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## Spatio-temporal changes in literacy of Nandurbar district of Maharashtra, India

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### Abstract

Literacy is simply defined as proportion of people who can read and write with understanding to the total population of a region. But it 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 female in a society, results in stagnation of technology, social and cultural lags weakness, national security and overall staginess of the economic progress.

The present paper, intends to study Total, Male and Female literacy rates and spatio-temporal changes occurred in it during the last decade in Nandurbar district. The literacy rates for both the sexes are low as compared to the State and spatio-temporal changes occurred in these rates are also low. It is admirable that the literacy rates have shown considerable increase but the situation is not much satisfactory in tribal tehsils of the district.

**Keywords:** Nan durbar, Spatio-Temporal Changes, Literacy

### 1. Introduction

Literacy is that qualitative attribute of population which is a fairly reliable index of the socio-economic development of an area. It is essential for the economic development, social advancement and even for population control. Lack of literacy on the other hand act as a brake on the social and economic development also political maturity of a society and can be implement in the development process. A certain minimum level of literacy is, therefore, a basic requirement for a people to get out of ignorance and backwardness. While an overall progress in literacy and education is necessary equally importance is its distributional spread in all its areas, towns and villages, social classes and the two sexes.

### 2. Objectives

The present study has been undertaken with the following specific objectives.

- 1) To study the spatio-temporal change in total literacy in study region.
- 2) To discuss the disparity between male and female literacy levels.
- 3) To identify spatio-temporal changes in male and female literacy rates.

### 3. Database and Methodology

For the present study secondary data is used. The data about male and female literates for the years 2001 and 2011 are obtained from the District Census Handbooks of Nandurbar District (CD ROM) [4, 5].

The proportions of literate persons, male and female are calculated with simple formula for both the Census years, i.e. 2001 and 2011 [4, 5]. To calculate spatio-temporal changes incurred in literacy rates, the difference between literacy rates of 2001 and 2011 is calculated [4, 5]. The percentage difference is calculated taking 2001 values as base. It is as follows;

$$\text{Spatio-temporal change} = \frac{(\text{Literacy rate of 2011} - \text{Literacy rate 2001})}{\text{Literacy rate 2001}} \times 100$$

The indices thus obtained with help of above formula are displayed in maps and results are explained thoroughly.

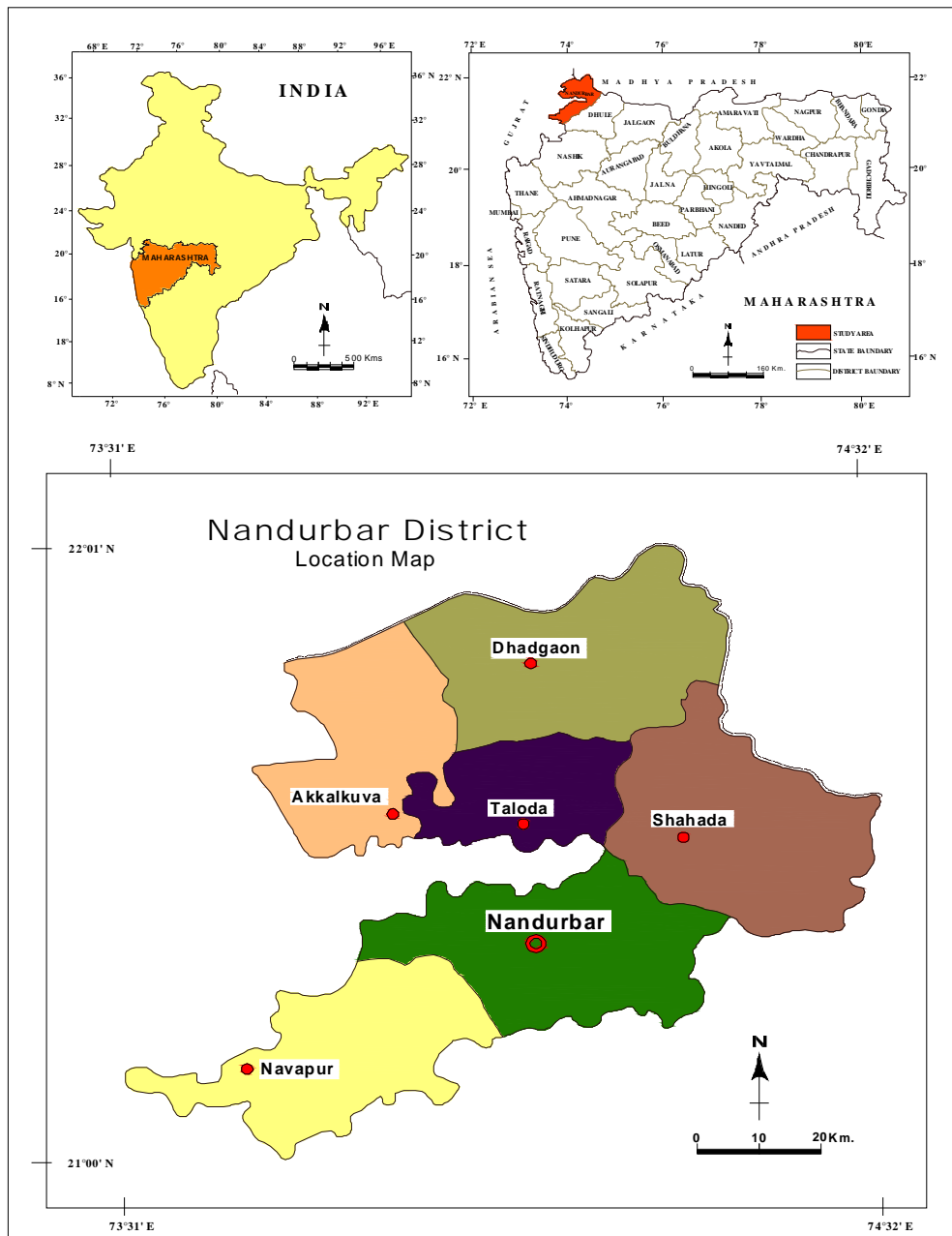
**Study Region**

Nandurbar district was separated from Dhule district on 1<sup>st</sup> July 1998. It lies between 21° 00' 00" N to 22°00'30" N Latitude and 73°31'00" E to 74°45'30" E Longitude. The district covers a total geographical area of 5034 sq.km. It is bounded by Dhule district in the south and east, Gujarat State in the west and Madhya Pradesh State in the north. The district headquarters is Nandurbar. For administrative convenience, the district is divided in 6 tehsils viz, Nandurbar, Navapur, Shahade, Talode, Akkalkuwa and Akrani. According to 2011 Census, the population of Nandurbar district is 1648295 and the population density is 276 persons per sq. km. Majority of the population belong to tribal communities. The northern tehsils Akkalkuwa and Akrani have higher proportion of population belonging to the

tribal communities. Agriculture is the main occupation of the people. The low literacy rates among tribal is common phenomenon. Therefore, the region is selected for the study of literacy rate and changes occurred in it during the last decade.

Physiographically, the study region is peculiar in nature. The district forms part of Tapi and Narmada basins. The Narmada River flows in the north and forms boundary between the study region and Gujarat State. The northern part of the district is covered with Satpura mountain ranges. The altitude of this region is between 300 and 1200 metres from MSL. It is characterized by deep valley with steep slopes. Tapi River flows from the east to west in the southern part of the Satpura. The region to the south of river Tapi is plain with fertile soils.

**LOCATION OF NANDURBAR DISTRICT**



**4. Discussion**

As per the Census report 2011 [5], Nandurbar district has only 64.38 percent of its people who can read and write with understanding, while the corresponding figures of the State

and the Nation are 82.91 percent and 74.04 percent respectively. In comparison to state and national averages this figure is depressingly low. The figures for male and female literacy rates are also not much satisfactory but it is

such what appreciable that increase in female literates during the last decades is higher than total and male literates in the study region.

**Spatio-temporal Changes in Total Literacy Rate**

In the year 2001<sup>[4]</sup>, the literacy rate for the study region as a whole was only 55.78 percent. This rate was higher (more than 60 percent) in Nandurbar and Shahade tehsils. The proportion of literates was moderate i.e. between 50 and 60 percent in Navapur and Talode thesis while it was very low (less than 45 percent) in Akrani and Akkalkuwa tehsils. As per 2011 Census <sup>[5]</sup>, the literacy rate for the study region is

calculated as 64.38 percent. It is the highest (71.36 percent) for Nandurbar tehsil followed by Shahade tehsil (66 percent) It is because higher proportion of non-tribal population and comparative higher urbanization of Nandurbar and Shahade cities. This rate is lower than the average of the district for Akrani, Akkalkuwa and Navapur tehsil due to its physiographical and social character. These tehsils are covered by high mountain ranges with limited accessibility and majority of the population belongs to tribal communities. Therefore, educational facilities are limited and tribal communities have negligence towards education.

**Table 1:** Pattern of Literacy and Decadal Change in Literacy Rate (2001-2011)

Sr. No.	Tehsils	Total Literacy			Male Literacy			Female Literacy		
		2001	2011	Change	2001	2011	Change	2001	2011	Change
1.	Akkalkuwa	44.94	62.83	39.82	55.32	70.37	27.20	34.01	54.64	60.65
2.	Akrani	41.85	53.31	27.37	48.16	60.04	24.65	35.62	46.61	30.83
3.	Talode	54.12	65.47	20.97	65.07	73.35	12.72	43.07	57.67	33.91
4.	Shahade	60.32	66.05	9.50	71.73	74.41	3.73	48.57	57.59	18.56
5.	Nandurbar	65.49	71.36	8.96	76.48	79.17	3.51	54.22	63.38	16.90
6.	Navapur	52.72	60.49	14.73	62.55	68.17	8.99	42.88	52.93	23.45
District		55.78	64.38	15.42	66.16	72.17	9.08	45.18	56.47	24.98

Source: Primary Census Handbooks of Nandurbar District, 2001 & 2011.

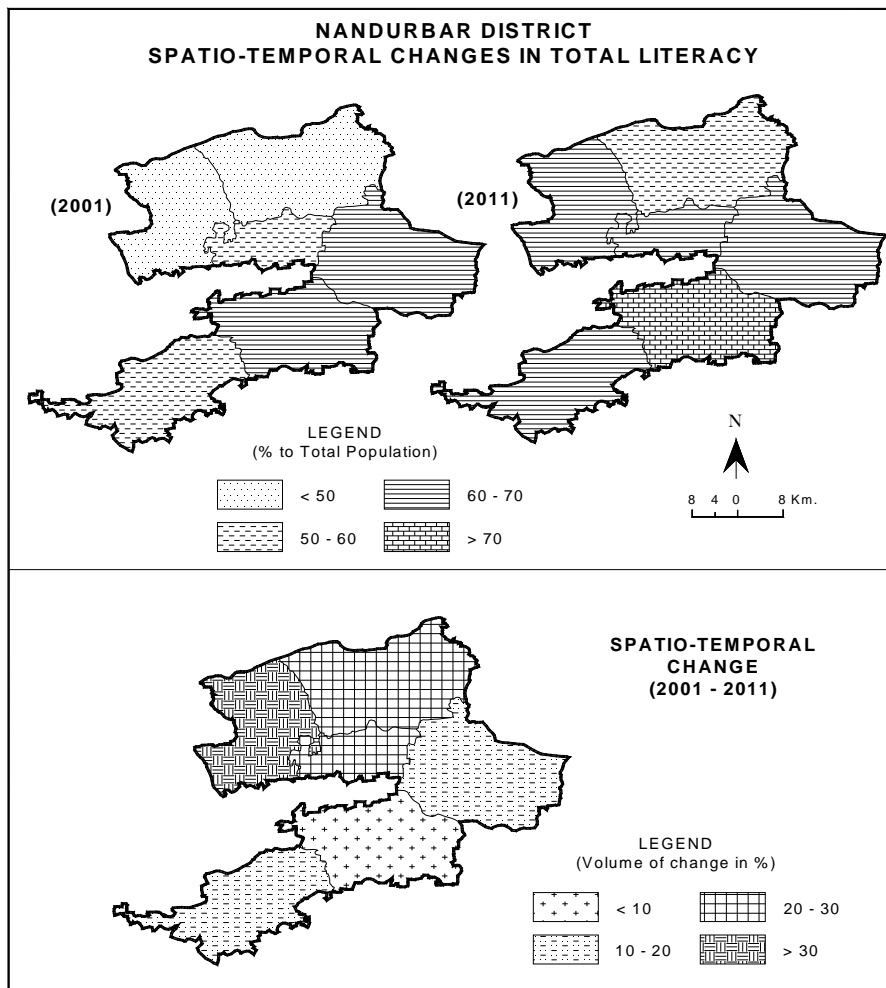


FIG. NO. 2

The spatio-temporal change shows increasing trend of literacy for the decade 2001-2011 but it is comparatively low despite the gradual numerical increase during the last three decades. The study region has reported increase of 15.42 percent in the literacy rate during the last decade. It is the highest (93.82 percent) in Akkalkuwa tehsil which is

followed by Akrani tehsil (27.37 percent). These both the tehsils had low literacy rates during the year 2001. The increase is moderate in Talode and Navapur tehsils while low increase is recorded in Nandurbar and Shahade tehsils. These tehsils had already higher literacy rates.

**Spatio-temporal Changes in Male and Female Literacy Rate:**

These has always gap between male and female literacy rates in the Nation and the State. The study region is also not apart from that. As expected the literate rate among male is higher than the literacy rate of females. The male literacy rate for the region in 2001 was 66.16 percent. There were spatial variations in different tehsils. During the year 2011, this literacy rate is 72.17 percent. Except Akrani and Navapur tehsils, the study region has reported male literacy more than 70 percent. Akrani and Navapur tehsils have male literacy rates 60.04 percent and 68.17 percent respectively. The spatio-temporal changes occurred in male literacy rate during the last decade shows a little increase of 9 percent. This increase is higher in the northern mountainous and tribal tehsils of Akkalkuwa and Akrani. In these tehsils the increase is 27.20 percent and 24.65 percent respectively. The spatio-temporal changes have recorded low increase i. e. less than 4 percent in Nandurbar and Shahade tehsils. These tehsils have had higher male literacy rate during 2001. In spite of higher literacy, increase is less.

The low female literacy rate is a crucial problem in the country and it is more crucial in the study region. The proportion of females literate in the year 2001 was only 45 percent [4]. It was less than 40 percent in Akrani and Akkalkuwa tehsil while more than 50 percent literacy was found in Nandurbar tehsil. Talode, Shahade and Navapur tehsils had recorded moderate female literacy rates. The female literacy rate is 56.47 percent in the year 2011 [5]. Despite of many efforts taken by the governmental and non-governmental agencies, the proportion of female literate is only 46.61 percent in Akrani tehsils. It suggests that more than half of the total females in the population can read and write. Nandurbar tehsil has high female literacy while Akkalkuwa, Talode, Shahade and Navapur tehsils have female literacy rates between 50 and 60 percent. The spatio-temporal change in female literacy suggests an increase of 25 percent. The increase is appreciable in Akkalkuwa tehsils which has recorded more than 60 percent hike. This increase in moderate in Akrani, Talode and Nawapur tehsils, while Nandurbar and Shahade tehsils have recorded low increase, i.e. less than 20 percent.

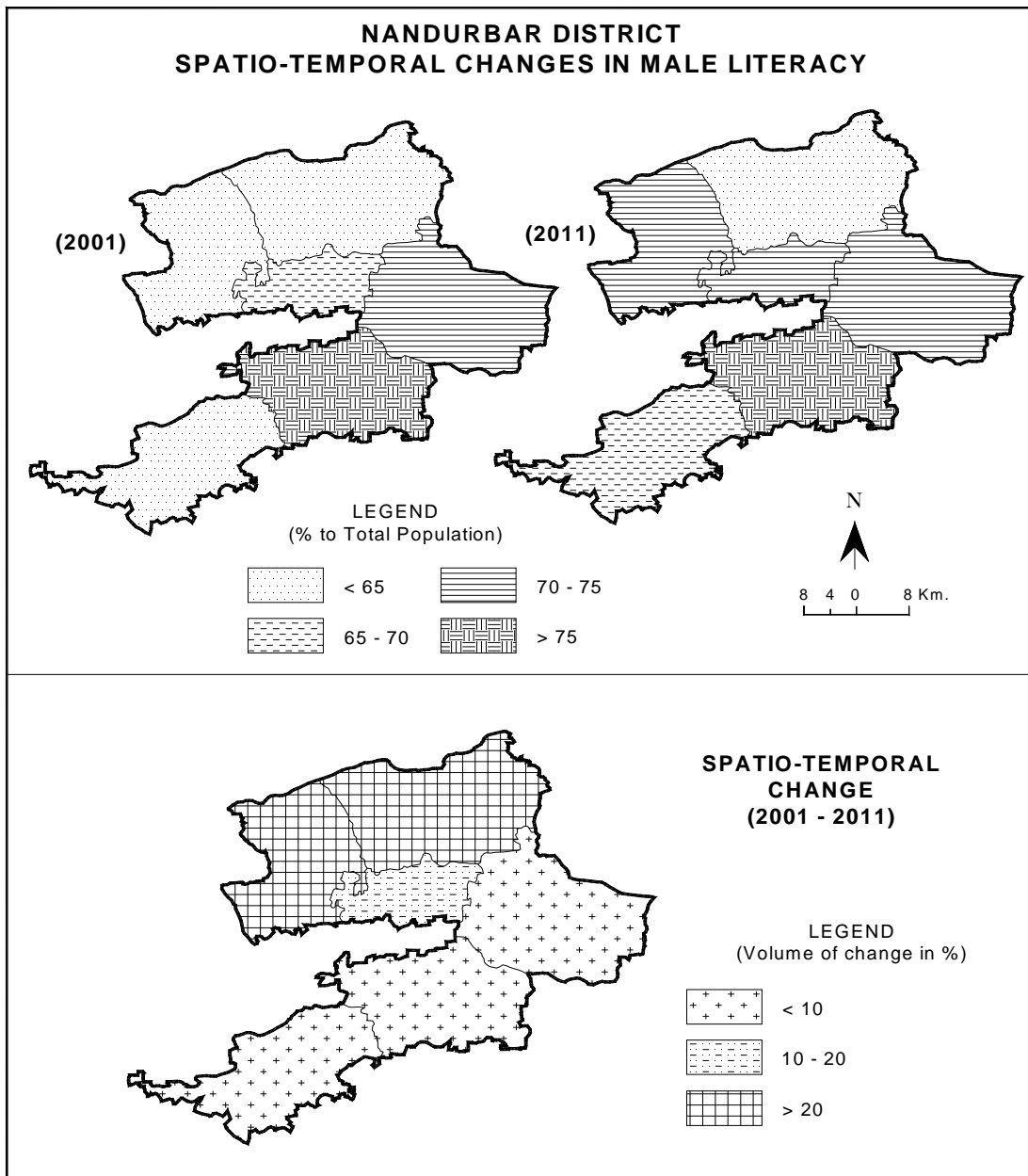


FIG. NO. 3

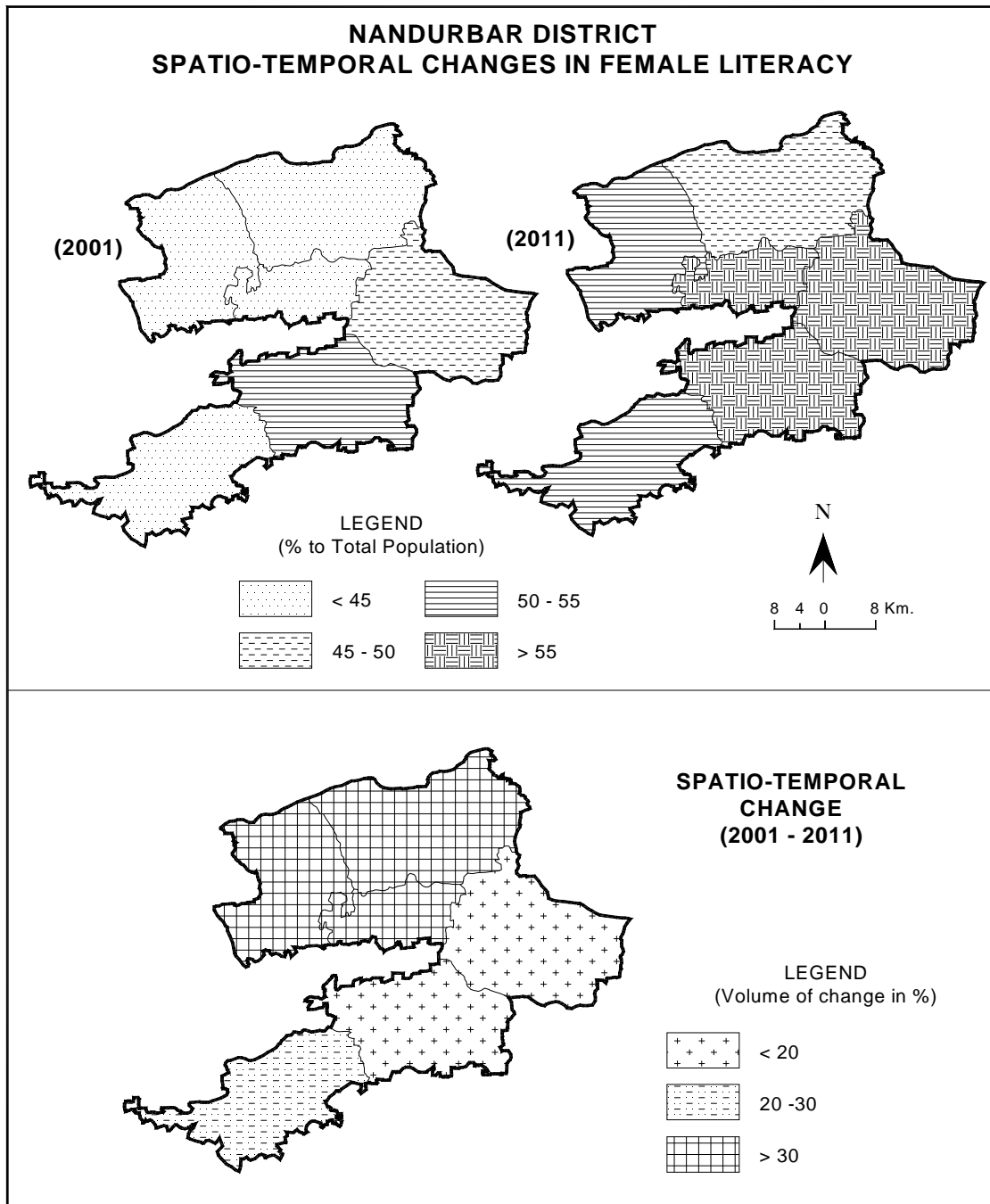


FIG. NO. 4

**5. Conclusions**

Literacy rate is one of the important indicators of socio-economic development of a region or population. The socio-economic development is accelerated with high literacy. But it is also true that socio-economic backwardness is main cause for low literacy among the masses. Therefore, it is a cause as well as effect. The low literacy rate in the study region is the result of physiographical and socio-economic peculiar character of the study region. The region is mountainous and thus has limited accessibility. This retards socio-economic development of the society. And finally, it has resulted in low literacy rate. However, some increase has been reported during the last decade in the total literacy of the region. Low female literacy is crucial problem in the study region. But, the last decade has shown considerable increase i.e. about 25 percent in it. It is a good sign. The increase is more appreciable in Akkalkuwa tehsil which is more tribal in character.

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