

## **Mapping sports stadia of Jharkhand State, India: a geospatial approach**

Amitabh Mukherjee\* and Richa N K Sharma\*  
Birla Institute of Technology, Mesra, Ranchi

**Abstract:** To collect the information of the resources and to have it on a platter is the ultimate aim of Geo-spatial technology. The State for which this mapping was taken up is yet in a stage where the literacy rate is about 65 % as per the Census of India 2011. The Digital literacy rate is slowly picking up. In this context, a visual print in hand is the best visual resource and hence the importance of mapping the sports facility in print seems to be a good alternative. Present paper discusses the geospatial approach to gathering all the information and presenting on one platter in the form of a Map.

**Key Word:** Geospatial Atlas, Stadia, Sports Authority of Jharkhand (SAJHA),

**1. Introduction:** The State of Jharkhand has a glorious past in the sports arena. The Captain of the first Indian National Hockey team for Olympics, which won a Gold Medal in Amsterdam in 1928, Shri Jaipal Singh, hailed from here. Also the state producers archers who are acclaimed internationally, may it be the captain of the Indian women's Cricket team, Sumrai Tete or The legend of Indian Cricket Team, Padmashree Mahendra Singh Dhoni, all have used the States' sports resources. The 34<sup>th</sup> National Games were held in the State in 2011. Many a stadia were upgraded and a new venue of the Sports Stadium termed as Sports Complex at Ranchi came up, with the latest equipment. There were 35 total events spread over three districts, Ranchi, Dhanbad and Jamshedpur.

Geospatial technology, is now the state of the art technology to make a thematic atlas. In making of maps, the collection of data is a very important task. There are many general methods of data collection. Questionnaires, Interviews, Verbal data collection wherein the participants express their own rules, descriptions based on the observations of various social groups, document based analyses, etc. Merton et al. (1956, 1990); Patton (1990); Ball and Smith (1992); Worsley (1992); Bruer (1993); Greenbaum (1993); Morgan (1993); Creswell (1994); Johnston (1994); Rubin and Rubin (1995).

## **2. Study Area and Methodology**

The study area was the entire state of Jharkhand. (Fig.1) In the present work, data of the stadiums with facilities of sports in respect of their districts were obtained by their survey from every district of the state. The data was collected using questionnaire having the following entities:

name of the stadia, location co-ordinates, sports' facility hosted by the stadium, weather any indoor sports facilities were available or not. The study area was extracted using Survey of India topographical sheets after geocoding them. The ancillary data was collected wherein SAJHA was one of the main source. After the creation of the data base, ground checks were also made.(Fig.2)

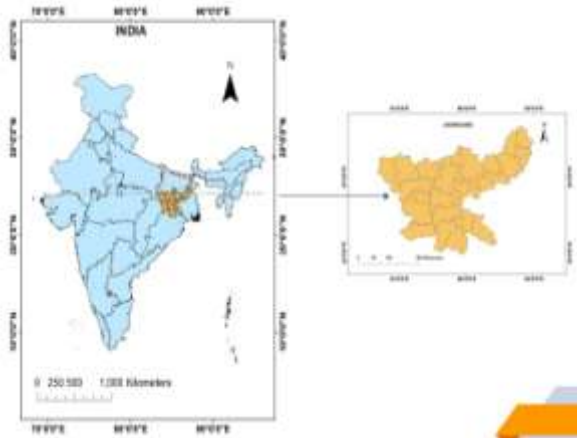
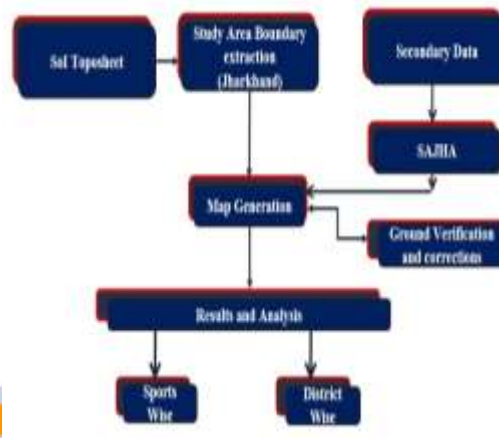


Fig. 1. Study Area



2 Methodology for the present study

### 3. Results.

The maps were drafted for facilities of stadia with 15 sports only, viz. Looking at the data on a holistic platform it was concluded that Ranchi, the state capital has almost all the facilities in its stadia. The study not only covered the sport in question, but also the facilities, dimensions required for the sport. It also identified the lack or availability of sport facility district wise. The data that emerged indicated that Football was the most sought after game and all the districts had space for football stadium in the state.

### 4. Conclusions:

Maps are documentations. The reality comes into picture for a map reader. Many tools which are online may be used to map instantly any features. Various free online softwares like Q-GIS are also in vogue. The map-maker has a lot many options at their doorsteps, Parkel, J.M. (2018) today. At the same time many fundamental questions arise as to is there a need of making paper maps any more as the updating of information is exponentially on the increase Robinson et.al 2017. Schiewe, J., 2021. The trend is now to use models to handle big data (Graser et al., 2020)

Acknowledgements: The authors are thankful to to the Sports Authority of Jharkhand for the information brochures shared with the authors. They also express their thankfulness to the Vice Chancellor and head, Deptt. of remote sensing BIT Mesra for providing the infrastructure and softwares for the present research work.

## References

1. Ball, Michael S., and Gregory W.H. Smith. 1992. *Analyzing Visual Data*. Thousand Oaks, CA: Sage Publications, Inc
2. Bruer, John T. 1993. *Schools for Thought*. Cambridge, MA: The MIT Press
3. Creswell, John W. 1994. *Research Design*. Thousand Oaks, CA: Sage Publications, Inc.
4. Graser, A., Widhalm, P., Dragaschnig, M., 2020. The M3 massive movement model: a distributed incrementally updatable solution for big movement data exploration. *Int. J. Geogr. Inf. Sci.* 34, 2517–2540. <https://doi.org/10.1080/13658816.2020.1776293>
5. Greenbaum, Thomas L. 1993. *The Handbook for Focus Group Research*. New York: Macmillan, Inc.
6. Johnston, R.J., Derek Gregory, and David M. Smith, eds. 1994. *The Dictionary of Human Geography*. 3rd ed. Oxford, England: Blackwell Publishers.
- 7 Merton, Robert K., Marjorie Fiske, and Patricia L. Kendall. 1956. *The Focused Interview*. Glencoe, IL: The Free Press.
8. Merton, Robert K., Marjorie Fiske, and Patricia L. Kendall. 1990. *The Focused Interview*. 2nd ed. New York: The Free Press
9. Parkel, J.M., 2018. Map-making on a budget. *Nature* 558, 147–148. <https://doi.org/10.1038/d41586-018-05331->
10. Robinson A.C.. - 2017 - Geospatial big data and cartography research chal.pdf,” *International Journal of Cartography*, Volume 3, 2017 pp 36-60.
11. Patton, Michael Quinn. 1990. *Qualitative Evaluation and Research Methods*. 2nd ed. Newbury Park, CA: Sage Publications, Inc
12. Rubin, Herbert J., and Irene S. Rubin. 1995. *Qualitative Interviewing*. Thousand Oaks, CA: Sage Publications, Inc.

13. Schiewe, J., 2021. The need for disciplinarity, interdisciplinarity and scientific societies - the cartographic perspective. *Geo-Spat. Inf. Sci.* 1–7.

<https://doi.org/10.1080/10095020.2020.1863748>

14. Worsley, Peter, ed. 1992. *The New Introducing Sociology*. Rev. ed. New York: Penguin Books USA Inc