, the percentage of men using internet in urban and rural societies was 58 and 38 respectively. Though the figure of internet facilities and its uses have gone up during the last three years, the data do not substantiate any area-wise and gender-wise breakup of the populations wherein these facilities are being used. How much time do students spend on various digital platforms of education and how long do they stay there for learning? The rapid assessment of learning by the UNICEF (2021) indicated that 97 per cent students across grades spent 3 to 4 hours on studying and learning. The National Sample Survey (75th round) presented the state-wise availability of digital resources. More than 90 per cent households had access to mobile phones in India. Remarkably, Bihar had a mere 5 per cent share of computer and 15 per cent share of internet facilities. Of them, the rural households had only 3 per cent computer and 13 per cent internet facilities whereas the urban households had 20 per cent computer and 39 per cent internet facilities.

Only 9 per cent males and 4 per cent females in rural societies and about 28 males and 18 per cent females in urban societies had any knowledge of computer handling. By the same token, about 14 per cent males and 6 per cent females from rural and about 35 per cent males and 21 per cent females from urban societies were using internet facilities. Despite constraints, however, Bihar managed to continue school learning programme during the COVID 19. It had a large force of digitally equipped teachers (about 1.25 lakh), known as Potential Learning Community (PLC), who were ready to deliver e-contents to beneficiaries. Teachers established connectivity with parents and learners who had no android mobile. They started running School on Mobile (SOM) classes. Many catch-up classes were running on mobiles. To capture the trend of usage of the digital technology, the study aimed to find the answers to a few research questions:

1. Did teachers use digital technology for online teaching?
2. Did they develop and disseminate e-contents for the learners?
3. Did they mobilise the resources for online learning?
4. Did students use digital technology for learning?

Rationale of Research Questions

1) ***Usage of digital technology:*** Acceptance of digital technology and its uses for online teaching reflects the teachers' participation in digital education programme. After an initial hesitation, teachers learnt how to use digital technologies. It was a mandatory exercise for teachers to reach beneficiaries through the remote instructional design.
2) ***Development and dissemination of e-contents:*** Under the vision of STRR (State Teacher Resource Repository), teachers of Bihar were encouraged to create and develop e-contents for online teaching. It was an exercise of Open Educational Resources available in public domain that could be reused, reshaped and adapted by anyone. It followed open standards where teachers had space for innovation. Presumption is that teachers not only develop e-contents but curate and disseminate it for e-learning.
3) ***Mobilisation of resources:*** It is a process of getting resources from resource providers and using various mechanisms to implement the curated e-contents for learning. The presumption is that teachers import data about various practices in teaching and put it into deliberate use.
4) ***Usage of digital technology by students:*** Learners get space to browse the webs and portal. Learning occurs when peers collaboratively share viewpoints through conversation and dialogue on a more mutual basis than the traditional teacher/student relationship. The presumption is that students who do not have access to the internet facilities, view TV channels and listen to radio. These channels are devoted to telecast of high quality educational programmes.

The Setting and Coverage

The study was conducted in Bihar towards the end of 2021, with support from the State Council of Education Research and Training (SCERT) and Bihar Education Project Council (BEPC), Patna. Teachers from the government schools were screened at three levels.

At the first level, 357 respondents were shortlisted who were familiar with the digital technology at various levels. At the second level, those teachers (n = 284) who had valid e-mail id-s and mobile numbers were identified for the coverage. While contacting them through either e-mail or mobile phones, 93 respondents did not reply to the investigator despite several reminders. At the final level, 197 respondents (male 125 and female 72) showed their willingness to participate in the study. Teachers selected for the study represented 114 public schools (38 middle and 76 higher secondary/secondary schools) from 21 districts. About 78 per cent respondents (n = 154) hailed from higher secondary /secondary schools. Their age ranged from 30 to 43.5 years.

The BEPC, in 2019, launched an in-house website, viz, www.teachersofbihar.org, for sharing the educational initiatives and best practices of teachers in Bihar, and designed various portals for their teachers and students. At the same times they had mobile and app-based learning groups using social media such as YouTube, Facebook, WhatsApp group, Blog, LinkedIn, e-magazine, etc. for comprehensive growth of students and teachers. The BEPC developed e-LOTS (electronic Library of Teachers and Students), e-books and many e-contents in audio-video modes for a better understanding of the concepts. Catch-up courses were also initiated to retrieve the lost learning.

Tools Used

Digital Technology Questionnaire (DTQ): The DTQ had three components: (i) usage of digital technologies, (ii) development of e-contents and (iii) mobilisation of resources. The questionnaire retained 10 questions which were framed after several rounds of workshops jointly organised by the BEPC and the SCERT. It had two sub-sections. The first sub-section elaborated the instructions, demographic information and the purpose of the investigation and the second sub-section covered questions of the stated components.

***Digital Behaviour Scale (DBS)*:** The DBS comprising 12 items measured (a) tech-based pedagogy (n = 4), (b) teachers' satisfaction (n = 3), (c) continuance usage intention (n = 2) and (d) apprehension of COVID 19 (n = 3). Before their administration, psychometric properties of the scale were computed and internal reliability (rtt) of each dimension was worked out (Table 6). Each item of the scale had 5-point response alternatives.

Procedure: It was a qualtrics survey platform. Tools were uploaded on the website www.teachersofbihar.org. At the same time, teachers were individually approached through e-mails and mobiles. During this process, many respondents contacted the investigating team and promptly mailed their responses in due course. It took over approximately three weeks to complete the process of data collection. Besides a group of teachers, who were working with technology in education, extended their support to ascertain the various innovations created by teachers during COVID 19. They explained the processes of WhatsApp group formation, development of e-contents for telecast and podcast, uploading e-contents on YouTube, Facebook and other digital platforms. They narrated many cases of community mobilisation where there existed no internet connectivity or no android mobile facilities.

The Findings

The findings were of two kinds: (a) Development and usage of the digital technology, both by teachers and students. For measuring students' usage of the digital technology teachers' perceptual impression were analysed. (b) Mediation and moderation effects on continuance usage of technology was analysed. Multiple hierarchical regression, followed by bootstrap analysis, was done to ascertain the meditational and moderating effects of predictors on continuance usage intention of the digital technology.

1) ***Development and Usage of the Digital Technology***: Tables 1-5 summarise the trend of adaptation to digital technology by teachers and students during school closures. Results showed that teachers of middle and secondary schools frequently used social media (14-28 per cent). They shared linkages to their colleagues and students on various digital platforms. In secondary/higher secondary schools, they logged in the website, www.teachersofbihar.org, and its various portals (37 per cent). On an average WhatsApp (55 per cent) and websites (58 per cent) were found most popular digital platforms (Table 1).

Another research question was related to the development of e-contents by teachers. Altogether, five categories of e-contents emerged during the investigation (Table 2). The study noted least variation in percentage while developing e-contents by teachers across schools. They developed animation to podcast as per the requirement of the Bihar Education Project Council. However, they developed more audio-video clips (33-49 per cent) and e-magazine (23-30 per cent) for online teaching. They showed least interest in quiz and mind game for learners (5-6 per cent).

Teachers of Bihar had a major contribution to innovation in school education (Table 3). They not only developed websites but innovated e-LOTS (Library of Teachers and Students), e-magazines and many e-contents for learners. For the 9-10 grades, they designed many e-contents under UNNAYAN programme. They designed mobile and app- based learning e-materials where no internet facilities were available (38-60 per cent). They had sufficient study materials under State Teacher Resource Repository (STRR). Many teachers had their own websites for their schools.

It was also necessary to evaluate whether teachers had used e-contents during school closures for online teaching (Table 4). Results showed that more than 50 per cent teachers used e-contents for online teaching. About 26 per cent of those in middle schools and 18 per cent in secondary/higher secondary schools were using it during offline teaching. Another part of the study was to ascertain whether they curated the available e-materials and disseminated it among their respective groups. The study noted a discouraging trend. A few teachers (not more than 7 per cent) organised it before delivery or uploading on any social media. By the same token, a few teachers (7 per cent) found it necessary to disseminate it through either a portal or social media.

Table 5 reflects the usage of digital technology by beneficiaries. The study recorded teachers' impression on the usage of e-contents on mobiles, social media and websites by students. The results showed that students were more comfortable with mobiles (44-58 per cent). In secondary schools they not only used e-contents but shared it with others. They used to log in linkages and shared it with their colleagues. It was a regular phenomenon.

Additionally, they used social media (33-45 per cent) as suggested by their teachers or where e-contents were uploaded. Websites were their least choice (9-11 per cent).

TABLE 1

Usage of Digital Technology by Teachers

Teachers in Schools	*Web sites*	*You Tube*	*Facebook*	*WhatsApp*	*Blog*
M School	9	12	10	12	-
	(21)	(28)	(23)	(28)	(0)
Sec/Hr. School	57	33	22	41	1
	(37)	(21)	(14)	(27)	(1)

Note: Middle schools (n = 43); sec/hr. secondary schools (n = 154); figures in parentheses denote percentages.

TABLE 2

Development of E-Contents by Teachers

Teachers in Schools	*Animation*	*Audio-Video Clip*	*Quiz*	*E-Magazine*	*Podcast*
M School	9	14	2	13	5
	(21)	(33)	(5)	(30)	(12)
Sec/Hr. School	34	76	9	23	12
	(22)	(49)	(6)	(15)	(8)

Note: Middle schools (n = 43); sec/hr. secondary schools (n = 154); figures in parentheses denote percentages.

TABLE 3

Innovation by Teachers

Teachers in Schools	*Websites Portals*	*Mob & App-Based Learning*	*E-Magazines*	*E-Library*	*Unnayan*
M School	2	26	7	6	-
	(5)	(60)	(16)	(14)	(0)
Sec/Hr. School	35	59	32	17	11
	(23)	(38)	(21)	(11)	(7)

Note: Middle schools (43); sec/hr. secondary schools (154); figures in parentheses denote percentages.

TABLE 4

Usage of e-Contents

Teachers in schools	*Curated*	*Disseminated*	*Mobilization*	*Online*	*Offline*
M Schools	3	3	4	22	11
	(7)	(7)	(9)	(51)	(26)
Sec/Hr. School	6	12	25	82	28
	(4)	(8)	(16)	(54)	(18)

Note: Middle Schools (43); sec/hr. Secondary Schools (154); Figure in Parenthesis Denotes Percentage.

TABLE 5

Digital Technology by Students

Teachers' Perception on Students	*Web-sites*	*Mobile*	*Social Media*
M School	4	25	14
	(9)	(58)	(33)
Sec/Hr. School	17	67	70
	(11)	(44)	(45)

Note: Middle schools (43); sec/hr. Secondary schools (154); figure in parenthesis denotes percentage

2) ***Correlation among Variables***: Table 6 displays the mean, standard deviation, rtt of each dimension and Pearson r among variables covered in the study. The Cronbach's alpha coefficient of each variable was fairly high (> .01). Tech-based pedagogy had a positive relationship with satisfaction and the continuance intention to use the digital technology in future ($r = .65$ & $r = .55$, $p < .01$). Teachers' satisfaction and continuance intention to use the digital technology made a positive relationship with the COVID 19 pandemic ($r = .25$ & $r = .43$, $p < .01$). All four variables were significantly related to each other. COVID 19 showed a positive relationship with tech-based pedagogy and teachers' satisfaction ($r = .22$ & $r = .24$, $p < .01$).

TABLE 6

Correlation Matrix among Variables

Variables	*M*	*SD*	*1*	*2*	*3*	*4*	*5*	*6*
1. Tech-Based Pedagogy	*4.11*	*.58*	*(.88)*					
2. Teachers' Satisfaction	*4.07*	*.55*	*.65***	*(.79)*				
3. COVID 19	*3.62*	*1.11*	*.22***	*.24***	*(.70)*			
4. Continuance Intention to Use	*4.22*	*.71*	*.55***	*.43***	*.25***	*(.72)*		
5. Age	*31.32*	*7.13*	*.01*	*-.03*	*.00*	*-.04*	*-*	
6. Gender	*0.53*	*.52*	*.06*	*-.03*	*-.17**	*-.01*	*.05*	*-*

Note: Cronbach's alpha reported in parenthesis;**p < .01; *p < .05.

3) Predicting Teachers' Satisfaction and Continuance Usage Intention: A multiple hierarchical linear regression analysis (SPSS 28) for testing the Hypothesis 1 was computed (Table 7). There could be biasness in the beta coefficients in hierarchical linear regression as a result of multicollinearity in the predicting variables. Multicollinearity is defined as the extent to which a variable can be explained by other variables in the analysis. In the case of high multicollinearity, the effect of each predictor on the predicted variable was difficult to ascertain. At the first stage multicollinearity effect was partialed out. Results revealed that tech-based pedagogy was positively related to teachers' satisfaction ($b = 0.61$, $p < 0.01$) and continuance intention to use it ($b = 0.72$, $p < 0.01$; see Figure 2). Results further showed that teachers' satisfaction mediated the relationship between tech-based pedagogy and continuance intention to use it. The indirect effect was also found significant ($b = 0.49$, $p < 0.01$; 95% BCa CI [0.33, 0.65]. It confirmed the H1.

4) Moderating Effect of COVID 19: Table 8 illustrates the moderating role of COVID 19 and its impacts on with teachers' satisfaction. Both variables significantly predicted continuance intention to use tech-based technology ($b = -0.16$, $p < 0.01$) in Model 8. The additional 1 per cent of the variance for continuance intention to use the digital technology accounted for by the interaction between teachers' satisfaction and the COVID 19. A simple slope test was conducted to facilitate the interaction pattern. As shown in Figure 3 and Table 8, a simple slope test revealed that teachers' satisfaction was less significantly related to continuance intention to use the digital technology at higher level of the COVID 19 ($b = 0.49$, $p < 0.01$) and more significantly related to continuance intention to use at lower level of absorptive capacity ($b = 0.91$, $p < 0.01$). The statistically significant interaction pattern confirmed that the Covid 19 would substitute the positive effect of teachers' satisfaction on continuance intention to use (Table 8).

Hayes' (2013) PROCESS macro and bootstrap sampling method (sample size 5000) for testing the Hypothesis 2 was computed. Bootstrap analysis was computed to generate asymmetry confidence intervals (CIs) for the moderating effect. The COVID 19 was expected to moderate the indirect effect of the digital technology on continuance usage intention after a satisfactory result of the digital technology. The findings made it obvious that the indirect effect of the digital technology on continuance usage intention after teachers' satisfaction

was significant for both the high COVID 19 situation (conditional indirect effect = 0.30, SE = 0.09, 95% CI [0.14, 0.48) and for lower absorptive capacity (conditional indirect effect = 0.55, SE = 0.08. 95% CI [0.39, 0.71, see Table 9). Moreover, the index of moderated mediation was statistically significant as well (conditional indirect effect=0.11, SE = 0.03, 95 % CI [-0.17, -0.04]) thus, lending support to H2.

TABLE 7

Hierarchical Regression Results (Unstandardized Coefficient)

Teachers' satisfaction			*Continuance usage intention*						
Variables	*Model 1*	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*	*Model 7*	*Model 8*	*Model 9*
Intercept	3.46*	2.06*	4.27*	1.65*	.12	-.11		3.35*	3.41*
Age	-.00	-.00	-.00	-.00	.00	-.00		-.00	-.00
Gender	-.02	-.07	-.03	-.07	.01	-.02		-.04	-.05
Digi tech***		.61*		.72*		.23*			.25*
Satisfaction					.96*	.80*		.87*	.70*
COVID 19							.06	.08*	.07*
Teach' satis-the Covid19								-.16*	-.17*
R^2	.00	.42	.00	.33	.53	.55	.54	.55	.56
ΔR^2	-	-	-	-	-	-	-	-	-
F	.22	43.18*	.12	31.24*	67.47*	54.23*	54.04*	45.40*	42.09*
df	194	193	194	193	193	192	192	191	190

Note: *p<.01 ;**p<.001;***digital technology

FIGURE 2

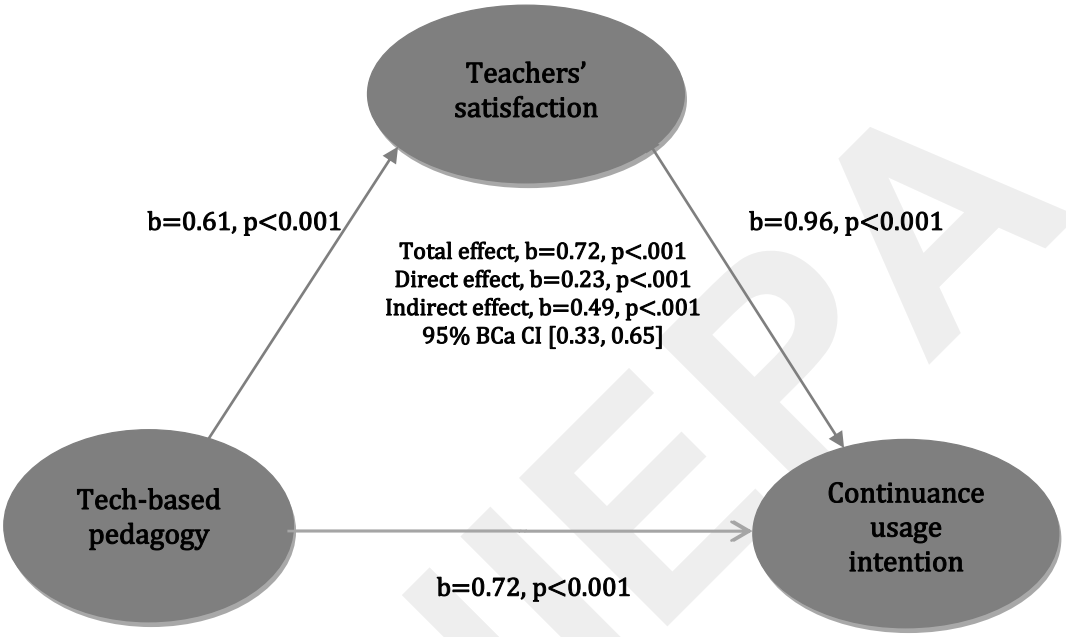


TABLE 8

Bootstrap Analysis: Conditional Effect of Teachers' Satisfaction on Continuance Usage Intention

COVID 19	*Boot Indirect effect*	*Boot SE*	*Boot Lower CI*	*Boot Upper CI*
1 SD below the mean	.91	.09	.73	1.10
Mean	.70	.09	.53	.87
1 SD above the mean	.49	.12	.25	.74

Note: CI = 95% confidence interval (two-tailed). Bootstrap sample size =5,000; n = 197.

FIGURE 3

Interaction between Teachers' Satisfaction and Covid-19 on Continuance Usage Intention

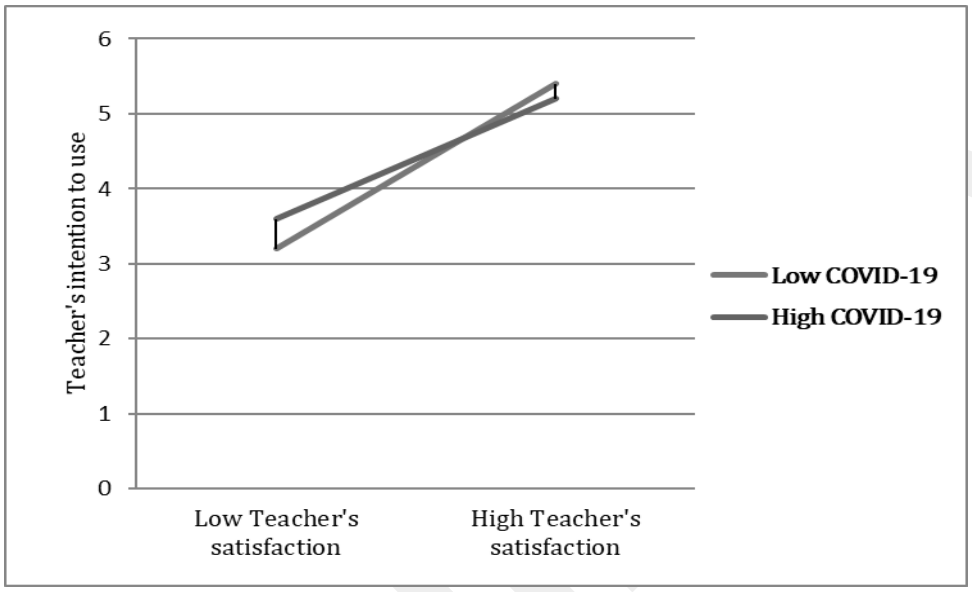


TABLE 9

Bootstrap Analysis: Conditional Indirect Effect of Teachers' Satisfaction on Continuance Usage Intention

COVID 19	*Boot Indirect Effect*	*Boot SE*	*Boot Lower CI*	*Boot Upper CI*
1 SD below the mean	.55	.08	.39	.71
Mean	.43	.07	.29	.57
1 SD above the mean	.30	.09	.14	.48

Note: CI=95% confidence interval (two-tailed). Bootstrap sample size = 5,000; n = 197.

Discussion

The study noted a set of findings:

(a) Teachers developed e-contents for online teaching.
(b) Teachers' satisfaction mediated the relationship between the tech-based pedagogy and continuance usage intention.

(c) Teachers who were satisfied with the usage of digital technology had low intention to continue it when the pandemic was at its high point, whereas they showed high intention to continue it when pandemic was declining.
(d) The Covid 19 moderated the positive effect of teachers' satisfaction on continuance usage intention.

The results showed that a large segment of teachers had a pro-digital mindset which cropped up during the pandemic. The Bihar Education Project Council (BEPC) formulated a comprehensive learning management programme during the crisis period and mobilised the teaching community for digitisation of the teaching processes. It was necessary to have good credentials and a pro-digital mindset for the teachers to establish linkages with the community during the pandemic. Many teachers had access to the beneficiaries of unreached areas through the Tola Sewaks (TS). In some remote places, teachers convinced parents and students to view DD Bihar channel and also requested them to play with the android mobile for learning. The School on Mobile (SOM) was a successful programme initiated by the BEPC during the pandemic and it covered a wide range of learners from inaccessible areas.

The study attempted to assess teachers' intention to use the digital technology for offline teaching. Indeed, the digital technology facilitated the teaching-learning processes. Teachers not only developed the digitised e-contents in place of teaching learning materials (TLM) but used it for online teaching. It was more significant to assess whether teachers had an intention to use digitised learning contents during the physical classroom transactions. The increasing importance of digital technologies in education and the pressing need to equip teachers and students with digital skills raised an issue of its adoption. The study framed a moderated-mediation model where satisfaction was treated as meditating variable and the Covid 19 as the moderator variable. Both the mediating role of teachers' satisfaction and moderating effect of COVID 19 on continuance intention to use the digital technology for teaching were examined. Teachers working especially in the government schools were unfamiliar with the tech-based pedagogy. They had hesitation in accepting it for teaching. It was a forced choice for these teachers to learn it. They gradually learnt to communicate the e-contents of learning which was more effective than offline learning. The real problem started with offline teaching which was to be blended with the digital technology.

An investigation was undertaken to assess whether the digital technology would replace the blackboard approach to teaching. Did teachers intend to continue it for the physical classroom teaching even after the COVID 19? The Covid 19 pandemic was incorporated in the study as moderator, in order to estimate its moderating role between teachers' satisfaction and continuance intention to use the digital technology. Two different effects of mediating and moderating variables- satisfaction and the COVID 19 on continuance usage intention were observed. The effect of satisfaction may be moderated, if both the variables ---- satisfaction and the COVID 19 --- interact with each other. In case satisfaction mediates between the tech-based pedagogy and continuance usage intention, the effect of it can be meaningfully moderated. Both the tech-based pedagogy and teachers' satisfaction reinforced the intention to use the digital technology for teaching (Nikou, 2021). The study revealed a positive influence of teachers' satisfaction on continuance usage intention. Previous studies on online teaching disclosed that information technology and its service quality were antecedents to satisfaction (Aldholay et al., 2018; Joo, Park, & Shin, 2017). Programme for International Student Assessment (PISA) recorded mixed results of using digital

technologies (OECD, 2020). Too much use of technologies in classrooms deviate teachers from both the content and pedagogical knowledge. Teachers who used computers very frequently at school performed substantially worse in most of the teaching outcome measures (OECD, 2015). The way teachers interacted with computers might displace learning content and other types of interactions (OECD, 2017). The frequency of digital technology usage has been previously investigated from teachers' perspectives. In Germany, about 34 per cent of teachers used computers frequently in their teaching (Sailer, Murbock & Fisher, 2021). In a study it was noted that equipping schools with digital technologies was not related to the use of digital resources in the classrooms (Sailer, Murbock & Fisher, 2021). The use of digital technologies requires a threshold level of digital resources. However, more digital technologies beyond this threshold level neither encourage teachers to use it during teaching nor initiate learning activities. Thus, teachers' basic digital skills seem much more important for both the frequency of digital technology use during teaching and for fostering a variety of student learning activities. Results from International Computer and Information Literacy Study (ICILS) explained that almost half of the teachers were using digital technologies during teaching. In Germany, only 23 per cent of teachers used digital technologies in their daily teaching (Fraillon et al., 2019). Too much use of technologies takes teachers away from the human face of teaching. It overshadows physical interaction between teachers and students which seems difficult to deny at the cost of online teaching. Technology facilitates teaching-learning processes but cannot replace offline teaching.

Implications

These findings are expected to expand the existing body of knowledge about the post-COVID 19 teaching modes in the changing perspective of education. This may significantly change the perspective of classroom proceedings, even in the government schools. Adaptation to digital technology does not mean a replacement of offline teaching. The study substantiates the role of Information Communication Technology (ICT) in the teaching-learning processes. Adaptation to digital technology may result in either satisfaction or dissatisfaction. If adaptation to digital technology is congruent to the pedagogy, teachers would like to continue it. The common notion, "satisfactory behaviour is stamped in and dissatisfactory stamped out," does not apply in the case of a crisis. Even experiencing dissatisfaction as a result of adaptation to digital technology may trigger off such behaviour that protects health system.

Limitations and Suggestions

The study restricted to the respondents of the government schools of Bihar. It would have been compared with teachers of private schools who had, to some extent, competitive advantage over teachers of the government schools in term of usage of the digital technology. It does not mean that teachers of the government schools were not capable of using the digital technology. Digital technology is gradually progressing and many tools are coming up. Teachers need to be aware of the digital infrastructure and be ready to use it for effective teaching. They need to ascertain whether students get benefitted by practising

digital technologies when face to face teaching-learning takes place in the physical classroom transaction.

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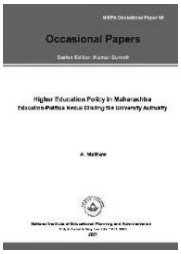

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Building a Knowledge Society: Contribution of Knowledge Development among Scheduled Castes

D. S. Thakur*

Abstract

Committed to a quick pace of transformation, and with various academic and research organisations engaged in acquiring, preserving, processing and applying information, India is all out for creating a valuable learning and knowledge-based society. Education, verily an important agent of change, can help bring awareness among people, particularly among the deprived and the downtrodden, to redeem themselves to equality, social justice and all-round development via various central and state government welfare schemes. Addressing the acquisition and expansion of formal knowledge, encouraging them to avail themselves of the opportunities made available, and building and enriching their capacity to work and earn, can accelerate the pace of their socio-economic development, thereby raise their social status, and is tantamount to improving not only their contribution in the process of change but also meeting their urge for higher education and research to play their constructive role in nation building, bringing their knowledge at par with the mainstream society. This case study examines the growth of knowledge among scheduled castes in Haryana in terms of their education, equality and social justice: their empowerment as the source of their uplift in the social, economic and political spheres; and their contribution to the advancement of society per se as an integral part of their growth.

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Introduction

Scheduled castes are one of the most disadvantaged groups who need awareness about their rights, facilities and welfare schemes offered by the central and state governments in India in order to strengthen their presence in higher education as well as in society. The emergent need of the hour is to empower the deprived sections to share and contribute to the development of the state through active participation in basic mechanisms. These include preparing them as change agents via education, particularly higher education and research, in order to create, preserve and disseminate knowledge, in the ever-growing ambience of information and digital technology as a means to augment the possibilities of making the country a superpower as quickly as feasible.

What Constitutes a Knowledge Society

Here we have a few quotes from UNESCO (2005): The idea of "knowledge societies is about capabilities to identify, produce, process, transform, disseminate and use information to build and apply knowledge for human development" (p 27). The concept of knowledge society relates to empowerment of the people of every country. It empowers them to fight against digital divide, reduction of poverty and to achieve their human rights. The construction of knowledge societies "opens the way to humanisation of the process of globalisation" (p 27). The libraries are closely linked to education, academics, research and development, and play an instrumental role in the acquisition, dissemination, bridging the digital divide and making knowledge publicly available. It is the place where people come to learn which lays the foundation for transforming information into knowledge (pp 65-67). They must extend their mission to serve the knowledge societies globally, particularly through their networking and digital content acquisition (p 65).

A society equipped with well-educated and civilised people can give birth to a knowledge society, free from economic, social and political encumberances. In short, a knowledge society needs a highly qualified, skilled and trained manpower to meet its contemporary and futuristic demands and challenges by establishing world class institutions to meet not only local or national demands but also global challenges as a genuine knowledge society. Exponential potentials of higher education institutions, awareness of their importance among all social categories encourage the public and private sectors to open new institutions to accommodate the increasing aspirations and demands of the populace. Knowledge, being distinct from information, is an intellectual entity. "But as long as it is in the book, it is only information, if not mere data. Only when a man applies the information to doing something does it become 'knowledge' " (Drucker, 1992: 269).

Needed Reforms to Create a Knowledge Society

Our education system, particularly that of higher education, is often said to have made a significant contribution to the socio-economic and socio-political developments in India, despite the fact that only 7 per cent of its population enters higher education, perhaps proportionately too little in comparison to the developed countries. To ensure that every child has an equal opportunity to enter the world of higher education, India needs an overhaul of systemic reform in terms of expansion, excellence and equity, especially for

deprived students, preferably not at the cost of academic standards and quality of schooling. "Transformation of economy and society in the 21st century would depend, in a significant part, on the spread and the quality of education among our people, particularly in the sphere of higher education. It is only an inclusive society that can provide the foundations for a knowledge society" (NKC, 2009: 77).

Knowledge is a source of power and prosperity, and its effective and efficient use generates resources and also improves the quality of life by providing better education, health, infrastructure and socio-economic development. The creation of new knowledge, development of knowledge infrastructure, development of knowledge workers and effective use of the existing knowledge by the skilled manpower are the key factors that generate wealth, enhance productivity and strengthen the prosperity and power of the nation. Two important ingredients of a knowledge society are societal transformation and wealth generation. Societal transformation can be achieved by providing better education, healthcare, agriculture and governance that will generate employment opportunities, enhance economic growth and rural development (Kalam, 2002: 44).

Knowledge society requires a strong national system of education and research, particularly for higher education, for the efficacious creation, preservation, dispersion, use and re-use (rediscovery) of knowledge for advancement and capacity building (Tilak, 2002: 297-310). Knowledge society is more than a 'literate society,' a 'learning society' and an 'educated society.' It is a 'highly educated' society equipped with 'knowledge workers' who are creative and talented rather than mere skilled workers. Terms like 'knowledge society,' 'globalisation,' 'information society,' 'technology society' and 'information technology society' are closely related to one another. Knowledge has become the most important factor of social and economic growth both in developed and developing countries by developing their own research organizations to create knowledge and to use the vast pool of global knowledge. A strong knowledge base would help develop a local knowledge base to promote institutional research, develop a network of universities and research institutions, promote long-term research than instant research that will reduce the inequalities spread across global levels and transform the data into information and knowledge for further advancement and prosperity. In developing countries, R&D has to be the main responsibility of the respective governments and international organisations of knowledge management. Role of education is vital for a sustainable knowledge-based society to create quality education and quality of life for the masses.

Production of high-quality research and knowledge is necessary to sustain a nation's growth, progress and over-all development (Deshpande, 2006: 3933-3936). A well-educated, civilised class in a country serves as one of the primary engines of growth in economic, social, health, scientific and technical research. The higher education institutions are expected to produce top-class scientists, engineers, doctors, technologists and management experts to engage in research and innovation in their respective areas. In a knowledge-based society, the primary objective of the nation is to provide world-class education to the students from the elementary level itself; to nurture and equip them to face the global challenges; and to provide for a conducive and respectful workplace for intellectuals in their "scholarly pursuits." Research and development being closely interlinked, their role in development and in the promotion of global knowledge society cannot be ignored. India does have a few specialised research institutes with their limited contribution to R&D in diverse areas.

Education is one of the essential pillars of a knowledge society (Afgan and Carvalho, 2010: 28-41); particularly higher education organisations with their vast pool of knowledge and research institutions play an important role for knowledge generation. They hold the key to the knowledge economy in the creation of a knowledge society. They construct a social structure based on a quality support system, comprising agglomeration of economic (eco-knowledge), environmental (env-knowledge) and social (soc-knowledge) that support the quality of life. For sustainability, every generation should balance the use of economic, social, environmental and technological means with a set of ethical values.

The Making of a Knowledge Society Globally

India is one of the fastest developing South Asian knowledge societies, engaged in the process of transformation from an information to a knowledge society, and equipped with a large number of academic and research organisations engaged in creating a valuable knowledge-based society to enable everyone to have access to skills and knowledge commensurate with the efforts put together by all --- the rich, the poor and the deprived --- in order to acquire quality education as well as a quality of life befitting a knowledge society in the making as a global concern. The building of knowledge societies, on a global scale, is considered as a source of development for all, particularly for the less developed countries (UNESCO, 2005: 27). A global information society is meaningful and beneficial only if it favours its expansion and development with a free of cost access and use of knowledge.

Knowledge Growth of Scheduled Castes and Their Involvement in the Development Process in Haryana

Needed Reforms

The need to investigate and examine the growth of knowledge among the various social categories, particularly among scheduled castes, in Haryana and their issues in terms of demographic structure, enrolment and access to higher education as well as employment opportunities to eradicate poverty, inequality and injustice and, in turn, cause apt awareness among them about various forms of diversity, seems to be of paramount importance towards laying strong foundations for a knowledge society. Hence the urgency to address the intricacies of their problems and the bottlenecks involved.

Identification of Problems and Their Nature

It goes without saying that despite a host of studies available as evidence on educational facilities, scholarships and incentive schemes for scheduled caste students, offered by the central and state governments to deprived sections of the society, the awareness level among students and parents of the disadvantaged groups of society is perceived to be very low.

Scheduled castes are one of the most disadvantaged groups; also, they are poor and live as agricultural labourers. This prohibits them to change their jobs and place whether they live in rural or urban areas (Dubey and Mathur, 1972: 165-176). In addition, the community of scheduled castes also suffers from segregation in terms of place of residence, and from

malnutrition and disabilities such as tuberculosis, leprosy, malaria and venereal diseases. To raise their status in society, despite separate funds provided in the Five-Year Plans to uplift them across the country and huge spending for their welfare, their status remains miserable as the expected goals could not be achieved. With Rs 6 crore, Rs 28 crores and Rs 38 crores made available respectively in the First, Second and Third Five-Year Plans for welfare programmes and uplift of the scheduled castes, they are still "generally backward" (Aggarwal and Sibou, 1994). This is so despite the fact that a number of provisions have been made to overcome their initial disadvantages through relaxation of norms for provision of social services, removal of economic barriers in access to social services and ensuring their active participation in educational, administrative and other sectors.

Highlighting the problems of deprived sections of the society, particularly scheduled castes, Pinto (1998) observed that merit comes out from the academic environment and social opportunities. If a good academic environment, resources and opportunities are given to the deprived people, they can quite surely excel in all fields and contribute to the advancement of society.

Wankhede (2001), in his study, highlighted that education is considered to be an important mechanism for the transformation and development of deprived sections of the India, especially for the scheduled castes. Students face discrimination, untouchability, unattractive education system and inequalities of opportunities in the access to education. "The castes which show a poor response in education especially higher need greater attention by way of incentives and facilities with an individual caste-based approach" (p 1558).

After independence, the growth of democratic institutions and emergence of political parties was also motivated by a degree of concern for the welfare of the scheduled castes. Affirmative actions and progressive public policies, adopted since independence, have brought marginal improvements in their socio-economic conditions and proved helpful in reducing the vast inequalities between the scheduled castes and the general population over the successive Five-Year Plans. Strong organised movements led by Mahatma Jyotirao Phule in Maharashtra, E V Ramaswamy Periyar in Tamil Nadu, Narayanaswami Guru in Kerala, Achutanand in Uttar Pradesh, Mangoo Ram in Punjab, and the political movement led by Ambedkar through the establishment of the All-India Scheduled Caste Federation raised consciousness among the scheduled castes throughout India and brought about a sea change in the welfare and development of scheduled castes (Mohanty, 2002).

Wankhede (2016) highlighted the problems faced by the scheduled caste students because of their social background, and also in the facilities availed and the problems which they faced in regard to the academics and employment opportunities after they gained admission. Their social background plays a vital role in determining their access to higher education since the disadvantaged students find it very difficult to access higher education and cope with the situation of poverty, degradation, discrimination, social stigma, etc. Scheduled caste students are largely unaware of the schemes running and facilities available. Nor do they get any guidance and support about the facilities and provisions of the progressive public policies meant to ensure better education for them.

Dhende's study (2017) showed a positive trend of higher education enrolment among scheduled caste students in India. Poverty, unemployment and discrimination are the major causes of their lower enrolment and higher dropout in higher education. A marginal increase in enrolment of the scheduled caste students is the result of affirmative actions of the

Government of India, of the centrally sponsored schemes, incentives, facilities, etc. The factors which influenced the status of higher education among schedule caste students are adverse economic condition, family background environment, discrimination, language, facilities, reservation policy, privatisation, gender disparities, syllabus/curriculum, etc. These need to be addressed seriously in order to improve academic and employment performance. In a knowledge society, education is a significant mechanism that can be effectively used to improve the socio-economic conditions of the scheduled castes.

Varghese (2021) emphasises that inequalities in India are increasing at the higher levels because of income inequality, unequal distribution of educational opportunities and attainment to disadvantaged groups. There is a need for corrective pubic policies and state actions to eliminate this widening inequality. The World Inequality Report (Chancel *et al*, 2022) indicates that the "top 1 per cent accounts for 22 per cent of the total national income, the top 10 per cent hold 57 per cent of the total national income and the bottom 50 per cent share has gone down to 13 per cent of the national income in 2021. India stands out as a poor and very unequal country, with an affluent elite" (p 197). The inequalities between the rich and the poor are continuously growing in India, and have reached historically high levels in India. All advance countries have now realised that equality of educational opportunities is indispensable to foster economic and social equity (World Bank, 2018).

Several schemes and programmes have been launched by the Government of India to increase the enrolment of disadvantaged students in higher education and strengthen the knowledge base among them. These include the provision of reservations in admissions and employment, special recruitment drives (SRDs) for filling up backlog vacancies reserved for the scheduled castes and scheduled tribes in the central government, central public sector undertakings, banks and insurance corporations, NGOs scheme of grant in aid to registered NGOs and other voluntary organisations working for the scheduled castes, scholarships, hostels, free coaching of good quality in order to enable them to face the competitive examinations and obtaining jobs in public and private sectors. Schemes for economic development and social empowerment of the scheduled caste students (https://socialjustice.nic.in) are healthy signs of progressive public policies of the governments, adopted to uplift, empower and mitigate vast inequalities of the scheduled caste students. The goal of higher education institutions is to provide a balanced environment of learning to augment creativity and innovations and nurture teaching and research for the sustainability in the development process, since higher education institutions are the source of new ideas that plays a strategic role in the economic growth. Thus higher education among the disadvantaged is expected to lessen poverty, reduce inequality and promote social mobility that will contribute to building a knowledge economy as well as knowledge society.

Opportunities Galore

Knowledge is a valuable source and asset (Singha-Roy, 2014), a driving force for change, development and economic prosperity of a nation, and an opening to different options for liberation. Despite several efforts, knowledge society still seems to move around the urban elite; it does not have much of an impact on the disadvantaged masses. Several welfare schemes launched to uplift and empower the poor living in rural India still remain far away from the impoverished. Human mind is the source of development. It never remains

uncultivated and unused. Education can awaken the people living in darkness, ignorance and Poverty. Emergence of ICT makes it possible to gather, store, preserve, disseminate and retrieve a myriad of information resources for research to contribute valuable inputs to build a knowledge society. Digitisation and dissemination of information and knowledge via the World Wide Web (WWW) offer a host of opportunities to researchers to take advantage of the existing knowledge for sustainable development of a nation.

Knowledge is a source of economic, social, political and human development in a global competitive market. Knowledge-rich developed nations' quality research could be used to frame policies for the welfare of poor people and disadvantaged groups, particularly the scheduled castes and women of weaker sections, in order to develop and strengthen their capacity building, empowerment and knowledge. Innovative projects that uplift their standard of living and make them aware about their rights is the need of the hour. Education can do it. The poor and the marginalised sections of society need free quality education at all levels of schooling; Hence, the need to set up quality academic and research institutions to pay attention to quality improvement in a big way.

Women's Predicament in Haryana

As per the Census of India (2011), the number of females per 1,000 males in Haryana stands at 879. In the matter of sex ratio, Haryana was poorer than every other Indian state and much below the national average of 943. Several cultural reasons are responsible for the declining ratio of females as compared to males in Haryana --- such as female foeticide, superstitions, desire of having a son, poverty, dowry and honour killing prevalent over centuries. Poor male-female sex ratio in Haryana has raised an alarming situation in the state, suddenly raising a huge demand for brides in certain districts of Haryana. As a result, the women are being sold as brides to men in low sex ratio districts of Haryana (*The Hindu*, 2015). Social, political, environmental awareness and education are necessary to eradicate the ignoble beliefs of superstition and poverty in the state.

Haryana's Case Profile

Demography

Urbanisation and tremendous development in ICT have laid the foundation of an ultra-modern India, including the state of Haryana, with a remarkable sustainable development in urbanisation between 1971 and 2011 (Table 1). While around 80 per cent of India's population lived in rural areas in 1971, the proportion gradually reduced to around 76 per cent in 1981, around 74 per cent in 1991, to about 72 per cent in 2001 and further down to about 69 per cent in 2011. Conversely, there was a quantum jump of 11 per cent points in urbanisation in India ---while nearly 20 per cent population lived in urban areas in 1971, the proportion increased to around 31 per cent in 2011. The scenario in Haryana has been slightly better with a quantum jump of around 17 per cent points in urbanisation of its population. The growth of urbanisation in Haryana has been 6 per cent points more than that in India as a whole. In Haryana, 17.66 per cent of the population lived in urban areas in 1971 that grew to almost double (34.88 per cent) in 2011. It indicates that urbanisation increased in Haryana two times faster than in India as a whole. This transformation in the

scenario of urbanisation does indicate that the region witnessed rapid economic growth and social development. This comprised, among others, infrastructural development, opening of new universities, colleges and other educational institutions, coming up of new industries, growth in employment opportunities, etc, which are perhaps the landmark indicators of urbanisation and modernisation in the state.

TABLE 1

Rural and Urban Population of India and Haryana (Based on Census Reports)

Year	*Population India*			*Population Haryana*		
	Rural	*Urban*	*Total*	*Rural*	*Urban*	*Total*
1971	438855500 (80.09)	109094309 (19.91)	547949809 (100.0)	8263849 (82.34)	1772959 (17.66)	10036808 (100.0)
1981	507607678 (76.30)	157680171 (23.70)	665287849 (100.0)	10095231 (78.12)	2827387 (21.88)	12922618 (100.0)
1991	622812376 (74.27)	215771612 (25.73)	838583988 (100.0)	12408904 (75.37)	4054744 (24.63)	16463648 (100.0)
2001	742490639 (72.18)	286119689 (27.82)	1028610328 (100.0)	15029260 (71.08)	6115304 (28.92)	21144564 (100.0)
2011	833748852 (68.85)	377106125 (31.15)	1210854977 (100.0)	16509359 (65.12)	8842103 (34.88)	25351462 (100.0)

Note: Figures in parentheses indicate the percentages to the totals.
Source: Primary Census Abstract: Total Population, Census of India (1971-2011).

Gender Portfolio

No major change in the percentage of male and female population of India and Haryana has been visible during the last four decades (Table 2). Their profile has remained almost constant over this time-span with a gender ratio of around 52 per cent : 48 per cent in India as a whole and around 54 per cent : 46 per cent in the state of Haryana. The year 2011, however, does indicate a slight rise in female population, yet far away from being equal by gender. The main reason for this, perhaps, is bias in favour of male children all over the country, yet even more so in Haryana. Other reasons include low educational enrolment of females in education, especially higher education dropout rate of female and low education because of low socio-economic status of parents and vast inequalities such as "illiteracy of the parents, early age marriages of girls in rural areas" (Dhende, 2017).

TABLE 2

Male and Female Population in India and Haryana (Census Reports)

Year	*Population India*			*Population Haryana*		
	Male	*Female*	*Total*	*Male*	*Female*	*Total*
1971	283936614 (51.82)	264013195 (48.18)	547949809 (100.0)	5377258 (53.58)	4659550 (46.42)	10036808 (100.0)
1981	343930423 (51.70)	321357426 (48.30)	665287849 (100.0)	6909938 (53.47)	6012680 (46.53)	12922618 (100.0)
1991	435216358 (51.90)	403367630 (48.10)	838583988 (100.0)	8827474 (53.62)	7636174 (46.38)	16463648 (100.0)
2001	532156772 (51.74)	496453556 (48.26)	1028610328 (100.0)	11363953 (53.74)	9780611 (46.26)	21144564 (100.0)
2011	623270258 (51.47)	587584719 (48.53)	1210854977 (100.0)	13494734 (53.23)	11856728 (46.77)	25351462 (100.0)

Note: Figures in parentheses indicate the percentages to the total.
Source: Primary Census Abstract: Total Population, Census of India (1971-2011).

Scheduled Caste Population

The scheduled castes population in India increased to 16.63 per cent in 2011 from 14.60 per cent in 1971 (Table 3) while that in Haryana it increased to 2.54 per cent from 2.37 per cent over the same period. A huge majority of the scheduled caste population (88.06 per cent) lived in rural areas in 1971 as against 84 per cent in 1981, 81.28 per cent in 1991, 79.82 per cent in 2001 and 76.4 per cent in 2011. The sustainable increase in their growth rate indicates that 11.94 per cent of them were living in urban areas in 1971 which grew about two times to 23.60 per cent in 2011, in a period of 40 years, as against 2.07 per cent to 2.93 per cent respectively in Haryana over this period. This clearly shows that whereas the scheduled castes population in urban India doubled, it could not move much towards urbanisation in Haryana --- perhaps because of lack of awareness among them about the facilities, incentives and scholarship schemes offered by the central and the state governments to uplift their status. Engagement of the scheduled caste communities in agriculture, their low levels of literacy, lack of employment opportunities, etc, seem to have impeded their development in the state.

TABLE 3

Scheduled Caste Population of Rural and Urban in India and Haryana

Years	*Scheduled Castes in India*			*Scheduled Castes in Haryana*		
	Rural	*Urban*	*Total*	*Rural*	*Urban*	*Total*
1971	70441388 (88.06)	9554508 (11.94)	79995896 (14.60)	1698626 (2.41)	197307 (2.07)	1895933 (2.37)
1981	87996992 (84.00)	16757631 (16.00)	104754623 (15.75)	2092920 (2.38)	371092 (2.21)	2464012 (2.35)
1991	112343797 (81.28)	25879480 (18.72)	138223277 (16.48)	2675277 (2.38)	575656 (2.22)	3250933 (2.35)
2001	133010878 (79.82)	33624822 (20.18)	166635700 (16.20)	3210917 (2.41)	880193 (2.62)	4091110 (2.46)
2011	153850848 (76.40)	47527524 (23.60)	201378372 (16.63)	3720109 (2.42)	1393506 (2.93)	5113615 (2.54)

Note: Figures in parentheses indicate the percentages to the total.
Source: Primary Census Abstract: Total Population, Census of India (1971-2011).

Growth Rate (by Gender) in the Rural and Urban Scheduled Caste Population of India and Haryana

Rural and urban scheduled caste female population increased from 48.32 per cent in 1971 to 48.59 per cent in 2011 in India as against 46.54 per cent to 47.01 per cent in Haryana over the same period (Table 4). Improvement in the rural and urban scheduled caste female population in Haryana has been more rapid than rural and urban scheduled caste female population of India. Gender gap between rural and urban scheduled caste population of India declined to 2.82 percentage points in 2011 from 3.36 percentage points in 1971. In case of the rural and urban scheduled caste female population of Haryana, gender gap declined sharply than that in India from 6.92 percentage points in 1971 to 5.98 percentage points in 2011. Notably, gender gap in Haryana improved more rapidly than in India because of the increasing literacy among them and being close to the National Capital Region (NCR) with development of industries and improvement in the social, economic and educational status, particularly of scheduled castes and other disadvantaged groups of people of Haryana. It indicates, in turn, greater participation of scheduled caste women in development of the state than ever before.

TABLE 4

Gap (by Gender) in Rural and Urban Scheduled Caste Population of India and Haryana

Year	*Scheduled Castes in India*			*Scheduled Castes in Haryana*		
	Male	*Female*	*Gap*	*Male*	*Female*	*Gap*
1971	41338035 (51.68)	38657861 (48.32)	79995896 (3.36)	1013476 (53.46)	882457 (46.54)	1895933 (6.92)
1981	54210594 (51.75)	50544029 (48.25)	104754623 (3.50)	1322088 (53.66)	1141924 (46.34)	2464012 (7.32)
1991	71928960 (52.04)	66294317 (47.96)	138223277 (4.08)	1747821 (53.76)	1503112 (46.24)	3250933 (7.52)
2001	86088760 (51.66)	80546940 (48.34)	166635700 (3.32)	2188585 (53.50)	1902525 (46.50)	4091110 (7.0)
2011	103535314 (51.41)	97843058 (48.59)	201378372 (2.82)	2709656 (52.99)	2403959 (47.01)	5113615 (5.98)

Note: Figures in parentheses indicate the percentages to the total.
Source: Primary Census Abstract: Total Population, Census of India (1971-2011).

Growth of Higher Education Institutions in India and Haryana

In any country, higher education has the potential to build a knowledge-based society where knowledge can be produced, organised, disseminated and applied for value addition to cause an uplift in general, including that of the disadvantaged sections of the society. There were 621 degree granting institutions and 32,974 colleges in India in 2010-11 which increased to 1,043 universities and institutions of national importance and 42,343 colleges in 2019-20 engaged in imparting higher education in the country (Table 5). Penetration of a large chunk of private universities and colleges in the Indian market has, however, changed the landscape of higher education with universities and colleges in India getting two-fold during the period under survey. Universities in India have increased from 20 in 1950 to 1,043 in 2019-20 (49 central universities, 400 state universities, 328 state private universities, 126 deemed to be universities, 135 institutions of national importance and 5 institutions under the State Legislature Act, Government of India). Besides, the number of colleges increased from 500 in 1950 to 42,343 in 2020 (AISHE, 2019-20).

Similarly, the opening of more private universities and colleges in Haryana in particular, and in NCR in general, changed the landscape of higher education with universities and colleges in Haryana and their number increased more than two and a half times in Haryana during this period. In addition to 21 universities (one institute of national importance, one central, 10 state, 2 private, and 7 deemed) and 1,054 colleges in Haryana in 2010-11, an institute of national importance, that is, the Indian Institute of Technology (IIT) was established in 2007-08, and a central university in 2009-10. For the first time, 2 private universities came into existence in 2010-11. The state thus became a hub of higher education and research with 5 institutes of national importance, 53 universities and 1,087 colleges in 2019-20. In fine, 5 institutes of national importance, one central university,

18 state universities, 23 private universities, 6 deemed universities and 1,087 colleges existed in Haryana in 2019-20. India stands fourth in tertiary education among the world market of education, with a world-wide mobility of students for professional growth (Thakur, 2021). A sharp rise in the number of institutions does not, however, mean that all of them essentially provide quality education to their students.

TABLE 5

Number of Universities and Colleges in India and Haryana during 2010-11 to 2019-20

Year	*Universities and Colleges in India*		*Universities and Colleges in Haryana*						
	Universities & Institutions of National Importance	*Colleges*	*Institutes of National Importance*	*Central*	*State*	*Private*	*Deemed*	*Total*	*Colleges*
2010-11	621	32974	1	1	10	2	7	21	1054
2011-12	642	34852	1	1	10	5	5	22	1061
2012-13	667	35525	1	1	10	8	5	25	1072
2013-14	717	36634	1	1	11	12	5	30	1098
2014-15	760	38498	1	1	14	16	5	37	1113
2015-16	799	39071	2	1	14	17	5	39	1113
2016-17	864	40026	2	1	14	17	5	39	1155
2017-18	903	39050	2	1	14	18	5	40	964
2018-19	993	39931	3	1	16	22	6	48	1038
2019-20	1043	42343	5	1	18	23	6	53	1087

Source: All India Survey on Higher Education (2010-11 to 2019-20)

Enrolment in Higher Education Courses in India

Knowledge society needs highly qualified manpower to run the system in a country. The country should develop a strategy to ensure the economic growth and social development in the society. It is the duty of the state to prepare a well-educated class of technically trained and skilled manpower so as to meet the contemporary as well as futuristic challenges. Growth in enrolment and retention in higher education is essential for sustainability in economic growth and social development. A majority of students (87.63 per cent) were enrolled in undergraduate courses in India in 2018-19, as against 87.25 per cent in 2014-15 and 87.15 per cent in the year 2015-16, then showing a slight rise to 87.23 per cent in 2016-17. In any case, above 87 per cent students were there in undergraduate courses over these years. Over 12 per cent of the students were enrolled in post-graduate programmes while above half per cent (0.58 per cent) were enrolled for PhD programmes

over this period (Table 6). The proportion of male students was more than female students in the undergraduate courses except that in 2010-11 where the proportion of female students in percentage terms was more than that of male students. Female students' proportion in the post-graduate courses was more than that of the male students except in the year 2010-11. Sustainable growth in the enrolment of females in post-graduate courses has been marked since 2010-11 onwards except 2014-15 to 2017-18. Nonetheless, males' enrolment in PhD programmes was one and a half times more than that of females (48,007 against 29,837 and 49,296 against 32,134) in 2010-11 and 2011-12. This, then, rose to 1,11,444: 91,106 respectively in 2019-20, indicating that females seem to be gradually trying to catch up with their male counterparts with the passage of time, despite privatisation and increasingly expensive higher education. The increase in enrolment, as seen above, is also reflected in the gross enrolment ratio (GER) of higher education which increased to 27.1 per cent in 2019-20 from 19.4 per cent in 2010-11 in India whereas the GER of scheduled caste students increased to 23.4 per cent and 13.5 per cent respectively over the same period of time.

TABLE 6

Enrolment in Higher Education Courses in India

Year	*PhD*			*Post Graduate*			*Under Graduate Courses*		
	Male	*Female*	*Total*	*Male*	*Female*	*Total*	*Male*	*Female*	*Total*
2010-11	48007 (0.34)	29837 (0.26)	77844 (0.31)	1813992 (12.98)	1455677 (12.84)	3269669 (12.91)	12117511 (86.68)	9854749 (86.90)	21972260 (86.78)
2011-12	49296 (0.34)	32134 (0.26)	81430 (0.31)	1769276 (12.26)	1597914 (13.11)	3367190 (12.65)	12612513 (87.40)	10562437 (86.63)	23174950 (87.05)
2012-13	55654 (0.38)	39771 (0.31)	95425 (0.35)	1769101 (12.00)	1679050 (13.23)	3448151 (12.57)	12918796 (87.62)	10971513 (86.46)	23890309 (87.08)
2013-14	64772 (0.42)	43118 (0.31)	107890 (0.37)	1888637 (12.16)	1933582 (13.91)	3822219 (12.99)	13574434 (87.42)	11925891 (85.78)	25500325 (86.65)
2014-15	69584 (0.42)	47717 (0.32)	117301 (0.38)	1867142 (11.38)	1986296 (13.48)	3853438 (12.37)	14467226 (88.19)	12705120 (86.20)	27172346 (87.25)
2015-16	74547 (0.45)	51904 (0.35)	126451 (0.40)	1818443 (11.02)	2098713 (14.03)	3917156 (12.45)	14611603 (88.53)	12808847 (85.62)	27420450 (87.15)
2016-17	81795 (0.49)	59242 (0.38)	141037 (0.43)	1820564 (10.81)	2187006 (13.97)	4007570 (12.33)	14933909 (88.70)	13414288 (85.66)	28348197 (87.23)
2017-18	92570 (0.54)	68842 (0.42)	161412 (0.48)	1891071 (11.10)	2223239 (13.68)	4114310 (12.36)	15052304 (88.36)	13964046 (85.90)	29016350 (87.16)
2018-19	95043 (0.56)	74127 (0.44)	169170 (0.50)	1761330 (10.32)	2281192 (13.43)	4042522 (11.88)	15203346 (89.12)	14625729 (86.13)	29829075 (87.63)
2019-20	111444 (0.64)	91106 (0.52)	202550 (0.58)	1860163 (10.61)	2452372 (13.91)	4312245 (12.26)	15563077 (88.76)	15084210 (85.57)	30647287 (87.16)

Note: Figures in parentheses indicate the percentages to the totals.
Source: All India Survey on Higher Education (2010-11 to 2019-20)

Enrolment in Higher Education Courses in Haryana

An overwhelming majority of students (86.20 per cent) in Haryana enrolled themselves in undergraduate programmes including professional and technical courses in 2019-20 (Table 7), while there were only 13.30 per cent of the students in postgraduate and just half a per cent (0.50 per cent) in PhD programmes; interestingly, females dominating in these programmes over their males counterparts. This is unlike the national scenario. The expansion of higher education at the undergraduate level in general and professional and technical education in particular along with emergence of multinationals in the country, especially in the NCR, has attracted the students to get enrolled in undergraduate level to ensure easy and early job prospects after completion of their education. This upsurge in enrolment is closely associated with the increase in demand for professional and technical education. Increasing girls' participation in these programmes denotes huge change in mindset about girls' education which has been a serious kind of stigma especially in Haryana for long. It is, indeed, a very solid augury for women to share their contribution in the development of the state as well as that of the nation as a whole.

TABLE 7

Enrolment in Higher Education Courses in Haryana

Years	*PhD*			*Post Graduate*			*Under Graduate Courses*		
	Male	*Female*	*Total*	*Male*	*Female*	*Total*	*Male*	*Female*	*Total*
2010-11	1132 (0.29)	1106 (0.38)	2238 (0.33)	44635 (11.46)	49767 (17.11)	94402 (13.88)	343731 (88.25)	239957 (82.51)	583688 (85.80)
2011-12	1199 (0.29)	1169 (0.30)	2368 (0.30)	36478 (8.78)	46077 (11.99)	82555 (10.32)	377680 (90.93)	336980 (87.70)	714660 (89.38)
2012-13	1025 (0.25)	1136 (0.31)	2161 (0.28)	36686 (8.78)	48334 (13.21)	85020 (10.85)	380176 (90.98)	316407 (86.48)	696583 (88.88)
2013-14	1570 (0.37)	1473 (0.41)	3043 (0.39)	36505 (8.54)	50025 (14.04)	86530 (11.04)	389582 (91.10)	304894 (85.55)	694476 (88.58)
2014-15	1338 (0.33)	1366 (0.37)	2704 (0.35)	35542 (8.72)	51731 (13.85)	87273 (11.17)	370577 (90.95)	320416 (85.78)	690993 (88.48)
2015-16	1643 (0.43)	1755 (0.49)	3398 (0.46)	38340 (9.93)	57892 (16.18)	96232 (12.94)	346010 (89.64)	298258 (83.33)	644268 (86.61)
2016-17	1817 (0.42)	1784 (0.44)	3601 (0.43)	57433 (13.22)	90425 (22.31)	147858 (17.61)	375085 (86.36)	313060 (77.25)	688145 (81.96)
2017-18	1632 (0.40)	1696 (0.41)	3328 (0.40)	47613 (11.60)	82880 (19.88)	130494 (15.77)	361144 (88.00)	332361 (79.71)	693505 (83.82)
2018-19	1855 (0.47)	1991 (0.45)	3846 (0.46)	39800 (10.07)	69046 (15.69)	108846 (13.03)	353487 (89.46)	368952 (83.85)	722439 (86.51)
2019-20	1810 (0.46)	2356 (0.53)	4166 (0.50)	41587 (10.46)	69928 (15.87)	111515 (13.30)	354321 (89.09)	368329 (83.59)	722650 (86.20)

Note: Figures in parentheses indicate the percentages to the totals.
Source: All India Survey on Higher Education (2010-11 to 2019-20)

Gender Gap among Scheduled Castes in Higher Education in India and Haryana

Education is considered as a master key in the uplift of scheduled castes population in India (Dubey and Mathur, 1972: 165-176). Provision of educational opportunities to the scheduled caste communities comprises many important welfare schemes such as post-matriculation scholarships, girls' hostels, overseas scholarships, and pre-examination training for appearing in competitive and civil services examinations. Enrolment of female students belonging to the scheduled castes in Haryana increased from 37.47 per cent in 2010-11 to 50.75 per cent in 2019-20 (Table 8), where the gender gap declined to −1.50 percentage points in 2019-20 from 25.06 percentage points in 2010-11. In case of India, enrolment of female students belonging to the scheduled castes increased from 43.35 per cent in 2010-11 to 49.55 per cent in 2019-20 and as a result Gender gap declined to 0.90 percentage points in 2019-20 from 13.30 percentage points in 2010-11, indicating about thirteen times fall as compared to −1.50 percentage points in 2019-20 from 25.06 percentage points in Haryana in 2010-11. It is again a happy event that in Haryana: (a) scheduled caste women's enrolment increased by about 6.20 per cent points between 2010-11 and 2019-20; and (b) their gender gap witnessed an extremely sharp fall, indicating thereby that scheduled caste women in Haryana have woken up in a big way to share their responsibility in the nation building task with much more vigour and vitality than at the national level.

TABLE 8

Gender Gap in the Enrolment of Scheduled Castes in Higher Education in India and Haryana

Year	*Scheduled Castes Enrolment in Haryana*				*Scheduled Castes Enrolment in India*			
	Male	*Female*	*Gender Gap*	*Total*	*Male*	*Female*	*Gender Gap*	*Total*
2010-11	53733 (62.53)	32196 (37.47)	25.06	85929 (100.0)	1725080 (56.65)	1320045 (43.35)	13.30	3045125 (100.0)
2011-12	67375 (57.03)	50767 (42.97)	14.06	118142 (100.0)	1981164 (55.46)	1590910 (44.54)	10.92	3572074 (100.0)
2012-13	68024 (58.58)	48095 (41.42)	17.16	116119 (100.0)	2119261 (55.08)	1728681 (44.92)	10.16	3847942 (100.0)
2013-14	69585 (58.93)	48493 (41.07)	17.86	118078 (100.0)	2290173 (54.04)	1948034 (45.96)	8.08	4238207 (100.0)
2014-15	68611 (56.96)	51854 (43.04)	13.92	120465 (100.0)	2504463 (54.37)	2102203 (45.63)	8.74	4606666 (100.0)
2015-16	63751 (55.50)	51120 (44.50)	11.00	114871 (100.0)	2606117 (54.18)	2204197 (45.82)	8.36	4810314 (100.0)
2016-17	67346 (54.63)	55939 (45.37)	9.25	123285 (100.0)	2731689 (53.65)	2359826 (46.35)	7.30	5091515 (100.0)
2017-18	66207 (52.64)	59574 (47.36)	5.28	125781 (100.0)	2774933 (52.55)	2505428 (47.45)	5.10	5280361 (100.0)
2018-19	67317 (49.95)	67451 (50.05)	-0.10	134768 (100.0)	2835663 (50.94)	2731415 (49.06)	1.88	5567078 (100.0)
2019-20	64017 (49.25)	65958 (50.75)	-1.50	129975 (100.0)	2854313 (50.45)	2803359 (49.55)	0.90	5657672 (100.0)

Note: Figures in parentheses indicate the percentages to the totals.
Source: All India Survey on Higher Education (2010-11 to 2019-20)

Enrolment of Scheduled Castes and All Categories in Higher Education in India

In all categories of enrolment, around 56.24 per cent were males enrolled in higher education in India whereas female enrolment was just 43.76 per cent in 2010-11 (Table 9). The degree of disparity in their enrolment increased from 43.76 per cent in 2010-11 to 49.03 per cent in 2019-20. Overall enrolment of scheduled castes in higher education increased from 11.07 per cent in 2010-11 to 14.68 per cent in 2019-20. As per the Census of India, scheduled caste population in India increased by 2.03 per cent from 1971 to 2011 whereas the enrolment of scheduled castes in India increased by 3.61 per cent from 2010-11 to 2019-20. The sustainable growth in the enrolment of scheduled castes, witnessed between 2010-11 and 2018-19, meant an increase from 11.07 per cent to 14.89 per cent, while 11.15 per cent scheduled caste male students and 10.97 per cent female students got enrolled in higher education that grew to 14.53 per cent male and 14.84 per cent female

students in 2019-20. Interestingly, the improvement in the enrolment of scheduled caste females has been more rapid than that of scheduled caste males in India. The male-female disparity in all categories of students declined sharply from 12.48 per cent points in 2010-11 to 1.94 per cent points in 2019-20. Notably, there is a gradual improvement in the enrolment of female students belonging to the scheduled castes --- from 10.97 per cent in 2010-11 to 15.02 per cent in 2018-19 --- though it marginally declined to 14.84 per cent in 2019-20.

TABLE 9

Enrolment of Scheduled Castes and All Categories in Higher Education in India

Year	*Scheduled Castes Enrolment in India*			*All Categories Enrolment in India*		
	Male	*Female*	*Total*	*Male*	*Female*	*Total*
2010-11	1725080 (11.15)	1320045 (10.97)	3045125 (11.07)	15466559 (56.24)	12033190 (43.76)	27499749 (100.0)
2011-12	1981164 (12.25)	1590910 (12.23)	3572074 (12.24)	16173473 (55.42)	13010858 (44.58)	29184331 (100.0)
2012-13	2119261 (12.75)	1728681 (12.77)	3847942 (12.76)	16617294 (55.11)	13535123 (44.89)	30152417 (100.0)
2013-14	2290173 (13.09)	1948034 (13.13)	4238207 (13.11)	17495394 (54.10)	14840840 (45.90)	32336234 (100.0)
2014-15	2504463 (13.55)	2102203 (13.37)	4606666 (13.47)	18488619 (54.04)	15723018 (45.96)	34211637 (100.0)
2015-16	2606117 (14.02)	2204197 (13.78)	4810314 (13.91)	18594723 (53.77)	15990058 (46.23)	34584781 (100.0)
2016-17	2731689 (14.39)	2359826 (14.11)	5091515 (14.26)	18980595 (53.16)	16725310 (46.84)	35705905 (100.0)
2017-18	2774933 (14.45)	2505428 (14.37)	5280361 (14.41)	19204675 (52.41)	17437703 (47.59)	36642378 (100.0)
2018-19	2835663 (14.76)	2731415 (15.02)	5567078 (14.89)	19209888 (51.36)	18189500 (48.64)	37399388 (100.0)
2019-20	2854313 (14.53)	2803359 (14.84)	5657672 (14.68)	19643747 (50.97)	18892612 (49.03)	38536359 (100.0)

Note: Figures in parentheses indicate the percentages to the totals.
Source: All India Survey on Higher Education (2010-11 to 2019-20)

Enrolment of Scheduled Castes in Higher Education in Haryana

The scheduled caste students' enrolment in higher education in Haryana increased from 11.25 per cent in 2010-11 to 13.92 per cent in 2019-20 (Table 10), indicating a sustainable growth in the overall enrolment of scheduled castes, both of male and female categories. However, growth in the enrolment of scheduled caste females increased was more rapid as compared to the scheduled caste males. There was also an improvement in the enrolment of

scheduled caste females as compared to the enrolment of females of other categories. Enrolment of female in all categories improved rapidly from 39.98 per cent in 2010-11 to 50.67 per cent in 2019-20 which may be due to an awareness about the central and state government schemes, facilities and incentives; this awareness was further augmented by social media which helped them realise the value of education: it is only education, social awareness and employment opportunities that may uplift the social status of disadvantaged groups and the scheduled castes in the state.

TABLE 10

Enrolment of Scheduled Castes and All Categories in Higher Education in Haryana

Year	*Scheduled Castes Enrolment in Haryana*			*All Categories Enrolment in Haryana*		
	Male	*Female*	*Total*	*Male*	*Female*	*Total*
2010-11	53733 (11.73)	32196 (10.55)	85929 (11.25)	458239 (60.02)	305283 (39.98)	763522 (100.0)
2011-12	67375 (13.75)	50767 (12.60)	118142 (13.23)	490029 (54.88)	402923 (45.12)	892952 (100.0)
2012-13	68024 (13.66)	48095 (12.45)	116119 (13.13)	498146 (56.33)	386218 (43.67)	884364 (100.0)
2013-14	69585 (13.98)	48493 (12.85)	118078 (13.50)	497689 (56.88)	377284 (43.12)	874973 (100.0)
2014-15	68611 (14.36)	51854 (12.97)	120465 (13.72)	477821 (54.44)	399892 (45.56)	877713 (100.0)
2015-16	63751 (14.23)	51120 (13.33)	114871 (13.81)	448069 (53.88)	383590 (46.12)	831659 (100.0)
2016-17	67346 (13.66)	55939 (12.94)	123285 (13.32)	493110 (53.29)	432180 (46.71)	925290 (100.0)
2017-18	66207 (14.17)	59574 (13.36)	125781 (13.77)	467389 (51.17)	446054 (48.83)	913443 (100.0)
2018-19	67317 (14.72)	67451 (14.30)	134768 (14.51)	457289 (49.23)	471604 (50.77)	928893 (100.0)
2019-20	64017 (13.90)	65958 (13.94)	129975 (13.92)	460487 (49.33)	473054 (50.67)	933541 (100.0)

Note: Figures in parentheses indicate the percentages to the totals.
Source: All India Survey on Higher Education (2010-11 to 2019-20)

Scheduled Caste Members Employed in Government Sector in Haryana

The proportion of scheduled caste employees in government offices in Haryana was 12.15 per cent in 2019-20; of them, 41.93 per cent were in the for Class III jobs; 18.63 per cent in Class IV category jobs; while 7.17 per cent and 1.19 per cent respectively were Class II and Class I officials. On the other hand, 31.08 percentage of the employees were engaged

on contract basis. An analysis of data for the last ten years shows that 48.72 per cent worked in Class III category in 2014-15; 8.95 per cent in Class IV category; indicating 0.18, 2.22 and 6.21 per cent points rises in the Class I, II and III category jobs respectively and a 1.20 per cent fall in jobs in the overall category from the previous year 2013-14. About two and a half times fall or decline in the employment of Class IV category can be seen in 2014-15; this indicates a cut in the jobs to be filled up or abolition of Class IV category posts after the retirement of employees in different departments of the state government. Sustainable growth in the employment of scheduled castes can be seen in the case of contractual jobs --- with about 5 per cent points increase between 2013-14 and 2014-15. There has been an increasing share and growth of scheduled caste employees in Class I and Class II category jobs in the academic, research, administrative, scientific and technical research organisations. This may be taken to be a healthy sign for development of a knowledge society.

TABLE 11

Scheduled Castes Employed in Government Sector in Haryana

Job Category	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Class I	438 (0.66)	552 (0.80)	478 (0.71)	524 (0.77)	566 (0.95)	716 (1.03)	748 (1.06)	765 (1.06)	960 (1.11)	1040 (1.19)	6787 (0.95)
Class II	2348 (3.52)	2499 (3.60)	2858 (4.27)	2732 (4.01)	3707 (6.23)	4223 (6.06)	4550 (6.44)	4891 (6.80)	6098 (7.05)	6236 (7.17)	40142 (5.60)
Class III	29023 (43.47)	29450 (42.46)	29122 (43.50)	28926 (42.51)	28965 (48.72)	29206 (41.89)	28689 (40.59)	29416 (40.89)	36076 (41.70)	36492 (41.93)	305365 (42.62)
Class IV	18194 (27.25)	17894 (25.80)	15845 (23.67)	15125 (22.23)	5319 (8.95)	15634 (22.43)	15401 (21.79)	14473 (20.12)	16688 (19.29)	16217 (18.63)	150790 (21.05)
Contract Basis	16760 (25.10)	18964 (27.34)	18650 (27.86)	20746 (30.49)	20901 (35.15)	19936 (28.60	21296 (30.13)	22394 (31.13)	26687 (30.85)	27045 (31.08)	213379 (29.78)
Total	66763 (9.32)	69359 (9.68)	66953 (9.34)	68053 (9.50)	59458 (8.30)	69715 (9.73)	70684 (9.87)	71939 (10.04)	86509 (12.07)	87030 (12.15)	716463 (100.0)

Note: Figures in parentheses indicate the percentages to the totals.
Source: Statistical Abstract of Haryana, 2010-11 to 2019-20
*Contingency paid, work charged and contractual jobs.

Free Flow of Information and Knowledge for Research and Development

Access

High quality research and creation of new knowledge --- necessary to sustain the growth, progress and overall development of a nation in a knowledge-based society ---

requires high quality institutes of higher education that produce well-educated citizenry and top-class scientists, engineers, etc, with the primary objective of ensuring a free flow of information and knowledge in a conducive and respectful environment for intellectuals in their "scholarly pursuits." Quality education and quality research are necessary for creation of new knowledge and of a global knowledge-based society.

Challenges

Vast unpublished knowledge available in the form of electronic theses and dissertations (ETDs), research and project reports, patents and standards and other policy documents, may have to be managed and tapped to meet the information needs of a new order --- social, economic, political and applied sciences --- that requires an urgent attention of the decision-makers and administrators. It involves acquiring, processing, digitizing and disseminating scholarly work worldwide, with an interface of quality content, talent and research to the cause of building a global knowledge society, which requires, in turn, collaboration and coordination of all stakeholders, public and private partnership (PPP) of developed and developing nations to exchange talent and expertise for the development of a healthy knowledge society. Emergence of the Internet and digital era is prone to spreading knowledge worldwide. Moreover, cooperative/collaborative research and development programmes and infrastructure to access knowledge among the scientific community ought to be set up to fill the gap between digital divide and knowledge divide; and to disseminate and share knowledge among the global research community effectively, to carry out and accomplish innovations for an inclusive development of the society as whole.

Opportunities

Free flow of educational resources and information --- for example, through the MIT Open Course Ware (OCW), Study Webs of Active-Learning for Young Aspiring Minds (SWAYAM) and National Programme on Technology Enhanced Learning (NPTEL), Massive Open Online Courses (MOOCs), Open Educational Resources (OER) like National Digital Library of India (NDLI), Digital Archives of Education Documents, Directory of Open Access Journals (DOAJ) and Directory of Open Access Books (DOAB), Open Source Software (OSS) like Koha, DSpace and EPrints, Electronic Theses and Dissertations (ETDs) like Networked Digital Library of Theses and Dissertations (NDLTD) and Shodhganga, etc --- offers quality education to all and opportunities to developing countries to manage and disseminate the educational resources to the coming generation of scholars in that low-cost and high-speed Internet is indispensable for access and utilisation of the knowledge available.

Communication Portals can Do It

Knowledge as power and as a source of income is continuously growing, contributing to increases in the gross domestic product (GDP) of a country via empowering the poor and deprived sections of the society also, to share their capacity towards building a sustainable society. The UNESCO (2005: 28) has emphasised "the use of information and communication technologies to build knowledge societies" for human development and the achievement of human rights. Knowledge society promotes human development, empowerment,

achievement of human rights and equipping, particularly the deprived, the poorest, the marginalised and the vulnerable to fight for their rights and to make their contribution to the development of a knowledge-based global society. The ICT is the source of dissemination, sharing of knowledge, strengthening specialised socialisation spreading the value of the right to freedom of expression and encouraging the use of freeware and inexpensive computer hardware. The creation of portals equipped with protected content, cited above do aim at stimulating equality in the access to quality education and access to knowledge at global level. "The free circulation of information is not in itself sufficient to build genuine knowledge societies. Information must be exchanged, compared, criticised, assessed and absorbed with the help of scientific research and philosophical enquiry, if everyone is to be able to produce new knowledge based on the flow of information" (UNESCO 2005: 28). Institutions of higher education, research organisations, libraries and knowledge centres play an instrumental role in the production, dissemination and sharing of knowledge through networking and digitisation.

Haryana – A Knowledge Hub in the Making

The state of Haryana has all the potentials for being a knowledge hub, as articulated below.

a) Urbanisation, industrialisation and digitisation in Haryana has increased rapidly with almost twice a quantum jump between 1971 (17.66 per cent) and 2011 (34.88 per cent), as compared to that in India during the same period (from 19.91 per cent in 1971 to 31.15 per cent in 2011). This is particularly because of (a) its location in close proximity to the national capital region (NCR); (b) opening of new educational institutions; (c) people migrating from rural to urban areas; and (d) increasing awareness among its people.

b) Haryana witnessed a more rapid increase in female population --- from 46.26 per cent in 2001 to 46.77 per cent in 2011, indicating an increase in women's strength by 0.51 percentage points over the decade. Enrolment of girls in higher education programmes, both at postgraduate and PhD levels, too increased sharply with 15.87 per cent and 0.53 per cent enrolled in the respective programmes. It is the education that can eradicate poverty and raise education and health among deprived sections especially scheduled castes since income inequality transfers poverty from one generation to another. Improvement in women education is linked to a rise in the healthier and more educated children because "parental education predicts higher educational attainment for children" (World Bank Report 2018: 41).

c) The number of educational institutions in Haryana has also increased rapidly --- from 21 universities and 1,054 colleges in 2010-11 to 53 universities and 1,087 colleges in 2019-20 --- as compared to that in the whole of India from 621 universities and 32,974 colleges in 2010-11 to 1,043 universities and 42,343 colleges to impart higher education to its youth. This indicates that in case of universities the rate of increase was 2.52 times in Haryana --- as against 1.68 times in India. However, this rate was just reverse in case of increase in number of colleges as it was 1.03 times in Haryana as against 1.28 times in India. Opening of more universities and degree granting institutions does mean an explosion of awareness and knowledge about the value of modernisation with quality education and research as two pillars of the foundation of a knowledge-based society

towards raising the standard of education with an express focus on research and development both at school and higher education levels. Migration of people from rural areas to NCR, increasing employment opportunities because of modernisation and industrialisation and an active role of social media --- these have increased the enrolment and an awareness about the importance of education among deprived sections of society, especially the scheduled castes.

d) Gender gap in the enrolment of scheduled castes in Haryana too has declined or turned negative in a decade --- from 25.06 per cent in 2010-11 to −1.49 per cent in 2019-20 as compared to that in India from 13.30 per cent in 2010-11 to 0.90 per cent in 2019-20 respectively. It shows that the awareness level and empowerment among females, particularly those of the scheduled castes, did increase over this period. Awareness about the facilities and their utilisation at educational institutions such as in admission, provision of scholarships, tuition fee, special hostel facilities, coaching facilities, provision of scholarships offered by the state and central governments did help bring awareness among the scheduled castes to contribute to the advancement of a knowledge society.

e) The study reveals that employment opportunities for scheduled caste employees have proliferated apidly. About 12.15 per cent of the scheduled caste employees were found to be working in the government sector institutions in Haryana. These comprised 41.93 per cent in Class III category jobs, 31.08 per cent on contract basis, 18.63 per cent in Class IV category jobs; 7.17 per cent in Class II category jobs and 1.19 per cent in Class I category jobs in 2019-20. Representation of the scheduled caste employees in Class I and Class II category jobs increased rapidly as compared to other categories. Centrally sponsored schemes, incentives and free coaching facilities seem to have attracted the attention of disadvantaged groups of the society, specially scheduled castes, to participate in higher education and make their contribution in the advancement of the state. Emergence of ICT, educational, research and training organisations in the state appear to have enhanced the employment opportunities for the scheduled castes.

In short, knowledge development among the scheduled castes in Haryana and their growing contribution in the fields of education and employment are a welcome move in the direction of building a knowledge society in the state as well as in the NCR. The goal of education is not merely to gain knowledge and get the degrees; it is, indeed, the transfer of that knowledge into meaningful creativity and innovative work; to empower human beings in their respective field to contribute their share in building a knowledge society. Knowledge is power; it grows and expands when shared and skilfully harnessed whole-hog for the benefit of society, including its deprived sections, in particular. In a knowledge society, free flow and sharing of information, openness in dialogue, debate and freedom of expression are a 'must,' and this requires quite a skilful and well-educated workforce which is a key to successful entrepreneurship in a global competitive market. This is because the ICT tools are a key to creating a knowledge network, manage vast amounts of information and disseminate information in the thrust areas.

Conclusion

Opening of a number of higher education institutions in the state as well as in the nation doesn't mean that the nation has fully ensured the rights of individual or research and development in diverse areas. This may happen only if all categories of youths, graduates and scholars working in different areas contribute to the development of a knowledge society as well as for the prosperity of the nation. No doubt, the government's affirmative policies have increased the gross enrolment ratio (GER) in higher education institutions and given more opportunities of learning and protection to the scheduled caste students. Implementation of the government's reservation policy at the school, higher, technical, professional levels, in the employment sector, and in various programmes and policies for the sake of educational development of scheduled caste students, changes in the syllabus/curriculum "representation of the knowledge culture of scheduled caste and other disadvantaged groups" (Dhende, 2017) can bring about positive social and economic changes in favour of the disadvantaged students. These groups, especially the scheduled castes, face isolation, discrimination, academic and employment challenges and several other troubles while studying in higher education institutions. But even higher education institutions have set up SC-ST Cells/Units and made several efforts to promote the equality of opportunity in the field of learning, to address various forms of diversity and to mitigate the problems faced by the disadvantaged students at the institutional level (Varghese, 2021).

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Governance and Collegiate Education in Meghalaya: Implementation of UGC Regulations

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Abstract

Universities and colleges are fertile grounds for new ideas, innovation and research that shape the key sectors and thereby help create cohesive and fair societies, an effective governance of which becomes fundamental. In India, the process of governance of higher education involves agents at three levels --- the national, state and institutional level agents. This paper attempts to examine the role of the state and institutional agents of governance in Meghalaya in the process of implementing the regulations adopted by the national regulatory body --- the University Grants Commission. The study revealed that no committed efforts have been made to effectively implement the regulations whereof a number of the provisions have been breached upon.

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Introduction

In India, higher education institutions (HEIs) extends from undergraduate to the research level of education. They may be broadly categorised into university, college and stand-alone institutions and, in terms of the volume of enrolment, it is the colleges which play a highly significant role. According to the All India Survey on Higher Education (AISHE) report for 2019-20, there were 42,343 colleges constituting 76.8 per cent of the total number of higher education institutions and accounting for a total enrolment of 27.2 million, out of the total of 38.5 million enrollments (Government of India, Ministry of Education, 2020). The collegiate education system in India has, since 1857, been following the University of London model introduced by the British where colleges are affiliated to universities (Singh, 2003; Sharma 2020), either central or state. Unlike the universities, the affiliated colleges have no academic autonomy; framing of syllabi and conducting the examinations are within the domain of the affiliating university (Muzammil, 2020) and the colleges have to abide by the affiliation rules of the respective universities (Sharma, 2020). However, for general administration, affiliated colleges are managed by a department of the concerned state government in accordance with the state government's own rules for government colleges (Sharma, 2020) and by the governing bodies in accordance with the rules of the sponsoring body/trust/society and the state government's rules in case of private colleges (Sharma, 2020). However, the control of the state is more in the case of the government aided than the unaided private colleges. The present system of affiliation has been critiqued to be plaguing the Indian higher education system with mediocre performance, especially in research. This was why the National Education Policy of 1986 aimed at promoting the idea of autonomous colleges after which the University Grants Commission (hereafter: UGC) sought to encourage and support various colleges to become autonomous. The idea behind granting autonomy to colleges is to unshackle them from the "academic colonial system and enable them to take academic decisions including framing of curriculum, the system of teaching and evaluation" (Sharma, 2020: 134-135). However, the growth of autonomous colleges in India has been slow. They numbered only 621 as in 2018, accounting for only 1 per cent of the total number of colleges in India. About 84 per cent of these autonomous colleges were located in only from seven states, viz, Andra Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Tamilnadu and Telengana) (Sharma, 2020).

Meghalaya, especially its capital city, Shillong, inherited a robust general collegiate education from the colonial era, established mainly by the Christian Missionaries and the members of the Bengali community. However, it was only after the 1960s that the state experienced a quantitative growth of collegiate education. According to the Government of Meghalaya, Education Department (2020), the state has 57 colleges providing general education. Of these, five are government colleges, fourteen are private deficit grant-in-aid colleges, seven are private adhoc grant-in-aid colleges, six private lump-sum grant-in-aid

colleges, and twenty five are those self-financed private colleges.[1] Besides, there are colleges that offer professional courses such as law, teacher education, nursing and medicine.

While some of the colleges in Meghalaya are under the legislative and administrative control of the Union Government, most of the colleges are under the control of the Education Department the Government of Meghalaya (hereafter: state government), and the department is headed by a cabinet level Education Minister. Below the Education Department, there is a Directorate of Higher and Technical Education (DHTE) headed by a Director. Besides, the non-government colleges have their own governing bodies for management at the institutional level. All the colleges in Meghalaya are affiliated to the North Eastern Hill University (NEHU) which is a central university. These colleges do not enjoy autonomy. Administratively, the government colleges are directly controlled by the DHTE in matters of appointment, transfer, promotion and retirement of the principal and other staff. In other words, DHTE is more or less a body for management of the government colleges. Though the deficit and adhoc grant-in-aid colleges are governed by their respective governing bodies, the DHTE has the ultimate control. The governing bodies as well as the staff are governed by the rules and orders notified by the state government from time to time. The matters relating to the appointment, promotion and retirement of staff have to be approved by the DHTE.

Education is the pivot around which all other aspects of a society revolve. Proper and effective governance of education is of fundamental importance in view of the role it plays in the development of the concerned society. The present paper makes an attempt to critically examine the process of governance of collegiate education in Meghalaya in the context of the implementation of the regulations which have been notified by the University Grants Commission (UGC) from time to time and which are applicable to the colleges. These regulations seek to stipulate the minimum qualifications for appointment of teachers and other academic staff, and also concern other measures for the maintenance of standards in higher education.

Conceptualising Governance

Historically, it was the neo-liberals who propagated the concept of governance and this was used to refer to the changing role of the state in the service delivery system in the 1980s and 1990s. This "led to a shift from a hierarchic bureaucracy toward a greater use of markets, quasi-markets, and networks (Bevir, 2007: 364). However, it was the World Bank (1989) that first coined the term "governance" in its developmental studies in Sub-Saharan Africa in conjunction with the term "good," in view of the necessity of bringing structural and

[1] The state government extends 100 per cent and 75 per cent of an employee's salary appointed in the government sanctioned posts for the deficit and adhoc grant in aid colleges respectively. In the case of lumpsum grant-in-aid colleges, the state government provides lumpsum financial aid to the college managements. Recently, the people's college grant-in-aid scheme was introduced where 100 per cent of employees, employed against the state government sanctioned posts, is borne by the state government. While teachers in deficit colleges are extended the UGC scale of pay, teachers in adhoc and people's colleges are extended the state scale of pay which is lower in comparison to the UGC scale. The state government provides no scale of pay for employees in the lumpsum grant-in-aid colleges

functional changes to effect development in the Sub-Saharan Africa. In its *Governance and Development*, the World Bank defined governance as "the manner in which power is exercised in the management of a country's economic and social resources for development" (World Bank, 1992: 1). Further, the World Bank laid stress on the principles of efficiency, accountability and transparency in the functioning of the government as essential elements of good governance which assumes critical importance in achieving development which is both equitable and sustainable. When the World Bank advanced the agenda of governance, it limited its activities to framing policies, transparent rules and regulations and running an accountable administration enabling the private players in the economy to operate with reasonable freedom taking the country in the development trajectory (Mathur, 2008: 3).

Governance has now become a greatly popular concept, used extensively across disciplines and human activities (Mathur, 2008), and its definitions are always contextualised (Shattock, 2006). In the context of university in the United Kingdom, Shattock (2006) defined goverance by stressing on fundamental structures and procedures by which the affairs of the university are managed. Similarly, in the context of higher education in India, Taneja conceptualises governance as "the means by which institutions are formally organised and managed" (Taneja, 2017: 158). While discussing governance of higher education in India, Carnoy and Dossani (2013) used the concept of governance in the domain of decision making and control. Varghese and Malik (2020) extended the definition of educational governance beyond organisation and management by taking into account the result oriented objective. According to them, educational governance are related to "structures and processes of decision making to ensure improved performance and accountability of organisations" (Varghese & Malik, 2020: 1). Further, the agents of governance have been identified by them to be operating at two levels. At the national level, these agents include "political leadership, regulatory bodies, and senior administrators" (Varghese & Malik, 2020: 1) and at the level of an institution, its governing body is an important agent of governance which plays an important role "in providing guidance to institutional leaders to translate their vision into operational practice" (Varghese & Malik, 2020: 1).

Using the premise laid down by Varghese and Malik, another category of the agents of governance for institutions under the control of the state government may be identified which include the state's political leadership and the state bureaucrarcy, besides the instutional leadership. Contextualising his analysis on the affiliated colleges, Muzammil (2020) defines governance as putting in place the necessary measures, academic and infrastructural, by which colleges can properly and efficiently execute their tasks. It also means that proper rules and regulations are duly notified by the superior authorities and that they are effectively enforced by the college management.

In this paper, the concept of governance is focussed on the role of the state level agents of governance to adopt and effectively enforce the rules and regulations notified by the legally competent regulatory body, i.e., the UGC with an objective of ascertaining the extent of implementation of the referred-to rules and regulations and also to identify the gaps regarding its implementation which are detrimental to the objective of achieving quality education in particular and the interests of the society in general.

UGC Regulations and Their Applicability in States

Over the last seven decades, the UGC has come up with a number of regulations, notified from time to time, with an objective to define the minimum qualifications and other measures to maintain the standard of higher education in universities and colleges in the country. It was in 1983 that the UGC notified such a regulation entitled the University Grants Commission (Qualification Required of a Person to be Appointed to the Teaching Staff of a University or Other Institutions Affiliated to It) Regulations, 1982, and since then similar regulations were successively notified --- after each central pay revision the latest of which was in 2018.

The UGC regulations contain provisions touching different areas that are deemed necessary by the UGC to maintain the standard of higher education in the country. However, this paper highlights only those provisions that are concerned with the designations, minimum qualifications and the constitution of selection committee for the recruitment of teaching staff in colleges, minimum qualifications as well as the constitution of selection committee for the principals and their tenure of office. It is the implementation of these provisions only will be subsequently examined.

From Table 1, it can be observed that the UGC has changed the designations of teachers in colleges, and these designations are applicable throughout India. While the regulations of 1982 provided only one designation, i.e., lecturer, the regulations of 1991 and 2000 provided two more designations above the post of lecturer, and these were the promotional posts. However, the regulations of 2010 and 2018 rechristened the designations as assistant professor, associate professor and professor.

TABLE 1

Designations of Teaching Staff in Colleges

Regulations	*Designations of Teaching Staff in Colleges*
Regulations 1982	Lecturer
Regulations 1991 and 2000 Regulations	Lecturer, Senior Lecturer and Selection Grade Lecturer
Regulations 2010 and 2018	Only three designations were provided- Assistant Professor, Associate Professor and Professor

Source: UGC Regulations

From Table 2, it can be observed that the UGC has set different standards of minimum qualifications from 1982 onward. The regulations of 1982 laid emphasis on research and publications to determine the minimum qualification for a person to be appointed as a teacher in a college. However, concerned with the varying quality of education provided by the different universities, the UGC came with the idea of standardising the quality by conducting the national level eligibility. Accordingly, the regulations of 1991 and other subsequent regulations, besides prescribing the requirement a minimum score of 55 per cent at the post-graduation, also stipulated that a candidate needed to have qualified NET; of course, exemptions were made for certain categories of candidates such as those possessing higher qualifications.

TABLE 2

Minimum Qualifications to be Appointed as Lecturer/Assistant Professor in a College

Regulations	*Qualifications for Lecturer/Assistant Professor*
Regulations 1982	Qualifications were: (a) an MPhil degree or should have publications indicating of his/her capacity for conducting research works; (b) If no candidate possessing MPhil degree was available or found suitable, a candidate having good academic record can be appointed with a rider that such candidate ought to qualify for MPhil degree or able to publish work of high standard within eight years from the date of appointment failing which future increments would be withheld until the criteria were met.
Regulations 1991	Qualifications were: (a) Good academic record with the minimum percentage marks of 55 per cent at the Master degree level or equivalent grades. For candidates belonging to Scheduled Caste and Scheduled Tribe, the minimum percentage was relaxed to 50 per cent. (b) Qualifying the eligibility test for lecturers to be conducted by UGC, Council of Scientific & Industrial Research (CSIR) or other tests recognised by the UGC. The eligibility test condition was subsequently waived off in February 1993, June 1993 and 1995 amendments for the candidates who: (a) Were qualified in the UGC/CSIR Junior Research Fellowship Examination; (b) Who had been already awarded PhD; (c) Who had been already awarded MPhil degree up to December 31, 1993 and those who already submitted PhD thesis by December 31, 1993.
Regulations 2000	The qualifications prescribed by regulations of 1991 were retained. The 2002 amendment to the regulations of 2000, however, further exempted candidates who submitted their PhD thesis by 31 December 2002 from mandatory clearing NET examination. The amendment was made in 2006 where by the candidates with PhD degree were exempted from NET requirement for teaching both at the under-graduate (UG) and post-graduate (PG) levels while candidates with MPhil degree were exempted from appearing NET examination for teaching at the UG level only. The requirement for NET can be relaxed only by the UGC for those subjects in which NET examinations could not be carried out or in those subjects where the number of NET qualified was numerically insufficient.
Regulations 2010	Qualifications were: (a) A minimum of 55 per cent marks at the master's degree or equivalent grade and also should have cleared NET/SLET. (b) NET/SLET is exempted only for candidates with PhD awarded in accordance with the University Grants Commission (Minimum Standards and Procedure for Award of PhD degree) Regulations, 2009.
Regulations 2018	The qualifications provided in UGC Regulations 2010 were retained.

Source: UGC regulations

Table 3 shows that though the UGC Regulations of 1982 and 1991 did not prescribe for the constitution of a selection committee for the recruitment of teachers in higher education institutions including colleges, yet subsequent regulations of 2000, 2010 and 2018 contained provisions that lay down the composition of a selection committee. Therefore, colleges and the state governments have less autonomy in the matter of selection and appointment of teachers, as the affiliating university has an important role to play in the process of the selection of teachers.

TABLE 3

Constitution of Selection Committee for the Appointment of Lecturer/ Assistant Professor in a College

Regulations	*Selection Committee*
Regulations 1982 and 1991	No provision was made. No provision was made
Regulations 2000	The selection committee for the selection of Lecturer in private colleges consisted of: a) the chairperson of the governing body as the chairperson. b) the principal of the college, head of the department or senior teacher of not less than 10 years of teaching experience c) Two nominees of the of the vice-chancellor one of which should be the subject expert and, d) Two subject experts, who are not part of the college, nominated by the chairperson out of the panel of names approved by the vice-chancellor. For government colleges, the state public service commission must invite three subject experts from the university with the principal and the head of department as other members of the selection committee. The quorum of the selection committee is five with at least two subject experts.
Regulations 2010	The constitution of the selection committee was same as in the regulations of 2000.
Regulations 2018	The constitution of the selection committee was same as in the regulations of 2010.

Source: UGC Regulations

In connection with an appointment of the principal of a college, as outlined in Table 4, the regulations of 1982 and 1991 were silent on the qualification and as well as the composition of the selection committee. However, these matters are clearly spelt out in the subsequent regulations. The post of principal is clearly made a direct recruitment post with qualifications comparable to the post of a professor. However, there is lack of clarity relating to the constitution of a selection committee for the appointment to the post of the principal of a government college, as a separate provision in line with the selection of candidates for appointment of assistant professors in such colleges.

TABLE 4

Minimum Qualifications and Selection Committee for the Appointment of the Principal in a College

Regulations	*Qualifications*	*Selection Committee*
Regulations 1982 and 1991	No provision was made.	No provision was made.
Regulations 2000	The qualifications were: (i) good academic record with a 55 per cent as the minimum score at the master degree or equivalent grade in the grading system; (ii) PhD degree or publications considered equivalent to PhD; and (iii) 10 years of teaching or research experience in colleges/universities/other higher educational institutions.	The selection committee consisted of: (i) Governing Body Chairperson as the chairman (ii) One member from the governing body nominated by the chairperson, (iii) Two nominees of the vice chancellor, one of which should be an expert and (iv) Three experts consisting of a college principal, a professor and eminent educationist of not less than the rank of a professor. (v) The quorum of the committee should not be less than four members in which two should be experts.
Regulations 2010 and Its Amendments	The qualifications were: (i) 55 per cent marks at the master's level or equivalent grade, (ii) PhD degree with evidence of published work and research guidance, (iii) Associate Professor or Professor with teaching experience of 15 years in higher education, (iv) Minimum score in the Academic performance Indicator (API) as provided in the the Reguation required for direct recruitment of professors at the level of a college.	The provisions of the regulations of 2010 were more or less retained with few modifications. The members of the selection committee was increased from seven to ten whereby the members representing the minority communities for minority colleges and also of the Scheduled Castes/ Scheduled Tribes / women/ physically Challenged were also accommodated.
Regulations 2018	All those requirements of regulations of 2010 were retained though the API score has been changed.	The provisions of the regulations of 2010 were retained in regulations of 2018.

Source: UGC Regulations

One of the important positive improvements that the UGC has incorporated in the regulations since 2010, as shown in Table 5, is the limiting of the tenure of the principal of colleges to five years only for one term and with a maximum limit of two terms. This step taken by the UGC would go a long way in bringing stability with dynamism in the administration of the colleges in India.

TABLE 5

Tenure of the Principals in Colleges

Regulations	*Tenure*
Regulations 1982, 1991 and 2000	No provision was made to prescribe the term of office.
Regulations 2010 and its amendments and 2018	Five years and eligible for another term of five years after undergoing through a similar selection procedure.

Source: UGC regulations

The regulations adopted by UGC are the subordinate legislations exercised in accordance with the UGC Act, 1956 and, therefore, have the power of a law. From the reading of the provisions of the Indian Constitution, it is the bounden duty of a state government to implement the provisions of UGC regulations in letter and spirit. Moreover, the states do not have power to make laws on determining the minimum standard of higher education as this is the exclusive power of the Union Government. Besides, the UGC has made it mandatory upon the states to implement the UGC regulations as a composite scheme of each of the UGC pay revisions if the state governments were to claim the financial assistance from the UGC for pay revision. It was further clarified that the UGC regulations are mandatory in nature and the states are expected to implement without any deviation on the pretexts of unsuitability or existence of peculiar 'local conditions' or on the ground that it is the state government that bears the 'establishment cost' arising out of such implementation (University Grants Commission, 2015). The mandatory nature of the UGC Regulations was also observed by the Madras High Court in 2017 which was subsequently upheld by the Supreme Court (*The Hindu*, 2017).

Government of Meghalaya and Implementation of UGC Regulations

In order to examine the state of implementation of the UGC regulations in the state of Meghalaya, three areas have been identified for analysis which include notification of the implementation of the regulations by the Government of Meghalaya (hereafter: state government), and recruitment of teachers and principals in colleges.

1) Notification for Implementation of the UGC Regulations: The state government has adopted the UGC schemes of pay for eligible teachers serving in deficit and government colleges and has always availed the central assistance for implementation of UGC pay revisions with exception of the 1986 pay revision. Therefore, the state government is bound to implement the provisions of the UGC regulations. If we trace the history of

implementation of UGC regulations in Meghalaya, it is evidently marked by the conspicuous absence of any proper notification. This implies that the state government never cared to implement the UGC regulations. Whilst this was quite inconsequential in the implementation of the UGC Regulations 2000 in view of the fact that almost all the provisions of the UGC regulations were already part of the schemes of the UGC pay revisions which the state government duly notified, in the case of the implementation of other regulations, it created a number of snags as there were gaps between such regulations and the corresponding scheme of pay revisions.

In 2012, in view of the non-notification of the implementation of the UGC Regulations 2010, a difficulty emerged regarding the promotion of teaching staff in colleges. To overcome the problem, the Director of the DHTE adopted a measure which lacked legitimacy --- he issued a one-page communication to the principals of deficit colleges, directing them to follow the Appendix II of the UGC Regulations 2010 (Director, Higher and Technical Education, 2020). It may be pin-downed that the Appendix under reference dealt only with the academic performance indicator (API) requirements and the calculation of API scores for the promotion of teachers. However, none of the provisions of the subsequent amendments to the principal regulations of 2010 were notified or incorporated in the college employees' service rules to govern their promotion. Further, another instance of incompleteness and lopsided implementation of UGC Regulations is evident from the action of the Director of DHTE in the context of the implementation of regulations of 2018. On being queried by the President of Meghalaya College Principals' Council in September 2018, "on which UGC regulations should the recruitment and placement of teachers in deficit colleges be based upon," the Director issued a statement advising the colleges to follow the UGC Regulations 2018 in the matters of recruitment and promotion of teachers since the government had already implemented the revised UGC pay scales (Director, Higher and Technical Education, 2020). In April, 2021 a communication was issued by the Director to the principals of deficit colleges to follow the guidelines prepared by his office for recruitment and promotion of teachers based on the provisions of the regulations of 2018 (Director, Higher and Technical Education, 2021). An examination of the communication revealed its flawed character. Firstly, from the point of view of absence of appropriate notification of the state government prior to the issue of the communication by DHTE and, secondly, the silence maintained with regard to the recruitment to the post of principals in such colleges; and, regarding the promotion of teachers in colleges to the post of professor. Moreover, the absence of specification of the effective date of these guidelines resulted in a lack of clarity on whether these guidelines have superseded the UGC Regulations 2010 for recruitment and promotion. Rather, the confusion was accentuated by the fact that an '*option form'* was being supplied to teachers due for promotion to opt for regulations of 2018 signifying that teachers are given the opportunity to continue with the usage of the principal regulations of 2010 in case they decided against exercising the given option. It may not be unbecoming to point out that the action of the DHTE was arbitrary and contrary to the intent and purpose of the regulations of 2018. Further, the guidelines did not encompass all the provisions of the regulations but that, which is restricted to recruitment and promotion of teachers. As in the case of regulations of 2010, there is a clear case of illegitimacy, partiality, incompleteness and arbitrariness in the implementation the regulations of 2018 in the colleges.

The non-notification about the implementation of UGC Regulations and the late issue of communication by DHTE created a confusion in the minds of the administrators and

teaching staff alike in the colleges, thereby affecting effective governance. This was not expected to happen. It may be stated that there have been other states that duly notify the implementation of UGC Regulations. Take, for instance, the Government of Mizoram (2010): within a few months from the date of the UGC notifications of the regulations of 2010, its notified about its implementation in the state. Similarly, the Government of Maharashtra (2019) and the Government of Kerala (2019) notified about the implementation of UGC Regulations 2018 in their respective states in 2019.

2) Recruitment of Lecturers/Assistant Professors: To further examine the state of implementation of UGC Regulations in Meghalaya, attention may be drawn to the matters relating to recruitment and promotion of teachers; these will be specifically looked into here. From the 1980s to date, the Government of Meghalaya has never been fully committed to implement the UGC Regulation on the matters of recruitment of teachers. According to one associate professor (retired) of the Synod College (2021), who was recruited in the early 1980s, there were a number of lecturers who were recruited in colleges recognised under 2 (f) of the UGC Act, 1956 in the state of Meghalaya without possessing an MPhil degree or without having published work to their credit; those who failed to fulfil the requirements were allowed to continue to enjoy the annual increments and promotions in contravention to the regulations of 1982.

Another case in point that merits highlighting is the implementation of NET for recruitment of teachers in colleges, as mandated by the regulations since 1991. This particular provision was found to be unfeasible and impracticable by the state government due to the inability of the UGC to properly conduct NET examinations in North East India (Government of Meghalaya, Education Department, nd). In 2005, the then Secretary of Education to the Government of Meghalaya issued a non-notified order stating the advertisement for the post of lecturer in government as well as in deficit colleges carried the state scale of pay with the requirement of passing NET being made a preferential criterion only. Here the option was given to those possessing required minimum qualifications as prescribed by the UGC to opt for either the UGC scales of pay or state scales of pay (Suchiang, 2005). It may be marked that this order was devoid of an authentic basis for relaxation of the requirement of NET because it was not sanctioned by the UGC as required by the regulations of 2000. In view of this order, there were many instances where teachers without having cleared NET were appointed as lecturers in government colleges. However, such instances were witnessed even in deficit colleges where advertisements usually mentioned the conditions that candidates ought to fulfil UGC norms. For example, one assistant professor in Synod College (2021), who was appointed as lecturer in 2004, was a non-NET and non PhD candidate but was appointed with a rider that the assistant professor under consideration should clear NET within two years from the date of appointment. However, despite the failure to clear the NET within the stipulated time, the assistant professor was allowed to continue in the post but with a lower state scale of pay; subsequently he was allowed to draw UGC pay scales again after clearance of NET in 2007.

In June 2012, the Education Department, Meghalaya notified the Meghalaya Higher and Technical Education Service Rules[2] (hereafter: Service Rules 2012). It may be pointed that for appointment as a lecturer, it provided for direct recruitment with a post-graduation

[2] Before 2012, there were no service rules for those working in government colleges in Meghalaya.

degree as the minimum qualification. No minimum percentage of marks was laid down and a prospective candidate was not required to clear the NET/SLET. Further, it may also be stated that the Service Rules 2012 have no provisions for the UGC's redefined designations; only the designation of lecturer was provided for. Therefore, this Service Rules 2012 contradicted the regulations of 2010 and the subsequent regulations which provided for the existence of three designations in colleges and universities --- assistant professor, associate professor and professor. Further, attention may be drawn to the fact that the Service Rules violates the regulations by not making NET or PhD as the case may be the minimum eligibility criteria.

Consequent to the adoption of Service Rules 2012, the Meghalaya Public Service Commission (MPSC), in its advertisement dated 2 November 2018 for the posts of lecturer in various government colleges, mentioned that the qualification was post-graduation with honours in the subject concerned at the under-graduate level; it added that the concerned posts (Meghalaya Public Service Commission, 2018) carried the state scale of pay. However, in the advertisement, the minimum qualifications set by the UGC were mandated for the aspiring candidates to be eligible for opting for the UGC pay scales. A closer examination of the action taken clearly presents a case of dubious intent on the part of the state government.

The non-compliance by the respective governing bodies and the MPSC with the UGC qualifications for recruitment in colleges lies in the fact that the state government has through its orders and rules relaxed the requirements. This relaxation stems from the policy followed by the state government to recruit only the indigenous tribals as per the state job reservation policy and that, in the earlier years, the number of candidates from these communities having UGC qualifications were inadequate. Moreover, it may imply that the recruitment of those UGC unqualified candidates serves the purpose of the state government to limit the expenditure, as such employees are paid a lesser salary. But this approach runs contrary to the established minimum standards of higher education determined by a competent authority.

In the matters relating to the constitution of a selection committee for recruitment of the assistant professors, as provided by the UGC Regulations 2000, 2010 and 2018, without disinclination, it may be mentioned that the Additional Director, DHTE, admitted that his office had not issued any instruction to the MPSC for the constitution of a selection committee as per the UGC Regulations (Additional Director Higher and Technical Education, 2021). Additionally, the DHTE, which is responsible for nominating the subject experts to the MPSC for conducting interviews for the recruitment of teachers in government colleges, has never adhered to the guidelines of UGC Regulations 2000, 2010 or 2018, with regard to the nomination of experts from the NEHU to the MPSC. According to the Director, College Development Council, NEHU (2021), the university was never involved in the recruitment process conducted by the MPSC. Rather, according to an assistant professor in Tura Government College (2021), who faced an interview in 2009, there was only one subject expert from a deficit college in the selection board of the MPSC and none from the NEHU. This submission was substantiated by another associate professor (retired) of St Anthony's College (2021), who claimed to have knowledge about how the MPSC constituted the selection committee for the recruitment of teachers in government colleges. The MPSC justified their policy on the ground that it was the concerned government department, in this case the DHTE, that nominates the subject experts (Meghalaya Public Service Commission, 2021). On the contrary, according to the vice principal of Synod College (2021) and the

principal of Shillong College (2021), the provisions of the UGC Regulations in the selection of teaching staff of deficit colleges were generally followed. Thus, taking all the above views in consideration, we see that the Education Department and DHTE have been flouting the UGC Regulations in respect to the abovementioned aspect. The faulty recruitment procedure might have resulted in poor selection of candidates and, consequently, it might have impacted the quality of education imparted in the colleges.

3) Recruitment of Principals: In connection with the appointment to the post of principal of a college, it may be again be highlighted that different approaches were adopted in different categories of colleges. There were three practices in vogue in respect to the conditions relating to the qualification of principal in colleges, depending on the type of the management of the colleges. In view of this, appointments were being done in contravention to the UGC Rregulations of 2000, 2010 and 2018, particularly so in government colleges. Contraventions are of three kinds. First, the post of principal is made a promotional post instead of being a direct recruitment post. Second, the committee for the consideration of the appointment of the principal is majorly represented by the bureaucrats who have no expertise in the field of academics. Third, the minimum actually prescribed qualifications are not as per the prescription of the UGC Regulations.

Against the backdrop of the abovementioned facts, one may surmise --- and it is not an arbitrary statement to make --- that most of the persons appointed as principals of government colleges are found wanting in terms of requisite eligibility conditions as laid down by the UGC. It is not far to search for validation of the statement. If one follows closely the position in Kiang Nongbah Government College between 2001 and 2020 as an example, one may step upon a record to show the appointment of principals in the college. It may be noted that during the period, 14 regular principals were appointed in the college, of whom only three were the PhD degree holders (Principal, Kiang Nongbah Government College, 2021). The condition may not be different for other government colleges as the same procedure is followed in the selection of the principals. The instance provides an evidence to prove the callousness and failure to take cognisance of the UGC Regulations by the state government. This state of affairs has been continuing and the practices have eluded the attention of the concerned agencies.

In the matter of an appointment to the post of principal of a deficit college, the post is considered a direct recruitment post, sans compliance to the qualifications prescribed by the UGC Regulations. The governing bodies do not follow the norms of the UGC Regulations in view of the absence of notification and order from the state government. However, the norms prescribed by the UGC Regulations regarding constitution of a selection committee for the recruitment of the post of principal were followed except those belonging to the minority communities. The Education Department and the DHTE generally approve any person appointed by the respective governing bodies, even without fulfilling the norms prescribed by UGC Regulations, as long as they possess a post-graduation degree. According to one assistant professor of St Edmund's College (2021), the persons who were appointed as principals of the college between 2002 and 2011 were having post-graduation in English only as their highest qualification and were not having any teaching experience as mandated by the UGC Regulations. Similarly, according to a vice principal (retired) of Synod College (2021), the appointment of the principal of the college in 2019 was made without any

consideration of the API score, and yet the Education Department and DHTE granted their approval to the appointment.

It is a complete eyewash on the part of the state government in regard to the limiting of the tenure of a principal to five years, extendable with another five years as laid down by the UGC Regulations 2010 and 2018. It is evident from in Table 6 that the appointment of principals in different deficit colleges was done disregarding the laid-down conditions and, instead the position is that, as a matter of practice and tradition, the principals hold the office till retirement from service.

TABLE 6

Principals of Deficit Colleges Appointed after the Notification of UGC Regulations 2010 and 2018

Name of the Colleges	*Date of Appointment of the Principal*	*Tenure Indicated in the Approval of Appointment Order of the Principals*	*Date of Demitting Office by the Principals*
Shillong College	01.07.2011	Not mentioned	31.12.2018 (retired)
St. Anthony's College	01.11.2012	Not mentioned	Serving
St. Mary's College	04.04.2013	Not mentioned	Serving
St. Edmund's College	01.06.2014	Not mentioned	Serving
Don Bosco College	20.06.2017	Not mentioned	Serving
Union Christian College	01.09.2017	Not mentioned	Serving
Nongstoin College	01.01.2018	Not mentioned	Serving
Synod College	02.02.2019	Not mentioned	Serving
Shillong College	01.11.2020	Not mentioned	Serving

Source: Approval of appointment orders issued by DHTE and respective college websites

The non-adherence to the provisions of the UGC Regulations in the matter of appointment of the principals has left the colleges in the state, with few exceptions, devoid of strong and effective academic leadership and might have dampened the spirit of competition among the faculties who aspire to excel in their profession and be rewarded for the hard work. While, on the one hand, we have principals in government colleges having too short a tenure to make any positive change; on the other, in deficit colleges they have a longer tenure than prescribed which may in all likelihood result in complacency and lack of dynamism.

Conclusion

From the discussion in the preceding sections, it is evident that implementation of the UGC Regulations in regard to the colleges in Meghalaya suffers from serious lacunae. While the UGC Regulations were not applied in their entirety to the other categories of colleges, such as adhoc colleges, lump-sum grant-in-aid colleges and private colleges, by the state government as the UGC scheme of pay are not extended, there was only a half-hearted attempt about it and one with bias and incompleteness to a greater extent in the case of deficit grant-in-aid and government colleges. The entire process of implementation to date strikingly portrays the absence of efforts upholding the basics and the spirit of the regulations.

The continued non-compliance with the regulations is not due to the autonomy that the colleges enjoy; rather it is mainly driven by the interplay of four probable factors. The first reason is the failure on the part of the state government to effectively notify the implementation of UGC Regulations in colleges. Rather, it is the state government that has been adopting rules which contravened the UGC Regulations and, therefore, it has been disinterested in the enforcement of the regulations. It may be reiterated that it is the DHTE that makes the appointment of teachers and principals in government colleges and approves their appointments in the deficit grant-in-aid colleges.

Second, there is a lackasaidal approach on the part of the UGC which has not imposed any punitive action against the state for failing to implement the regulations.

Third, there is the failure of the NEHU to ensure strict compliance to the provisions of the UGC Regulations by the affiliating colleges.[3]

Lastly, unlike in other states, there has been an absence of any aggrieved party who will take the matter to the court of law against the non-implementation of UGC Regulations.

The non-implementation of UGC Regulations in letter and spirit has far reaching consequences for collegiate education in the state. Judging by the manner in which the implementation of UGC Regulations has been undertaken, one could comprehend the inability of the state to build colleges/institutions of excellence with quality academic leadership. In the recent past, none of the colleges in the state under the control of the state government has been able to secure A+ or above grade in the assessment and accreditation by the National Assessment and Accreditation Council (NAAC) and none of the colleges has been able to become an autonomous HEI. While many deficit colleges are already in the third or even fourth cycle of NAAC assessment and accreditation, the position of government colleges is not encouraging, as it was only in 2021 that two government colleges successfully completed the first cycle.

Without prejudice and cynicism, the prevailing practices trigger the thought that the state government does not recognise the value of merit and productivity. The prevailing pattern and practice of the implementation of UGC Regulations will deprive the colleges in Meghalaya of the much needed dynamism required in collegiate education, especially in the context of implementation of the National Education Policy 2020 (NEP 2020) which seeks to revolutionise higher education in India. The NEP 2020 seeks to change the governance of collegiate education where affiliation would be put to an end by 2035. Colleges will function

[3] NEHU regulations, under RB-2, provided that the principals and teachers in the colleges affiliated to it should possess the minimum qualifications as specified by the UGC.

either autonomously or as constituents of universities. Whatever be the future path, it requires that the colleges must be served by academically well qualified teachers and principals. Moreover, it is provided that there will be a National Higher Education Regulatory Council (NHERC) that will implement the 'light but tight' regulations with more emphasis on the role of technology. Colleges that fail to adhere to such standards may face the eventual closure for which, at present, the UGC does not possess sufficient power.

Therefore, what is vital is for the state government is properly notify, and in time, the implementation of UGC Regulations and instruct all the colleges in the state, irrespective of whether they are government or government aided or even private colleges, to follow the UGC Regulations in order to make collegiate education to meet the minimum standard of education. For maintaining the standard of education, it is equally important that the NEHU, which is the affiliating university, to effectively enforce the implementation of provisions of the UGC Regulations in the colleges affiliated to it, especially because it is a central university upon which the UGC Regulations are clearly mandatory by its very nature. Also, an equal measure of responsibility devolves upon the UGC to see that states implement its regulations; otherwise, they remain meaningless as most of HEIs are under the control of the state governments.

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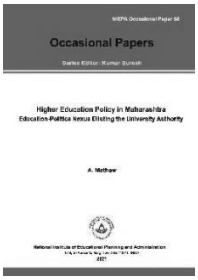

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Book Reviews

KEDILEZO, Kikhi and GAUTAM, Dharma Rakshit (Eds.) (2022): ***Comprehending Equity Contextualising India's North East***, Routledge, India, pp. 229, Price: ₹ 995

The North East Region (NER) of India has a unique geographical position vis-à-vis other parts of the country; it was such a region that, according to the editors of the book under review, "its value as an integral unit apart from political association was deferred until recently." Apart from this, the region comprises ethnic tribes who have remained disadvantaged due to their history of alienation from the mainstream population and smaller representation in parliament. Therefore, affirmative action policies which are equity driven remain the need of the hour.

The concept of equity involves judicious distribution of available resources, ensuring positive access and avoiding over- and under-consumption in the process. The most prominent underlying goal is justice which evolved over a period of time. The important questions are: Justice of what, for whom and how? Moreover, equity interventions require a holistic comprehension of the context. The case and context of the North East Region clearly points to the need to have such a policy, especially on the following accounts:

— paucity of research on several aspects associated with the region;
— limited willingness of policy makers about sustainable development of the region;
— modernity and development policies which have led to alienation and thereby to ethnic clashes;
— clashes that have impacted the public distribution system (PDS) of the region;
— lack of financial reforms which could ensure self-sustenance to take care of different aspects.

The book under review clearly attempts at a confluence of ideas on equity in the North East Region. In fact, it is the outcome of a national seminar on "Equity with Special Emphasis on North East," held in Tezpur University in 2018.

The book is divided into 4 broad sections: Concept and Context; Ethnicity, Development and Governance; Tangle of Subjugation --- Women and Religious Minorities; and Domain of Education

The strength of the book lies in "comprehending equity," particularly in NER in the first section, "*The Concept and the Context*." While tracing the historical and moral dimensions of social equity has been a systematic approach, the usage of inter-disciplinary perspectives from sociology, public administration and political science provides holism to the idea. Sharma and Bhuyan note that the conceptualisation of social equity post John Rawl's theorisation of justice had abandoned the existing value paradigm of American society and, at the same time, a radical dissociation from value neutrality. Accordingly, the democratic

Indian state committed to welfare policies should aim at negating social exclusion, particularly the NER which remains relatively less developed and requires targeted attention with its uniqueness in terms of culture, geography and history. Kumar attempts to clarify the difference between equity and equality (which are often interchangeably used) and provides an interesting insight on equity which he argues, is "conscience" dependent. While Sengupta relates equity with fair distribution, capability enhancement, equal opportunity policy in the context of ethnic-politics of Meghalaya and Arunachal Pradesh, Jose underlines the need for equity in contemporary India and the North East in particularly, keeping global inequalities as a reference point.

The section on "*Ethnicity, Development and Governance*" begins by problematising the term "tribal," relating it to parameters of social justice. Clearly, declaring tribal status as a blanket category holds implications for equity, as the same treatment for differing ethnic communities may yield inegalitarian outcomes, as is evident from Sinha's chapter on "Politics of Identity Formation in Sikkim." The status of "ST" should be need based and empirically verifiable. Linked to the question of identity is the politics of development for which the NER presents an important case study. Kipgen validates how in Manipur natural calamities such as bamboo famines called *Mautams and Singtams* have been part of the Kuki-Chin socio-economic trajectories. The interface with modernity in the form of centrally designed development strategy has destroyed the traditional ecological knowledge, thereby marginalising these communities. The divide between hill and valley areas of Manipur is a result of the inadequate poverty alleviation programmes and failures of the PDS. Das enriches the sustainability discourse by highlighting the role of eco-friendly agricultural practices and allied activities among selected tribes of Nagaland and Arunachal Pradesh. Perhaps the critical question on how to re-establish this region-based sustainable ecosystem remains relatively unexplored in the section.

An interesting popular stereotype, demolished here, is related to the privileges that women enjoy in tribal society vis-à-vis non-tribal societies. Lalfakzuala's chapter, "Ensuring Social Justice in Tribal Society," brings forth the under representation of women in local bodies of Mizoram despite Mizo tribal society being more egalitarian in terms of gender relations due to the absence of rigid caste system and class formation. Though it opens up a novel debate on gender empowerment in egalitarian societies, it would have served well to attempt the same in the book.

Section III on "*Tangle of Subjugation --- Women and Religious Minority*" largely focusses on the gender dimension of subjugation through the issues of trafficking of women and locating them within ethnic movements in North East India. Goswami highlights physical, sexual and mental exploitation of girl and child brides as a result of capitalism, and examines the concept of equity "in everyday life patterns of trafficked victims, work redistribution and recognition by the state." A similar attempt has been made by Deka in the context of ethnicity where women have been considered symbols of cultural distinctiveness of an ethnic group, bringing forth the cleavage between individual and group rights within the liberal discourse. In many of these movements since India's independence, women remain at the margins and have not been able to alter the discourse. The last essay in the section highlights the educational, political and economic backwardness of a lesser known religious minority, *Pangals,* in the state of Manipur. All the three essays could have suggested some

concrete measures to negotiate with the social cultural milieu to overcome, subjugation, which has highly complex and multi-layered dimensions.

One of the fundamental ways to achieve equity is through educational policies of the state. The last section on "*Domain of Education"* is an attempt to dovetail the policies on school and higher education in the context of north east --- whether in financial reforms, classrooms or the university. Josephine, in her chapter on "Equity-Driven Financial Reforms," suggests measures to be undertaken in school education. She argues that financing of education is crucial for achieving the normative goal of equality of opportunity. She broadens the concept of "financing" to include its methods and sources, and maps its distributive effect on people and regions, especially in the context of a federal country like India which may suffer from inter-governmental irritants. A challenge for educational planners is how to strike a balance between equity, quality and financial austerity. Malish's chapter traces the history and importance of higher education in the knowledge economy and provides insight on how classroom can be a site of exclusion for marginalised students of ST category, a much-ignored issue in the quest for equity. The author suggests three C's --- inclusive classroom, inclusive curriculum and inclusive campus --- to democratise higher education in an era of massification. Haripriya's chapter deals with the overall crisis of public universities in India, highlighting the financial and epistemic challenges of specialised centres of North East studies offered in JNU, Jamia Millia Islamia and Manipur University. Rescinding the funds accompanied with trends of commercialisation have changed the nature of courses across universities in India. The question of methodology in North East centres as sites of knowledge production to pursue social justice remains yet another critical challenge given the empirical/theoretical divide in social sciences.

Though the editors claim that it is one of the most contemporary and exhaustive works on the theme in the context of North East India, there remain some gaps and omissions. For example, why, despite constitutional safeguards, the Indian state remains minimal in its engagement with North East region to date? This may be one of the important questions to begin with on the comprehension and analysis of equity measures since the editors "intend to open up a channel or at least initiate a discourse towards the inclusive approach as an alternative strategy that may help inching towards sustainable development." Given the approach of the Indian state which signals withdrawal of welfare policies, leading to an enhancement of economic inequality, the importance of equity and justice in order to attain sustainable development becomes critical. Here the reference of Brundtland Commission (originator of the idea of sustainable development at global level) can prove useful.

The book is a compendium of case studies of different states in the North East region on different issues and these provide valuable academic insights. However, there is a notable omission of the troubled state of Tripura where ethnicity and insurgency have much to do with modern politico-economic processes than with mere ethnic group identities. In fact, Meghalaya, with a long history of ethnic Garo-Khasi-Jaintia conflicts, is also a symbol of the perceived development disparity which finds a mention in Sengupta's chapter.

The shift in focus in policy making --- from growth centric to people centric --- has contributed to the well-being of people. This book has somewhat served well to map this shift. However, it would have been theoretically more fruitful to address the gaps between the normative and the empirical. A detailed equity-based policy intervention for the North

East region could have helped in tightening the loose strings of thought and policy framework for future reference.

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