



## Full Length Research Article

### GENDER INDICES AS INFLUENCED BY DIFFERENT LEVELS OF FEMALE LITERACY IN ODISHA

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#### ABSTRACT

Gender mapping and analysis helps in identifying the regions and districts for priority intervention. The geography of gender has emerged as an important dimension in the gender studies. In the present study, three gender indices namely, female literacy, gender gap in literacy and sex ratio were mapped district wise for all the 30 districts in Odisha. Further, seven female literacy grades (in percentages) between 30 and 100 percent female literacy rates were identified and the gender indices were compared under each female literacy grade. Again, female literacy rate was compared with the level of development of districts in the state. The study revealed that there was clear regionalization as far as the levels of female literacy are concerned. Primarily, the coastal districts of the state have higher female literacy as compared to the western and the southern parts of Odisha which have lower female literacy. The gender gap in literacy generally followed the trend of the female literacy. The spread of sex ratio across districts in India did not follow the trend of female literacy. The sex ratio was lower in the coastal region mainly dictated by the prevailing social mindset irrespective of the levels of female literacy. Finally there was a strong correlation between the levels of female literacy and the levels of development in Odisha.

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#### INTRODUCTION

Odisha, just like India, mirrors a paradoxical social landscape. On one hand, it is progressing in terms of e-governance coverage and presently tops the list of smart cities in India, climbing up to the next level through creation of infrastructure, both physical and virtual. However, on the other hand, the social structure continues to be stratified in terms of age-old bases such as caste and gender. Though women in the state are seen scaling new heights in their respective fields, but a majority of the women's condition is not at par with men in terms of the social indicators of health, education and employment. Rightly so, as pointed out by the Odisha development report (Nabakrushna Chowdhury Institute for Developmental Studies, Bhubaneswar). "In the state, access to the various modes of development is not egalitarian and it reaches different sections of the society at different rates and in different forms." The critical sectors namely education and health are able to cover the populace no doubt, but not without the traditionally stratified frills. Sociologically speaking, the result is that the social status quo remains much the same as before.

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There is a significant relationship between literacy and development. Literacy benefits both individuals and communities. It transforms people, communities and the entire social structure and is a key for socio-economic development. Literacy is the medium that connects an individual to the mainstream society. It enables an individual to access the social entitlements made available by the government. Literacy involves a continuum of learning in enabling individuals to achieve their goals to develop their knowledge and potential, and to participate fully in their community and wider society." (Ibid), Literate societies interact and contribute to the development process. Literacy level and educational attainment are vital indicators of development in a society. Attainment of universal primary education was one of the Millennium Development Goals (MDG) of the United Nations to be achieved by the year 2015 (Ibid). Though wedded to the constitutional safeguards of positive discrimination in favour of the hitherto "left-outs" such as the tribals, the Dalits and females, yet education in Odisha stands as the superstructure still rooted solidly in the age-old substructure of caste and gender. Needless to say, this is because education does not exist in a vacuum far removed from the other elements of the society. Rather it draws from and feeds on the other elements symbiotically connected to it such as the culture, economy and polity of the society. Viewed from the vantage point of development and quality of life, there is, simplistically stating,

a positive correlation between education and development per se in the State. By making education available to all members of society, a nation can create a larger and more skilled labour force. Education endows a person with self-confidence, the ability to make informed choices, understand directions and also ability to develop new concepts. These skills are the driving force behind technological and economic advancement. By becoming part of the labour force, a woman will be able to add to her family's income.

This in turn, would enable many more families to raise their standard of living. Gender equality and women's empowerment formed an important goal of the Millennium Development Goals (MDG) and the present Sustainable Development Goals (SDG) which include among others, closing the gender gap in education at all levels. Gender equality and women's empowerment also has a far reaching impact on agricultural production. It is also important for household food security and nutrition. Underlying the presumption that education has an overarching effect that positively affects the agricultural productivity through pathways that enter into the social domains of access, equity, decision making and control over resources, there is need to also map the gender indices district-wise to identify the intervention points which directly or indirectly limits the agricultural productivity. The success of Green revolution in the early seventies underlined the importance of technologies in bringing about the revolution in crop production, followed by milk (white revolution) and aquaculture (blue revolution).

The quantum leap in the agricultural production with the aid of technologies did help in overcoming the food scarcity and averting hunger, but over the years, it has also led us to comprehend that technology alone is not the panacea for all the problems in agricultural production and productivity. The single minded focus upto now on technologies especially mechanized ones, have completely ignored the fact that it is after all the human resource which make technologies to work effectively on the ground. And, keeping the human resource which is 50 percent of the population - the women, ill equipped may not help further under the circumstances where there is increasing feminization of agriculture owing to the social change and the out migration of men folk. The geography of gender has emerged as an important dimension in the field of gender studies. In the present study, three gender indices namely female literacy, gender gap in literacy and sex ratio were mapped district-wise for the 30 districts of Odisha. Further, female literacy rates were classified into seven groups between 30 to 100 percents and the gender indices were then compared under each female literacy classes/categories.

## MATERIALS AND METHODS

The data for this study was taken from the census data (Census of India, 2011) which included disaggregated data on population and literacy. The female and male literacy for all the districts were calculated and the female literacy was classified into 7 groups. The seven female literacy classes were 30-40, 40-50, 50-60, 60-70, 70-80, 80-90 and 90-100. The 30 districts of Odisha were regrouped into the seven female literacy classes and the human population, area, human density, sex ratio, female and male literacy and gender gap in literacy were computed for each of the seven female literacy classes. The development status of districts in India was taken from District Development and Diversity Index (Shariff, 2015)

in which the districts in India were ranked based on four sub indices viz., economic, material wellbeing, education and health. Each of the sub-indices had different set of indicators. The districts were then classified into five categories namely, least developed, under developed, less developed, developed and most developed, based on the level of development. The development statuses of the districts under different female literacy classes were determined. The data were represented graphically for easy comprehension and comparison of various indicators across different female literacy classes. Finally, the seven female literacy classes were depicted spatially to identify their location on the map of India. Spatial depiction of data gives an understanding of the geographical spread of the attributes related to women which in turn facilitates decision making and resource allocation for better outcome.

## RESULTS AND DISCUSSION

### Female literacy, area and population

The distribution of districts into seven female literacy classes is given in Table 1. Out of the 30 districts in Odisha, 4 districts had Female Literacy Rate (FLR) less than 40 percent, 3 districts had FLR between 40-50 percent, 4 districts had Female Literacy Rate more than 50 but less than 60, 7 districts had Female Literacy Rate between 60-70 percent (Table.1). Thirty three percent of the districts (10 in number) had Female Literacy Rate between 70-80 percent. Approximately, 7% of the districts had FLR exceeding 80 percent. There were 16.5 percent of human population living in 27.6 percent of the geographical area which still had FLR less than 50 percent, whereas on the other extreme, 8.1 percent of the human population living in 2.9 percent of the area had FLR more than 80 percent.

The remaining 75.4 percent of the human population living in 69.5 percent of the area in Odisha had FLR between 50-80 percent. In absolute terms, there were 6.9 million populations where FLR was less than 50 percent, of which 2.7 million had female literacy rate more than 40 percent but less than 50 percent. On the other hand, 3.3 million human populations had the highest FLR of more than 80 percent. However, no district of Odisha was found to be in the FLR class of 90-100. A perusal of the distribution of districts with different female literacy classes (Table 2 and Fig. 1) indicate that the districts with low female literacy- less than 40 % are located in the hilly districts far away from the coastline and in the southern and western parts of Odisha, namely the four districts of undivided Koraput i.e. Rayagada, Koraput, Nabarangpur and Malkangiri. The districts Kalahandi, Nuapada and Gajapati are in the 40-50 class. Keonjhar, Mayurbhanj, Balangir and Kandhamal districts are in the 50-60 FLR class. Seven districts come under the 60-70 class, viz., Sundargarh, Deogarh, Bargarh, Sambalpur, Subarnapur, Ganjam and Baudh.

In the 70-80 FLR class, there are ten districts, viz., Kendrapara, Jharsuguda, Cuttack, Jajapur, Puri, Bhadrak, Angul, Dhenkanal, Baleshwar and Nayagarh. The two districts having the highest FLR i.e., 80-90 were the districts Jagatsinghpur and Khordha. The overall human density of Odisha was 269 persons per sq km, but there was a great variation among the different female literacy classes. The lowest human density i.e. 155 persons per sq km was in the districts where the FLR was less than 40 percent which gradually increased as the female literacy rate increased.

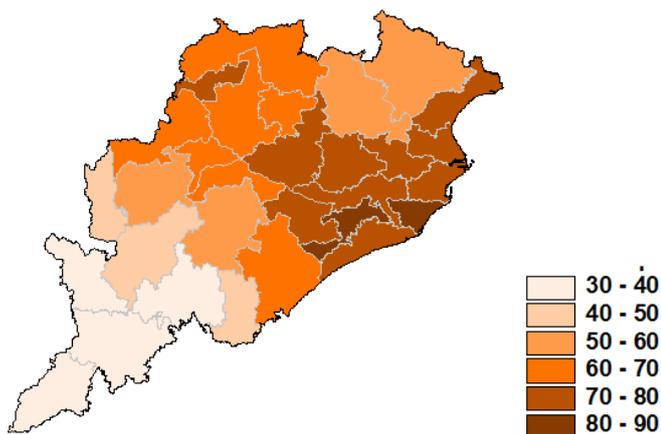
**Table 1. Distribution of districts, area human population and gender indices under different female literacy classes**

Female literacy class	No. of districts	Area (sq km)	Human population (million)	Density (no per sq km)	Sex ratio	Female literacy (%)	Gender gap in literacy (%)
30-40	4	26962 (17.3)	4.17 (9.9)	155	1029	38.7	22.3
40-50	3	16097 (10.3)	2.76 (6.6)	171	1015	46.0	25.3
50-60	4	33317 (21.4)	6.70 (16.0)	201	998	54.7	22.3
60-70	7	38787 (24.9)	9.53 (22.7)	246	976	64.2	18.8
70-80	10	36063 (23.2)	15.41 (36.7)	427	961	74.9	14.2
80-90	2	4481 (2.9)	3.38 (8.1)	755	939	81.7	11.1
Total	30	155707 (100.0)	41.95 (100.0)	269	978	64.4	18.0

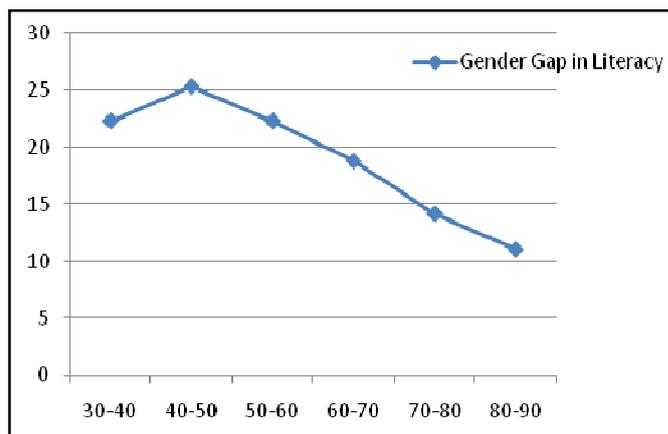
Figures in ( ) indicate percent in a column

**Table 2. Distribution of districts under FLR Class and levels of development**

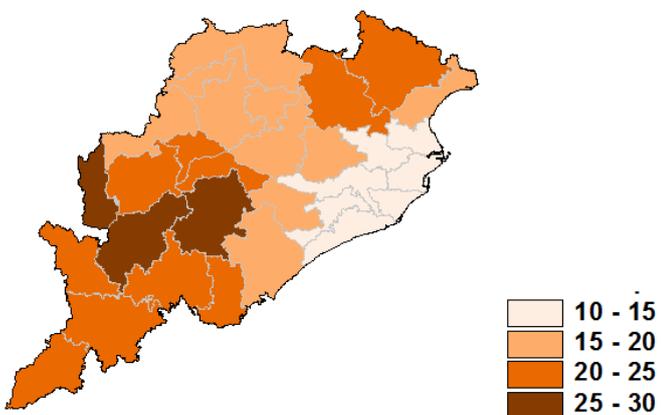
Development status of districts	Female literacy class						Total districts
	30-40	40-50	50-60	60-70	70-80	80-90	
Most developed						1	1
Developed					4		4
Developing				1	4	1	6
Under developed	1			5	2		8
Least developed	3	3	4	1			11
Total	4	3	4	7	10	2	30



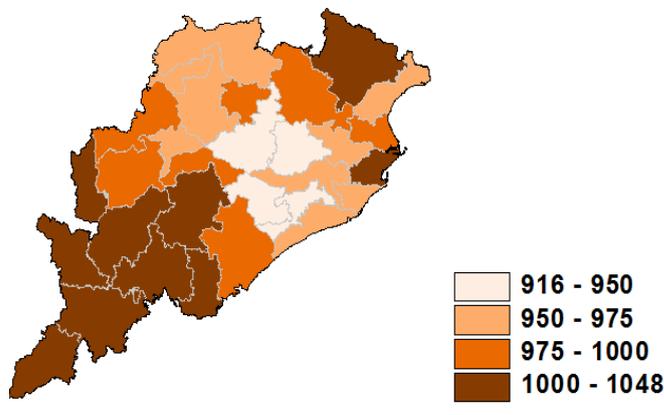
**Fig. 1. Distribution of female literacy (%) in different districts of Odisha**



**Fig. 2. Gender gap in literacy under different FLR Classes**



**Fig. 3. Gender gap in literacy (%) in different districts of Odisha**



**Fig. 4. Sex ratio in different districts of Odisha  
Female literacy and gender indices**

The highest density was 755 persons per sq. km in districts having FLR 80-90. The gender gap follows the same trend as the female literacy rate. As seen in Fig. 2. given above, except between the lowest 2 FLR classes i.e. 30-40 and 40-50, the graph is showing a downward trend as the female literacy rate increases. It is appropriate here to decipher the term "literacy". As per Census of India, "a person aged seven years and above who can read and write with understanding in any language, is treated as literate." ([http://www.censusindia.gov.in/2011-prov-results/paper2-vol2/data\\_files/AP/Chapter\\_VI.pdf](http://www.censusindia.gov.in/2011-prov-results/paper2-vol2/data_files/AP/Chapter_VI.pdf)/accessed). In the demographic parlance of India, it is termed as "effective literacy rate".

1. The United Nations Educational, Scientific and Cultural Organization (UNESCO) defines literacy as the "Ability to identify, understand, interpret, create, communicate compute and use printed and written materials associated with varying contexts." (Shah, 2013). Female literacy rate and the gender gap in literacy are two sides of the same coin. The gender gap in literacy across different districts in Odisha is given in Fig. 3. Both are indicators of the condition in any society. A question might be asked that why there is a difference between male and female literacy rates anywhere in the globe, especially in developing regions? The answer is that due to existent societal prejudices and stereotypes, all members of the society do not have equal access to education. Mostly, it has been seen that the men achieve higher literacy rate as compared to the women. In developing countries, the gap is extremely large. These discrepancies in literacy levels directly reflect society's stereotypical perceptions of women and their role in society (<http://eserver.org/courses/spring95/76-100g/Meredith.html>/ accessed on 10.02.2016).

In many developing countries the gap between male and female literacy levels exists because women have been discouraged from receiving the same educational benefits of men (Ibid). A survey of Third World countries "reveals that women in these nations face a wide range of prejudices. In work, health, education, and law, Third World women are second-class citizens" (Scholastic Update, 1987). Women also suffer from "decreased spending on education due to economic constraints and traditional attitudes about women's role in society" (UN Chronicle, 1990). Many cultures view the male as the authority figure and female as the inferior among the two, (Scholastic Update). Indian culture is one with such worldview. In this type of environment, women's education is viewed as a threat to their way of life. "Parents may fear that education will harm their daughters' marriage prospects or that their daughter's dowry will have to increase." (Hill, 1993). Studies show that educated women marry educated men, and educated men require larger dowries for their wives (Hill, 1993). Even an uneducated man will demand a larger dowry for a literate woman. This occurs because the men fear that an educated woman might "expose their ignorance and, above all, challenge their power position within the family". (Lind, 1990). The sex ratio (Fig. 4) shows an opposite trend to the FLR in Odisha. The overall sex ratio of Odisha is 978. In districts with highest FLR in Odisha, the sex ratio is 939. It goes on increasing as the FLR decreases. In the area having 40-50 FLR, the sex ratio is 1015 and in area with the lowest FLR i.e. 30-40, the sex ratio is highest i.e. 1029. One of the reasons may be given that the areas in Odisha which are far away from the coastline are also necessarily rural. Here people are unaware of and also unable to access modern medical facilities in the shape of ultrasound and amniocentesis. Here,

the very survival of a child whether male or female itself is in question. So in this region of the state, sex selective abortions are not at all practised. These are the areas where institutionalized health services still are out of reach of the people due to physical and social factors, physical in the shape of unavailability of service and social in the shape of lack of a gendered mind-set with regard to family planning. It could also be connected to more community ownership of land for agriculture rather than individual ownership of private land. Hence, it can be explained through these causal factors. It is crucial to see the relation between the development level and female literacy rate (FLR) district wise in Odisha. The table below shows the relation very clearly: As per the table, there is one district (Khordha) that is in the *most developed* category. It also has FLR between 80-90 %. There are 4 districts in the *developed* category. They are the districts Cuttack, Jajpur, Jharsuguda and Kendrapara. All the 4 districts have 70-80% FLR. There are 6 districts in the *developing* category. Out of these, 4 districts have FLR between 70-80%, one district has FLR between 80-90% and one district has FLR between 60-70%. There are 8 districts in the *under developed* category. Out of these, 5 districts have FLR between 60-70%, two districts have FLR between 70-80% and one district has FLR between 30-40%.

In the least developed category, three districts are in 30-40%, three districts are in 40-50% FLR and 4 districts have between 50-60% FLR and one district has between 60-70% FLR. Overall, the state has about 13% districts approximately in the least FLR category. Ten percent districts in the 40-50 category, 13% districts in the 50-60 category, 23% districts are 60-70 category, 33% districts in 70-80 category and only 7% districts in the 80-90 category. The concept of a relationship between education and social stratification is an important one in discussions about literacy. The present study indicates that female literacy rate has a ripple- effect positive impact on development of a region. It also increases participation of women in appropriating the modern amenities and economic empowerment in spending according to their accord as well as having an important stake in decision-making at household level at access, use and control of economic assets. Sex ratio depletion has to be dealt with by interventions for enhancing the status of girl child and actualizing of girl child as a legal heir of parents along with the traditional Indian inheritance system which is based on the principle of "from father to son". Education has an overarching effect on the overall well being of women and the society and contributes to the faster development of the region.

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*This means that a person who can only read but cannot write, is not literate. In the censuses prior to 1991, children below 5 years of age were treated as illiterates. It was decided at 1991 Census that all children in the age group*

*of 0-6, would be treated as illiterate by definition and the population aged seven years and above only would be classified as literate or illiterate. The same criterion has been retained in the censuses of 2001 and 2011.* [http://www.censusindia.gov.in/2011-prov-results/paper2-vol2/data\\_files/AP/Chapter\\_VI.pdf](http://www.censusindia.gov.in/2011-prov-results/paper2-vol2/data_files/AP/Chapter_VI.pdf) accessed on 09.02.2016.

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