

Spatio-temporal Variations in Literacy Rate: A States-wise study in India

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Abstract:

Literacy is one of the major components of social change in society. The trends and pattern of literacy in our country are highly influenced by a number of factors. So, there are huge variations in spatio-temporal distribution of literacy in India. This research paper attempts an effort to show the distribution of literacy states wise. The study is based on secondary source of data. The calculations of data are computed by census 2011. The mapping was done through GIS Arc 9.3. The present study is recorded that about one third persons in India are illiterate. The study also provides some suggestions for improving standard of literacy.

Keywords: Literacy Rate, Educational Attainment, Spatio-temporal Variation.

Introduction:

Literacy plays a very crucial role in the social and economic development in a country. A low level of literacy in a population retards the progress along the path of social and economic development and political power. Illiteracy, particularly among adults in a society, results in stagnation of technology, social and cultural lags, weakens national security and overall stagnation of economic progress. Illiteracy in a society is primarily an obstacle to peaceful and friendly international relations and to democratic processes within a country (Murthy, 1970: 412). Evidences indicate a very close association between literacy skills among people in a society, on the one hand, and the nature of society's occupational skills, on the other. In fact, the invention of written language itself is said to be the outcomes of increased occupational diversification and the emergence of the earliest forms of urban settlements. The process of dissemination of literacy among the people in a society is known as *Literacy Transition*.

In International usage, Literacy is defined as the ability to read and write at least a simple message in any language. Illiteracy, conversely, refers to the lack of this ability. In other words, a person who possesses the dual skill of reading and writing, he is called literate.

The major aim of our educational system is to provide basic and free elementary education to all. But the provision of basic education for all continuously is a matter of serious concern in India, as in several other developing countries of the world. The country's commitment to be goal of providing education for all needs no repetition. After independence India, first education policy has implemented on 1968. After this, National Policy on Education, 1986 clearly mentions the focus of effects in this direction as; universal enrolment and universal retention of children of up to 14 years age and a substantial improvement in the quality of

education. And others modified policy has implemented on 1992 and Sarva Shiksha Abhiyan 2000, (SSA) and the Right of Children to Free and Compulsory Education Act, 2009.

India's education system, as one of the world's largest, has been working institutions 759,686 primary schools, 365,902 upper primary, 117,006 secondary, 64,398 higher secondary schools, 35,539 collage (public and private) and 700 total degree-granting institutions (central/state/deemed university and institution of national importance). India's higher education system is the third largest in the world, next to the United States and China. The main governing body at the tertiary level is the University Grants Commission, which enforces its standards, advises the government, and helps coordinate between the centre and the state (Singh, 2011; 8th AISES, 2009; RTE Act, 2009; UGC, 2003).

In this context, the present paper has been describing the status of various types of educational in an Indian people. As well as, state-wise has analysis of spatial variation and distribution of educational level.

Objective:

- *To show the trends and pattern of literacy rate in India in context to spatial and temporal change in various states as well as in India.*
- *To show cause and effects relations of high and low literacy rate.*

Study Area:

India has been taken into consideration as study area. It is located in South Asia. The country is situated north of the equator between 6°4' (8°4' for mainland) to 37°6' north latitude and 68°7' to 97°25' east longitude. It is second ranks in the world in terms of population and seventh in terms of geographical area. India has a democratic and federal system of government with 28 states and 9 union territories (Recently JK is not a state, and two UTs has been formed). This study only involves the data of 2011 census, so there is not such distribution of states.

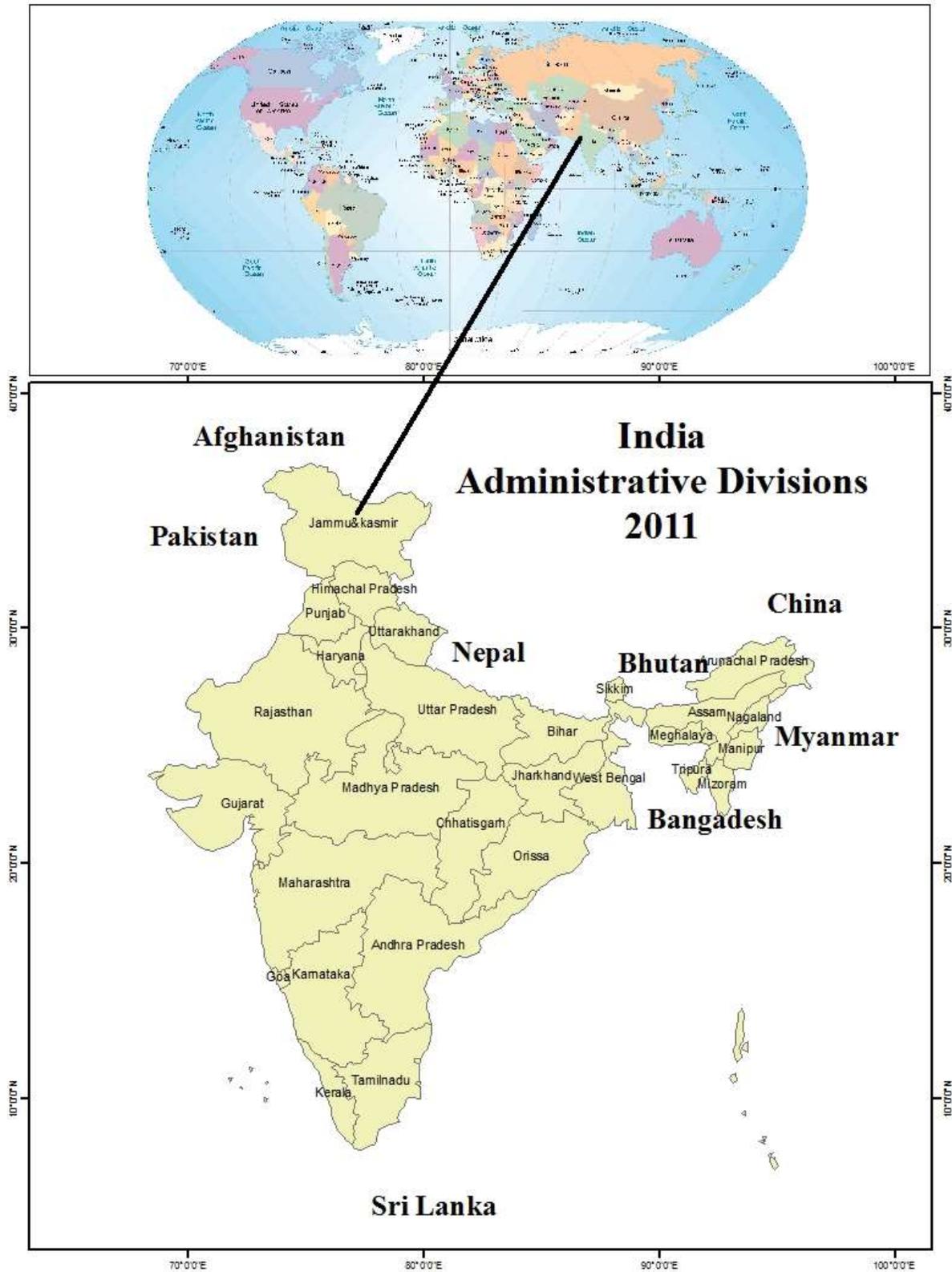


Figure 1: Location Map of India

As per the 2011 census, India's total population stands at 1,21,08,54,977, which is 17.2 percent of the world's population. It became one of the poorest in the world by the end of the colonial era in 1947 when India became independent. The economy of India is the seventh-largest economy in the world measured by nominal GDP. India also topped the World Bank's growth outlook for 2015-16 for the first time with the

economy having grown 7.6% in 2015-16 and expected to grow 8.0%+ in 2016-17. The long-term growth prospective of the Indian economy is positive due to its young population, corresponding low dependency ratio, healthy savings and investment rates, and increasing integration into the global economy. The Indian economy has the potential to become the world's 3rd-largest economy by the next decade, and one of the two largest economies by mid-century. And the outlook for short-term growth is also good as according to the IMF, the Indian economy is the "optimistic spot" in the global landscape. But about one-fourth percent persons in India are illiterate. Today, about 59 percent people in the country are illiterate and completed grade 5. Graduate and above stage of education is also known as higher education in India. This, only 6.53 percent people in the country are across school education (completed higher education). Educational attainment in India is the worst of the 21st century.

Adult Literacy rate: Comparison of India and Neighboring Countries:

This data is derived as per the latest report of UNESCO (2015), the adult literacy rate (people aged 15) in the world is 86.3 percent whereas India's adult literacy rate 72.1 percent. Unfortunately, India is least around 14.2 percent in the world average. Indian neighboring countries China, Myanmar and Sri Lanka is adult literacy rate 96.4 percent, 93.1 percent and 92.6 percent respectively. More than 10 percent adult literacy rate is India. Five neighboring countries Bhutan, Nepal, Pakistan, Bangladesh and Afghanistan are less than India average (table 1 shows such data).

Table 1: Literacy Rate in India and Our Neighboring Countries: 2015

Country	Adult literacy rate (people aged 15)
China	96.4
Myanmar	93.1
Sri Lanka	92.6
World Average	86.3
India	72.1
Bhutan	64.9
Nepal	64.7
Bangladesh	61.5
Pakistan	56.4
Afghanistan	38.2

Source: UNESCO, Institute for Statistics (UIS), 2015

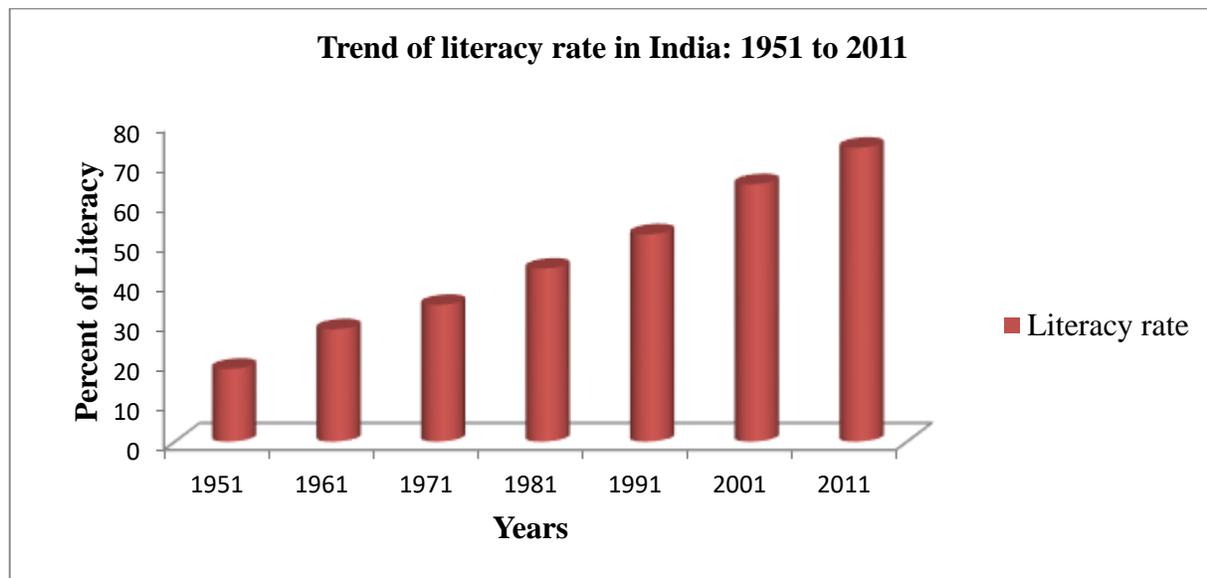
Literacy rate: After Post Independence from Up to Now:

The data presented in the table 2 & figure 2 shows that literacy rate in each census decade after post-independence India from 2011 is increased steadily. Unfortunately today, India is third fourth people literate. If we see the temporal changes in literacy rate we find a blast change after independence, before independence our literacy rate was only 18 percent which turns into 74.04 in 2011 census and there will be vital changes in 2021 census.

Table 2: Trend of Literacy rate in India: 2011

Years	1951	1961	1971	1981	1991	2001	2011
Literacy rate	18.33	28.30	34.45	43.57	52.21	64.83	74.04

Source: Census of India, Office of the Registrar General & Census Commissioner, Govt. of India, 2011.



Source: Based on table 2

Figure 2

Literacy rate: State-wise Patterns:

According to the Census 2011, In India about 74 percent persons in India is literate. State-wise in India is the first position in Kerala state (94 percent) followed by Mizoram, Goa, Tripura and Himachal Pradesh state like as second, third, fourth and fifth position respectively. It notes that Himachal Pradesh is one northern state which consists of the five top literate states in the country. Mizoram and Tripura are located in north-east and Kerala and Goa located in Indian coastal region. The lowest literate state in India is Bihar. The five bottom literate states in the country are Bihar, Arunachal Pradesh, Rajasthan, Jharkhand and Andhra Pradesh. Haryana and Punjab state are fourteen and sixteen position respectively. Both states are economically developed in the country. It is large variation in literacy rate (table 3& figure 3).

Table 3: State-wise literacy rate & rank in India: 2011

States	Literacy rate	Ranks	States	Literacy rate	Ranks	States	Literacy rate	Ranks
Kerala	94	1	Gujarat	78.03	11	Madaya Pradesh	69.32	21
Mizoram	91.33	2	Manipur	76.94	12	Uttar Pradesh	67.68	22
Goa	88.7	3	West Bengal	76.26	13	Jammu Kashmir	67.16	23
Tripura	87.22	4	Haryana	75.55	14	Andhra Pradesh	67.02	24
Himachal Pradesh	82.8	5	Karnataka	75.36	15	Jharkhand	66.41	25
Maharashtra	82.34	6	Punjab	75.28	16	Rajashathan	66.11	26

Sikkim	81.42	7	Meghalaya	74.43	17	Arunachal Pradesh	65.38	27
Tamilnadu	80.09	8	Odissa	72.87	18	Bihar	61.8	28
Nagaland	79.55	9	Assam	72.19	19			
Uttarakhand	78.82	10	Chhattisgarh	70.28	20			

Source: Census of India, Office of the Registrar General & Census Commissioner, Govt. of India, 2011.

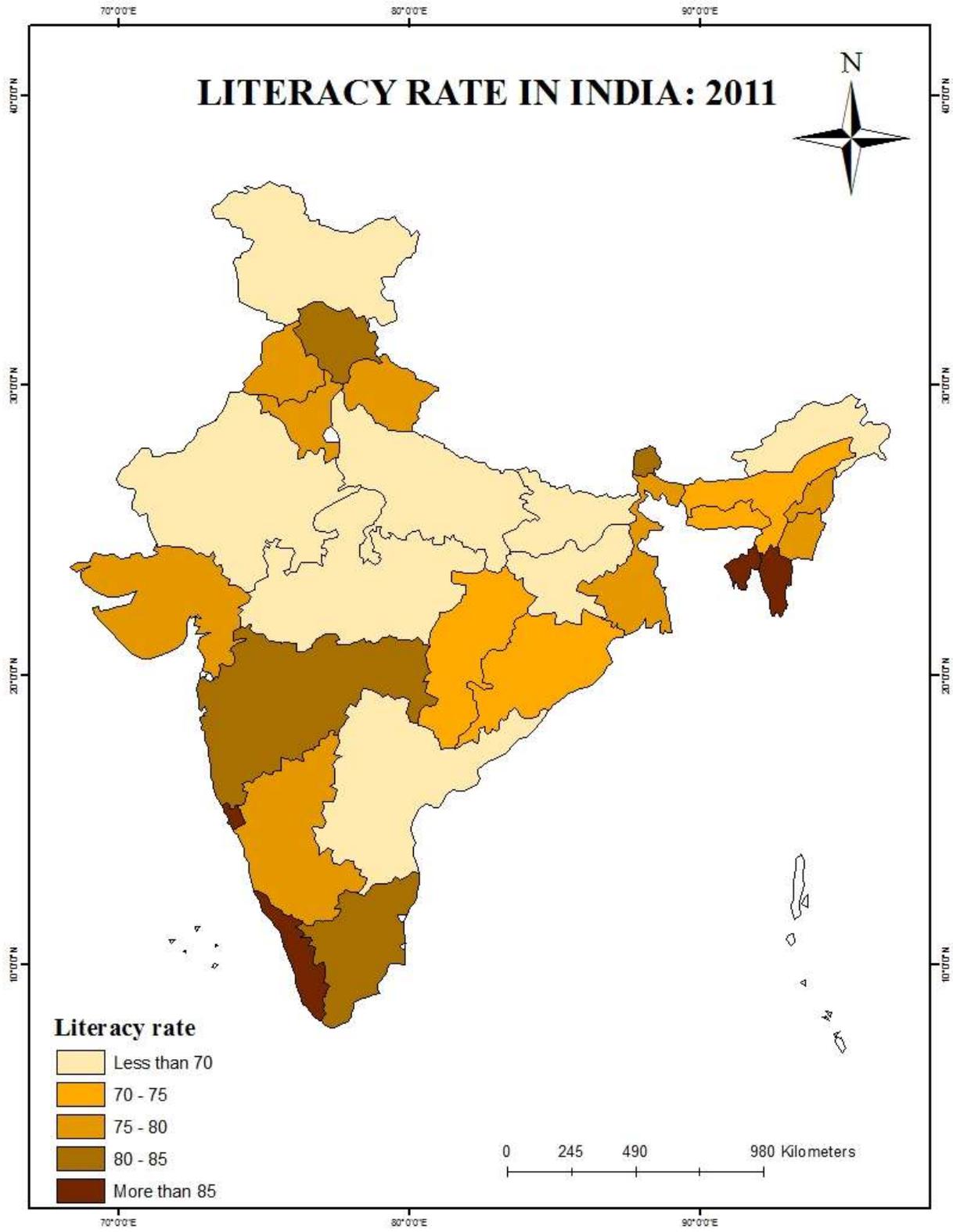


Figure 3

Research Methodology:

This study is based on secondary source of data which is collected by various Census of India, Office of the Registrar General & Census Commissioner, Govt. of India, 2011. The spatial variations and distribution of the educational attainment have been studied at state wise in India. It is included 28 major states in India (combine Andhra Pradesh and Talangana). The mapping is done by GIS Arc 9.3. Mainly the study focuses on the data of 2011 census.

The objective will be met by collecting data on the aspects broadly various level of education. According to Census of India, 2011 have made meaningful classification of educational levels into following categories mentioned below:

- People with no literacy skills (no school).
- Literate without educational level (no formal school).
- People with literacy skills but below primary level (vary from a few months to four years).
- Primary level (standard 1 to 5) of schooling (five years complete in school).
- Upper primary level (standard 6 to 8) level of schooling (three years in addition to primary).
- Secondary level (standard 9 to 10) of schooling (normally attainment of matriculation).
- Higher secondary level (standard 11 to 12)(two years with matriculation).
- Higher education (graduation and above or 10+2+3 and above) (first three yearly college degree and above degree).
- Other specify (include as non-technical diploma or certificate not equal to degree, technical diploma or certificate not equal to degree and unclassified).

It has been pointed out that the purpose is the analysis of illiteracy and to examine different levels of education.

Result and Discussions:

This is most important part of whole study in which we discuss about results. Here we shall discuss about level of education and spatial pattern of literacy in India.

Level of Education:

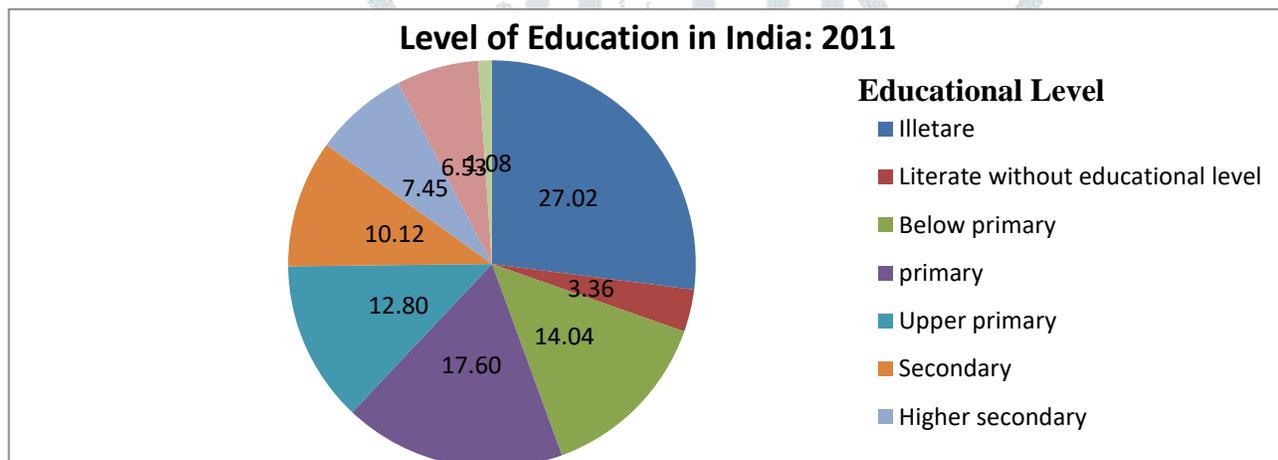
This part of the study is describing the status of different types of educational level in India. Table 4 shows the attainment of various types of educational level are whole population of the study area. The present data is recorded that about one third persons in India are illiterate (not admitted in schools). Attainment of below primary in India has been founded 14.04 percent account of standard 4 till. 47.80 percent people in India are below matric and only 17.57 percent people completed grade 10 and 10+2. About third-fourth percent people in India are illiterate on second thought standard 1 to 12 till. As well as only 6.53 percent people are higher educated (graduate and above degree) in the country. Attainments of all kinds of education level in the

country are not better (figure 4). Unfortunately, universal education for all in India is remote even then in 21st century.

Table 4: Distribution of various types of Educational Level in India: 2011

Level of education	India
Illiterate	27.02
Literate without educational level	3.36
Below primary	14.04
Primary	17.60
Upper primary	12.80
Secondary	10.12
Higher secondary	7.45
Higher education (graduate and above)	6.53
Other specify	1.08

Source: Census of India, Office of the Registrar General & Census Commissioner, Govt. of India, C - Series/ C-10: Population Attending Educational Institutions by Age, Sex And Type of Educational Institution – 2011.



Source: Based on table 4

Figure 4

*Note: below matric as included literate without educational level to standard 1 to 9 and secondary & higher secondary as included standard 10 to 12.

Spatial pattern of literacy in India:

In this portion of study, we are discussing about states wise spatila pattern of literacy rate in India. Spatial variation and distribution of educational level of population are state-wise in the presented table 5& figure 6. Eight states (Bihar, J&K, Arunachal Pradesh, UP, Rajasthan, Jharkhand, Madhya Pradesh and Andhra Pradesh) more than 30 percent people are illiterate. It may be note that Arunachal Pradesh, Jharkhand and Madhya Pradesh state are more than 25 percent schedule tribe population (STs). Bihar is economically backward (Bimaru state) in India. About 58 percent population in Bihar is illiterate on second thought below primary (standard 5).

North-east states or seven sisters (excluding Manipur) in the country are large proportion education below matric in the presented figure 5. Manipur state is better education attainment than other north-east states. All

kinds of education in the country are better coastal states like as Goa, Kerala, Karnataka, Maharashtra and Tamilnadu (table 5& figure 6).

Only two states Goa and Uttarakhand is double digit (11.17 percent) and 10.47 percent people in higher educated (graduate and above) respectively. As far as eight states (Bihar, Arunachal Pradesh, Meghalaya, Tripura, Assam, Jharkhand, Odissa and Chhattisgarh) less than 5 percent people are completed higher education. Wherein Bihar state is located in northern and four states are located in north-east. It may be noted that less than 5 percent people higher educated is only Bihar state in northern India. Bihar is economically backward state (Bimaru state) in the country.

Table 5: Distribution of various types of Educational Level by State-wise: 2011

States	Illiterate	Literate without educational level	Below primary	Primary	Upper primary	Secondary	Higher secondary	Higher education	Other specifying
Jammu Kashmir	32.84	1.86	9.39	12.22	15.84	13.42	7.38	6.21	0.85
Himachal Pradesh	17.20	2.14	10.05	19.11	13.58	18.53	10.88	7.34	1.18
Punjab	24.16	2.30	9.03	17.38	12.43	16.97	9.37	7.14	1.22
Uttarakhand	21.18	1.67	11.85	17.76	16.11	11.68	8.65	10.43	0.67
Haryana	24.45	1.80	11.26	17.17	12.31	14.68	8.61	8.54	1.17
Rajasthan	33.89	3.12	13.96	18.18	12.64	7.96	4.35	5.29	0.61
Uttar Pradesh	32.32	3.18	12.68	16.45	13.68	8.96	6.39	5.87	0.48
Bihar	38.20	3.56	16.13	15.48	9.38	8.55	4.52	3.60	0.57
Sikkim	18.58	3.23	21.25	21.15	12.73	9.75	6.61	5.98	0.74
Arunachal Pradesh	34.62	1.85	14.08	16.16	12.45	9.33	6.33	4.58	0.60
Nagaland	20.45	4.38	15.32	19.58	18.05	10.05	6.30	5.32	0.56
Manipur	23.06	3.56	9.82	13.18	18.43	13.31	9.05	9.10	0.49
Mizoram	8.67	1.45	23.24	22.34	21.70	9.49	7.44	5.34	0.33
Tripura	12.78	5.00	22.56	21.73	18.42	6.24	8.50	4.29	0.49
Meghalaya	25.57	3.27	25.40	17.22	12.42	6.67	5.28	3.77	0.40
Assam	27.81	3.47	17.13	16.50	16.13	5.44	9.44	3.81	0.28
West Bengal	23.74	2.43	19.71	18.53	15.46	6.73	6.94	5.98	0.48
Jharkhand	33.59	2.83	15.56	17.42	11.20	8.96	5.29	4.81	0.33
Odissa	27.13	2.27	16.04	21.02	14.40	8.77	4.74	4.86	0.77
Chhattisgarh	29.72	1.73	16.85	19.16	14.63	7.44	5.36	4.66	0.46
Madhya Pradesh	30.68	2.97	15.50	19.22	13.64	7.18	5.17	5.21	0.43
Gujarat	21.97	4.40	16.07	20.05	12.26	11.64	5.99	6.03	1.60
Maharashtra	17.66	4.17	15.48	16.79	12.71	13.69	9.38	8.72	1.40

Andhra Pradesh	32.98	4.17	9.86	17.83	7.39	11.38	7.48	7.39	1.52
Karnataka	24.64	4.67	12.84	17.60	9.57	9.42	11.68	7.50	2.08
Goa	11.30	7.60	12.28	13.81	12.67	14.11	13.66	11.17	3.40
Kerala	6.00	4.39	14.70	16.92	16.90	12.87	16.32	8.46	3.43
Tamilnadu	19.91	3.55	8.70	19.04	14.84	12.66	9.93	8.43	2.93

Source: Census of India, Office of the Registrar General & Census Commissioner, Govt. of India, C - Series/ C-10: Population Attending Educational Institutions by Age, Sex And Type of Educational Institution – 2011.

Main Finding:

- The present study is recorded that about 74.04 percent persons in India are literate.
- The condition is very worst in eight states (Bihar, J&K, Arunachal Pradesh, UP, Rajasthan, Jharkhand, Madhya Pradesh and Andhra Pradesh) where more than 30 percent people are illiterate.
- 47.80 percent people in India are below matric and only 17.57 percent people completed grade 10 and 10+2.
- About third-fourth percent people in India are illiterate on second thought standard 1 to 12 till.
- As well as only 6.53 percent people are higher educated (graduate and above degree) in the country. Only two states Goa and Uttarakhand is double digit (11.17 percent) and 10.47 percent people in higher educated respectively.
- As far as eight states (Bihar, Arunachal Pradesh, Meghalaya, Tripura, Assam, Jharkhand, Odissa and Chhattisgarh) less than 5 percent people are completed higher education. Wherein Bihar state is located in northern and four states are located in north-east.
- It may be noted that less than 5 percent people higher educated is only Bihar state in northern India. Bihar is economically backward state (Bimaru state) in the country.
- It is true that enhancing community access to higher education is still important in the country. Education the new challenge in the country is at the beginning of the twenty first century.
- Although central as well as states government are making some positive efforts and planning for improving educational standard and maximum enrollment like *MID DAY MEAL* but outcomes are not admirable.

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