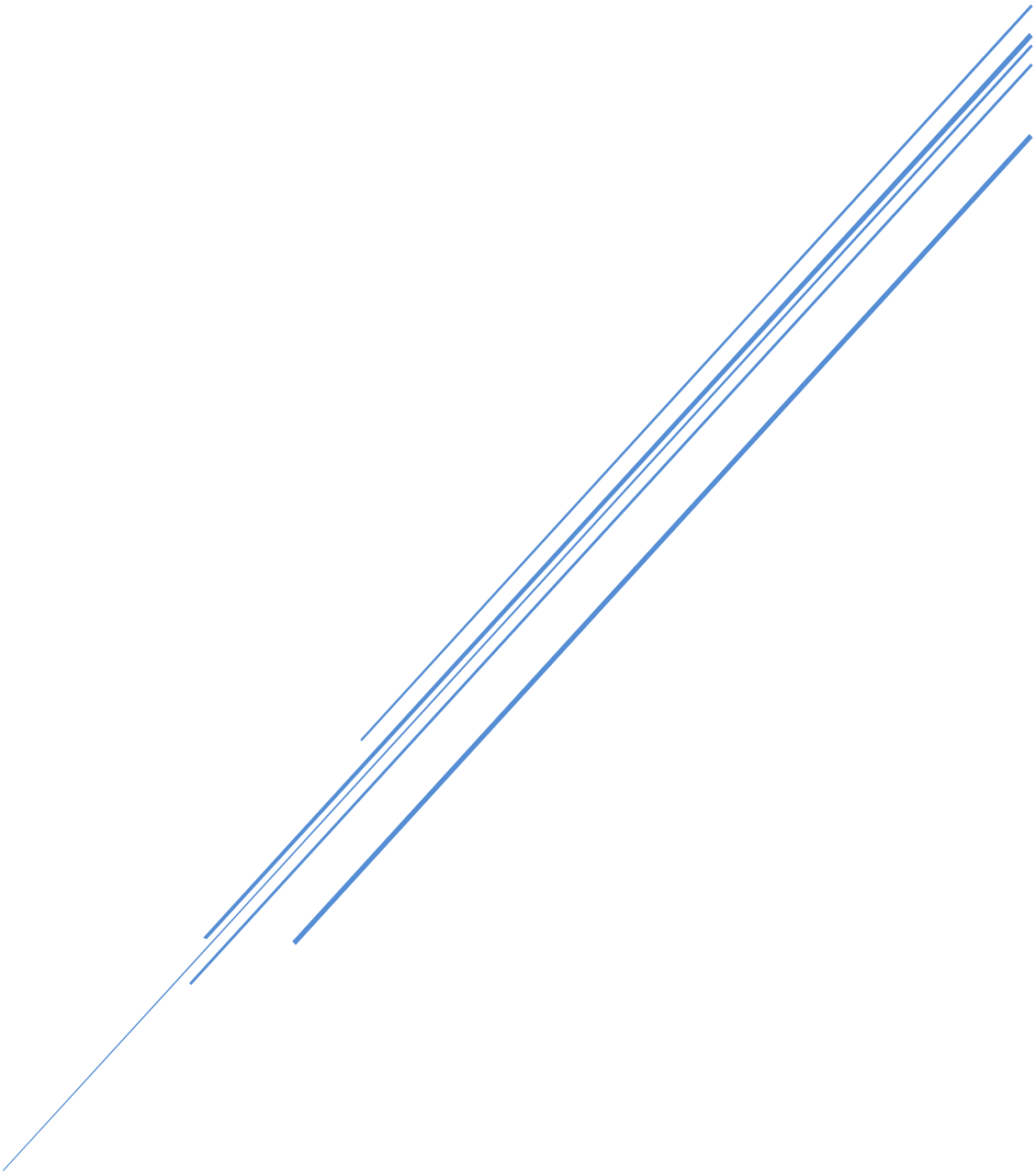
ORISSA DISTRICT RANKING

Based on Social – Economic parameters



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Objective: To rank individual districts of Orissa on the basis of socio -economic factors

Methodology adopted in ranking the districts

In order to rank the districts in Orissa some of the parameters considered are:

1. % change in sex ration
2. % Change in population
3. No of children per school
4. Increase in Secondary schooling literacy rate
5. Increase in Graduate literacy rate
6. Availability of treated drinking water
7. Availability of electricity
8. % Change in GDP
9. % Change in working population

The above mentioned parameters are calculated from Population data, Education of population above 7 years & age, Availability of drinking water and electricity to households, GDP data and Working population data from census 2011 and 2001.

Further the individual parameters are rated on a scale of 1- 10 based on the importance for Orissa's socio economic development.

Description of individual parameters

1. **% Change in sex ratio**

   This parameter is calculated using sex ratio of both census 2011 and 2001 data

   Sex ratio = No. of females per 1000 males

   % Change in sex ratio = (sex ratio' 11 – sex ratio'01) / sex ratio'01

   Using this the districts are ranked in descending order *(higher % change in sex ratio – higher rank)*

2. **% Change in population**

   This parameter is calculated using total population for both census 2011 and 2001

   % Change in population = (population' 11 – sex ratio'01) / population'01

   Using this the districts are ranked in ascending order (*higher % change in population – lower rank)*

3. **No of children per school**

   This parameter is calculated using **number of children (7-17 age)** from 2011 census data and **total number of schools (primary to secondary)** in 2011.

   No of children per school = Total children / No of schools

   Using this the districts are ranked in ascending order *(lower no of children per school –higher rank).*

4. **Increase in Secondary Schooling literacy rate**

   This parameter is calculated using **number of children (7-17 age)** from 2011 & 2001 census data. It is calculated *% Change in points of literacy rate till secondary education*. The formula is as follows

   % Change in points of literacy rate till secondary education = % Secondary education literacy rate'11 - % Secondary education literacy rate'01.

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% Secondary education literacy rate = No. of literates till secondary schooling / Total population
Using this the districts are ranked in ascending order *(higher the increase in secondary schooling literacy rate –higher rank).*

5. **Increase in Graduate literacy rate**
   This parameter is calculated using **number of students (20- 24 age)** from 2001 & 2011 census data. It is calculated **as weighted sum, with equal weights**, for
   a. % Change in points of literacy rate till secondary education (7-17 years of age)
   b. % Change in points of literacy rate of pre-university (18- 19 years of age)
   c. % Change in points of literacy rate of university graduate. (20 -24 years of age)

   The percentage change in points is calculated as

   % Secondary education literacy rate = No. of literates till secondary schooling / Total population

   % Change in points of literacy rate till secondary education = % Secondary education literacy rate'11 - % Secondary education literacy rate'01.

   The same approach has been used for pre-university & university graduate category

   Increase in Graduate literacy rate = 0.3*(*% Change in points of literacy rate till secondary education + % Change in points of literacy rate of pre-university + % Change in points of literacy rate of university graduate)*

   Using this the districts are ranked in ascending order *(higher the increase in graduate literacy rate –higher rank).*

6. **Availability of treated drinking water**
   This parameter is calculated from availability of drinking water to households from 2011 census data. The districts are ranked on the basis of availability of drinking water availability from both treated & un-treated sources. The formulae is as follows

   % households with availability of drinking water = 0.8* % households receiving drinking water from treated sources + 0.2* % households receiving drinking water from untreated sources

   % households receiving drinking water from treated sources = households receiving drinking water form treated source / total number of households. The same calculation is used for % households receiving drinking water from untreated sources.

   Using this the districts are ranked in ascending order *(higher the availability of drinking water – higher rank).*

7. **Availability of electricity**
   This parameter is calculated from source of lighting to households from 2011 census data. The districts are ranked on the basis of lighting to households from **govt. electrical cables (direct electricity)** and lighting from **oil as source.** The other categories like solar energy & form other sources are neglected as their proportion is very much less compared to aforementioned sources.

   The formula is as follows

% households with availability of electricity = 0.8* % households having direct electricity as lighting source + 0.2* % households having oil as source for lighting.

% households having electricity as lighting source = households having electricity / total number of households.

% households having oil as source for lighting = households having electricity from kerosene and other oils / total number of households.

Using this the districts are ranked in ascending order *(higher the availability of electricity –higher rank).*

8. **% Change in GDP**
   This parameter is calculated using GDP of individual Orissa districts from 2011 – 2010 and 2005 – 2004 data. The formula is as follow

   % Change in GDP = CAGR (GDP in 2011- 10 to GDP in 2005 -2004)

   Using this the districts are ranked in ascending order (*higher the CAGR GDP growth –higher rank).*

9. **% Change in Working population**
   This parameter is calculated using **total no. of working population** from 2011 & 2001 census data. It is calculated *% Change in points of working population*. It is calculated as follows

   % Change in points of working population = % working population'11 - % working population,10

   % Working population = No. of total working people / Total population

   Using this the districts are ranked in ascending order *(higher %change in working population – higher rank).*

Ranking of Districts

The ranking of individual districts is done in two steps. The steps are as follows:

a. Classification of districts into clusters
b. Individual parameters scaling
c. Individual district scoring

Classification of districts into clusters:

The districts are classified into six clusters for all the **9 parameters individually** and they were given a score on a scale of 1-10 to maintain homogeneity (to avoid bias in ranking). The scaling is done as follows

District Rank	Scoring
1 – 5	10
6 – 10	8
11 – 15	6
16 – 20	4
21- 25	2
26 – 30	1

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Individual parameter scaling

As mentioned earlier every individual parameter is given a value on the scale of **1- 10** based on logic. 1 being least important and 10 being highest importance

Parameter code	Individual parameter	Importance
a	**% Change in sex ration**	8
b	**% Change in population**	5
c	**No. of children pre school**	6
d	**Increase in Secondary schooling literacy rate**	8
e	**Increase in graduate literacy rate**	8
f	**Availability of treated drinking water**	8
g	**Availability of electricity**	7.5
h	**% Change in GDP**	9
i	**% Change in working population**	8.5
G	**Change in infant mortality rate**	8

Individual scoring of districts

A total score for an individual district is calculated by adding up each parameter score, which is obtained by, multiplying its each parameter 's district rank with parameter importance scaling number

The district with highest score is considered as top performing and the lowest as least performing.

The top 10 districts in Orissa in Socio economic development is given below.

District name	Total score	Rank
Gajapati	470	**1**
Kandhamal	429.5	**2**
Koraput	425.5	**3**
Rayagada	419.5	**4**
Ganjam	412	**5**
Nupada	409	**6**
Kendujhar	399	**7**
Mayurbhanj	397	**8**
Balangir	391	**9**
Baleshwar	385	**10**

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Recommendations:

Other factors like infant mortality rate, number of health care institutions per lakh population, number of industries established, amount spent on health care and other infrastructure, household living conditions can be included with the above 9 parameters to get a further broad picture of individual district performance.

Data Sources

Data for population, Marginal workers, literacy

1. 2011 - http://www.censusindia.gov.in/pca/default.aspx
2. 2001 – http://www.censusindia.gov.in/DigitalLibrary/MFTableSeries.aspx (size:61Kb)

Data on Education

2011 - http://www.censusindia.gov.in/2011census/C-series/C08.html

2001 - http://www.censusindia.gov.in/DigitalLibrary/MFTableSeries.aspx

Data for drinking water & location

2011 - http://www.censusindia.gov.in/2011census/Hlo-series/HH06.html

Data for Main source of electricity

2011 - http://www.censusindia.gov.in/2011census/Hlo-series/HH07.html

Data for number of schools in Orissa

http://www.opepa.in/SchoolReports/ManagementwiseSchool.aspx

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