

# Digital Gender Atlas for Higher Education in the State of Odisha

## Objectives:

- Mapping of all Colleges, Universities/Institutions of National Importance and Standalone Institutions
- To develop a Geo-enabled centralized GIS database for the entire institutions by integrating existing geo-spatial data sets available with NIC ( All Administrative Layers, Transport Layers, Natural Resource Layers etc.) on top of Global imagery services such as Topo Map & Satellite Map for better monitoring, smart visualizing and quick decision making.
- To identify low performing geographic pockets, particularly from marginalized groups such as scheduled castes, scheduled tribes and Muslim minorities, on specific gender related education indicators.
- To rank the districts based on CI (Composite Index) and EDI (Education Development Indicator)
- Visualize the status of a single indicator based on Quartile Ranking method across 3 years. (i.e., year 2013-2014, year 2014-2015 & year 2015-2016).

## Different Modules

The Atlas is designed to provide visualization at State & district levels. The technical components of the Atlas are:

1. **Geo Spatial Visualization**
2. **Gender Analysis**
3. **Composite Index (CI) based Ranking**
4. **Trend Analysis &**
5. **Spatial distribution of Special Focus Districts (SFD), Leftwing Extremism Districts (LWE) and Aspirational (ASP) Districts.**

Each of the above mentioned technical components are explained below.

**Geo-Spatial Visualization:** 1070 Colleges, 21 Universities and 340 Standalone Institutions have been geographically mapped with integration of Administrative Layers (State Boundary, District Boundary, Block Boundary, District Hq., Block Hq. etc.). Women's colleges are separately highlighted. Global Imagery services such as Topo Map, Satellite Map have been integrated as back-ground map. Various GIS tools such as zoom in, Zoom Out, Pan, Quick Search, Identification, Measurement, Query Builder have been incorporated in the module for smart visualization, quick search, data retrieval, distance calculation and many more to make the application robust and user friendly. One can retrieve the basic information of a selected feature on-a-fly by moving the crosser on to it.

**Gender Analysis:** Gender Analysis provides a basis for robust analysis of the differences between women's and men's lives and to aim to achieve positive change for women. The Analysis has been carried out based on 4 parameters such as :

- Enrolment
- Teachers
- Literacy
- Person with Disability showing on map.

**Composite Index (CI) based Ranking:** Composite Index (CI) is calculated for the 25 indicators grouped under 4 categories such as 1. Infrastructure, 2. Teaching Staff, 3. Outcome & 4. Students with Disabilities used in the atlas. Then the Composite Index of 4 Categories is derived from the indicators coming under each category. From the Composite Index of 4 categories, EDI (Education Development Indicator) is calculated. The Atlas provides an aggregated picture of development through a comparative visualization of composite index as well as EDI based quartile ranking at District levels.

**Trend Analysis:** Trend Analysis visualizes status of a single indicator based on Quartile Ranking method across 3 years. (i.e., year 2013-2014, year 2014-2015 & year 2015-2016). The performance status of each of the 25 indicators grouped under 4 categories such as 1. Infrastructure, 2. Teaching Staff 3. Outcome & 4. Students with Disabilities that form the basis of Atlas which can be visualized in one screen across 3 years. The performance status of an individual indicator can be visualized at District Level as Low, Average, Medium & High with different color combination in a dynamic mode.

**SFD, LWE & ASP Districts:** The status of education is affected not only by the poor performance on education parameters but also many other parameters. Districts identified as Special Focused Districts (**SFDs**) on the basis of high concentration of marginalized social groups such as ST, SC & Muslims. Districts with SC or ST population more than 25% and Muslim Population more than 20% of total Population are termed as Special Focused Districts.

18 districts of Odisha have been identified as Leftwing Extremism Districts (**LWE**) by Ministry of Home Affairs, Govt. of India.

Similarly, NITI Aayog has come up with a mechanism under which 101 most underdeveloped districts of the country termed as “**Aspirational Districts (ASPDs)**” would be competing with each other in terms of performance and they will be ranked on 49 indicators based on various data points. 10 districts of Odisha have been identified as aspirational districts. All the district maps can be visualized in one screen.