

## EXECUTIVE SUMMARY

Researchers need bibliometric data when responding to calls for applications for accreditation, competitive projects, etc. Likewise, the Institution uses the data for strategic purposes when reporting to the public administration, managing project applications, accrediting doctoral programmes, analyzing and assessing scientific output, setting research policies and disseminating its scientific activities. This is why the scholars are used to study Bibliometric Analysis, which enables bibliometric data to be managed and consulted and the impact of the publications and their authors to be measured. It stores the academic articles and lets users assess their quality based on national and international bibliometric indicators.

The bibliometric data are evaluated from the following:

- ❖ Evaluation of scientific publications.
- ❖ Application call procedures for the teaching staff.
- ❖ Dissemination of scientific publications (strategic).
- ❖ External reports.

As per 2011 Census, the Scheduled Tribe (ST) population of the State of Orissa is 9,590,756. Of this, 8,994,967 are in rural areas and 595,789 in urban areas. This constitutes 22.8 percent of the total population of the State and 9.7 per cent of the total tribal population of the country. The state holds 3rd and 11th rank among the States/UTs in terms of ST population and the proportion of ST population to total population of the State respectively. The highest number of Scheduled Tribes has been recorded in Mayurbhanj (1,479,576) and the lowest in Puri (6,129). The State has a total of sixty-two (62) Scheduled Tribes.

### Derivation of tribal surnames

From the literatures study from the references as available in different authentic sources, the entire surnames are listed in the project.

### Results and Findings

*Data sharing of tribal* - It is surprise that the total percentage of S&T share of tribal of Odisha is 05.27 only. The total tribal constitutes 22.1 percent of the total population of the State and 9.7 per cent of the total tribal population of the country. Hence, the S&T contribution of tribal of Odisha is not significant as compared to their population in the state.

The publication pattern of the tribal is to follow a positive pattern (growth) during the study period. The linear equation is also shown in Fig 2 as above. The calculated value of  $R^2$  is 0.3492. It is showing slow trend during the years. Although the year 2015 is the most significant for S&T publications, publishing 125 articles by the tribal, but not remarkable changes in the total publications per year during 2014, 2016 and 2017. Tribal of Odisha has started their significant contribution from the year 2014 and continued as positive trend in S&T contribution in Odisha.

The tribal of Odisha has followed similar patterned which similar to earlier studies done by many researchers. Triple authorship is the most preferred pattern for all scientific publishers in primary sources. The tribal of Odisha are very much preferable for these patterns. There are also some unusual patterns followed in this study which observed in the category of 'Decuple & more'.

*Author's Productivity Study* - From the study it is noticed that there are 227 authors have published 935 S&T articles in different primary journals. The top 25 authors have published 469 articles sharing more than 50% of the total publications. The tribal author B. Majhi has published 79 S&T articles and occupied Rank 1 in the top productive list.

*Quality of the Tribal S&T contribution* - An average of 67.12% publications are appeared in the ranked sources (SCI Journals) during the years 2009-2018. Tribal of Odisha have shown the consistency in the quality S&T contribution during the years. Although the highest sharing of SCI publications has come in the year 2010 (78.43%) but the average quality contribution is seen in the year 2013 (Average SCI 2.50). The total SCI values (200.05) is reached to pick with an average IF of 2.33 in the year 2014. The highest SCI range is 21.875 (IF Value) in the year 2014 and 0.02 lowest in the year 2015. The lowest SCI range 0.044 is noticed during the years 2011, 2012, 2013, 2014, 2016, and 2017. The highest quality contribution is seen in the year 2015 (SCI 92). Although the quality of S&T contribution is showing a positive trend but not so significance during the period 2009-2018.

### **Tribal preferred institutions in Odisha**

*Based on number of S&T articles* - NIT, Rourkela is the most preferred institutions where the tribal of Odisha have contributed a large number of S&T articles (125 S&T articles) compared to other institutions followed by OUAT, Bhubaneswar (69 S&T articles) and SOA, Bhubaneswar (62 S&T articles). On the other hand, the said ranking is shown different, if it is based on sharing of SCI sources from the total publications of the concerned institutions. ICMR-RMRC, Bhubaneswar (100%) is listing on the top of Table 8 followed by CSIR-IMMT, Bhubaneswar (92%) and IIT, Bhubaneswar (88.24). The top 20 ranked intuitions, based SCI sharing (%), are listed below:

*Based on number of SCI Journals* - It is also shown that NIT, Rourkela is also the most preferred institutions where the tribal of Odisha have contributed a large number of S&T articles in SCI quality journals (68 SCI Journals) compared to other institutions followed by OUAT, Bhubaneswar (48 SCI Journals) and CSIR-IMMT, Bhubaneswar (46 SCI Journals).

*Based on Total IF Value* - It is also noticed that CSIR-IMMT, Bhubaneswar is also the most preferred platform for the tribal of Odisha to publish most of the quality S&T articles (Total IF 145.98) followed by NIT, Rourkela (Total IF 143.284) and KIIT University, Bhubaneswar (Total IF 107.679).

### **Tribal preferred subject in Odisha**

*Based on number of S&T articles* - It is confirmed that 'Computer Science' is the most preferred subject where the tribal of Odisha have contributed a large number of S&T articles (123 S&T articles) compared to other subjects followed by 'Medical Science' (80 S&T articles) and 'Agriculture Science' (78 S&T articles). On the other hand, the said ranking is shown differently, if it is based on sharing of SCI sources from the total publications of the concerned subject. 'Environment' (100%) is listing on the top of Table 12 followed by 'Biotechnology' (94.29%) and 'Metallurgy' (93.33).

*Based on number of SCI Journals* - It is also noticed that 'Computer Science' is also the most preferred subject where the tribal of Odisha have contributed a large number of S&T quality articles in SCI journals (55 SCI Journals) compared to other subject areas followed by 'Agriculture Science' (52 SCI Journals) and 'Medical Science' (50 SCI Journals).

*Based on Total IF Value* - It is also noticed that 'Minerals & Materials' is also the most preferred subject area for the tribal of Odisha to publish most of the quality S&T articles (Total IF 129.79) followed by 'Chemistry' (Total IF 110.559) and 'Biotechnology' (Total IF 100.07).



### **Tribal preferred source of publications**

*Based on SCI sources* - It is noticed that the tribal of Odisha is used to preferred by contributing their articles in 'Veterinary World' (16 S&T articles) compared to other sources in 'IOP Conf. Series: Materials Science and Engineering' (15 S&T articles) and 'Indian Veterinary J.' (14 S&T articles).

*Based on NSCI sources* - It is seen that the tribal of Odisha is also used to preferred by contributing their articles in different NSCI sources and most preferred in 'Proceedings - AIP Conf.' (16 S&T articles) compared to other sources in 'Proceedings - ACM Intl. Conf.' (9 S&T articles) and 'Materials Today: Proceedings' (6 S&T articles).

*Based on SCI ranking (IF value)* - IF value of 'Advanced Energy Materials' is 21.875 occupying the top in the table and followed by 'Surgical Neurology Intl.' (IF 11.91) and 'ACS Catalysis' (IF 11.384). It is worth to inform here that tribal of Odisha are not behind to publish quality articles in high score SCI journals. 67.12% of their publications are covered under SCI tag.

### **Contribution through other institutions (Not in Odisha)**

It is seen that there are 57 institutions located at outside of Odisha state contributed 110 S&T articles. Tripura University is at the top of list (14 S&T articles) followed by Dibrugarh University (09 S&T articles) and ICAR-NDRI, Karnal (06 S&T articles). The above output as shown above is due to the activities in national seminars, workshops or individual involvement with the institutions. There are 7 foreign institutions are involved to publish or promote 12 S&T articles of the tribal of Odisha. The above output as shown above is due to the activities in international seminars, workshops or individual involvement with the institutions.

The bibliometric studies are frequently used to assess research performance and to generate information that can be used by policy makers and experts. This study has proven to be useful tool in the assessment of research performance of faculty members. Taking into account the faculty members participation in scientific collaboration as expressed in co-publication the output and productivity have been calculated.