A Comparative Analysis of Sports Event Organization and Student Participation in Technical Institutions across Different Zones of Karnataka

Chetan A V[1], Dr. S M Prakash[2]
[1]*Research scholar, Department of PG Studies and Research in Physical Education, Kuvempu University, Shankaraghatta-Shivamogga Dist. Karnataka State. 577 451*
[2]*Research Supervisor, Department of PG Studies and Research in Physical Education, Kuvempu University, Shankaraghatta- Shivamogga Dist. Karnataka State. 577 451*

Abstract*—Background: Organized sports events play a vital role in promoting physical activity, student engagement, and holistic development in higher education. Regular participation in intramural and extramural sports enhances physical fitness, psychological well-being, leadership, teamwork, and social interaction. However, evidence on the organization of sports events and student participation in technical institutions across different regions remains limited. Objective: This study aimed to comparatively analyse the organization of sports events and student participation in technical institutions across different zones of Karnataka. Methods: A descriptive comparative research design was adopted. A total of 120 technical institutions affiliated with Visvesvaraya Technological University (VTU), Karnataka, were selected through a random sampling technique, with 15 institutions representing each of the eight zones. Data were collected from Physical Education Directors or Sports In-charge personnel using a self-structured questionnaire. The variables included the frequency of organizing indoor and outdoor sports events and the percentage of students participating in intramural and extramural sports. The collected data were analysed using frequency and percentage. Results: The findings revealed considerable regional variations in sports event organization and student participation. The Mangalore and Bangalore Central zones organized indoor and outdoor sports events more frequently and reported higher levels of student participation in both intramural and extramural sports. In contrast, the Belagavi and Gulbarga zones demonstrated comparatively lower frequencies of sports event organization and lower student participation. Conclusion: The study concludes that the regular organization of sports events is associated with higher student participation in institutional sports programmes. Strengthening sports event planning and ensuring equitable opportunities across technical institutions may enhance student engagement, promote active lifestyles, and foster holistic development among engineering students in Karnataka.

***Index Terms*—Sports event organization; Intramural sports; Extramural sports; Student participation; Technical institutions; Engineering colleges; Karnataka; Physical activity; Higher education; Comparative analysis**

I. INTRODUCTION

Sports and physical activity constitute an integral component of higher education, contributing significantly to students' physical health, psychological well-being, social development, and academic success. Educational institutions are increasingly recognized not only as centres of academic learning but also as environments that foster holistic student development through structured sports and recreational programmes. Regular participation in organized sports enhances physical fitness, develops leadership and teamwork skills, improves emotional resilience, and promotes lifelong healthy behaviours. Consequently, universities and technical institutions worldwide have increasingly incorporated sports and physical activity into their educational frameworks to support students' overall development (World Health Organization [WHO], 2020).

Organized sports events represent one of the most effective approaches for encouraging students to participate in regular physical activity. Educational institutions conduct indoor and outdoor sports events throughout the academic year to provide opportunities

for students to develop sporting skills, improve physical fitness, and engage in healthy competition. Indoor sports such as badminton, table tennis, chess, and volleyball offer opportunities for participation regardless of weather conditions, whereas outdoor sports, including athletics, football, cricket, hockey, and kabaddi, promote endurance, teamwork, and competitive performance. Regular organization of these sporting events creates an active campus culture and encourages greater student involvement in physical activity (UNESCO, 2015).

Student participation in organized sports generally occurs through intramural and extramural programmes. Intramural sports involve competitions conducted within an institution among different departments, classes, or student groups, providing broad participation opportunities regardless of competitive ability. In contrast, extramural sports involve competitions between institutions at university, state, or national levels, enabling talented students to represent their institutions and achieve higher levels of sporting excellence. Together, these programmes play a vital role in enhancing physical fitness, promoting social interaction, strengthening institutional identity, and encouraging the development of leadership, discipline, and sportsmanship among students (National Intramural-Recreational Sports Association [NIRSA], 2023).

Scientific evidence consistently demonstrates that students who actively participate in organized sports exhibit higher levels of physical activity, improved mental health, and better academic engagement than their non-participating peers. Regular involvement in institutional sports programmes has been associated with improved concentration, stress management, self-confidence, and interpersonal relationships. Furthermore, participation in competitive sports enhances motivation, goal orientation, decision-making ability, and resilience, all of which contribute positively to students' academic and personal development. These findings emphasize that sports participation extends beyond physical fitness and serves as an important contributor to holistic educational outcomes (Warburton & Bredin, 2017; WHO, 2020).

Despite these well-recognized benefits, participation in organized sports among higher education students has shown considerable variation across institutions and regions. Factors such as institutional support, availability of sports facilities, frequency of sports event organization, academic workload, administrative commitment, and student motivation substantially influence participation levels. Therefore, understanding the organization of indoor and outdoor sports events and examining students' participation in intramural and extramural sports programmes are essential for evaluating the effectiveness of institutional sports promotion initiatives and identifying opportunities for improvement.

Within the Indian higher education system, the promotion of sports and physical activity has gained increasing importance through several national educational and sports policies. The National Education Policy (NEP) 2020 recognizes sports as an essential component of holistic education and emphasizes the integration of physical education, health, and wellness into institutional practices. Similarly, the All-India Council for Technical Education (AICTE) encourages technical institutions to provide adequate sports infrastructure, organize regular sports activities, and create opportunities for students to participate in institutional, intercollegiate, and university-level competitions. National initiatives such as Khelo India and the Fit India Movement further reinforce the importance of promoting active lifestyles among students through structured sports programmes and institutional participation (Ministry of Education, 2020; AICTE, 2020; Ministry of Youth Affairs and Sports, 2018).

The role of sports assumes even greater significance in technical institutions, particularly engineering colleges, where students are exposed to intensive academic schedules, laboratory work, project-based learning, and prolonged computer-based activities. These academic demands often reduce opportunities for regular physical activity and increase sedentary behaviour, stress, and mental fatigue. Organizing indoor and outdoor sports events provides students with opportunities to maintain physical fitness, reduce academic stress, improve social interaction, and develop essential life skills such as teamwork, leadership, discipline, and decision-making. Therefore, regular organization of sports events serves as an effective strategy for creating a healthy and balanced educational environment within technical institutions.

Student participation in intramural and extramural sports represents an important indicator of institutional

commitment to sports promotion. Intramural competitions encourage mass participation by engaging students within the institution, whereas extramural competitions provide talented athletes with opportunities to represent their institutions at university, state, and national levels. Previous studies have reported that institutions organizing sports events more frequently generally demonstrate higher levels of student participation and contribute more effectively to students' physical, psychological, and social development (Keating et al., 2005; Warburton & Bredin, 2017). Consequently, the frequency of organizing sports events and the extent of student participation may be considered important indicators of the effectiveness of institutional sports programmes.

Karnataka is one of India's leading states in technical education, with a large number of engineering colleges affiliated with Visvesvaraya Technological University (VTU). Although these institutions operate under similar academic regulations, differences may exist in the organization of indoor and outdoor sports events and in the participation of students in intramural and extramural sports activities. Such variations may arise from differences in institutional management, availability of sports infrastructure, financial resources, administrative support, and student engagement. However, empirical evidence comparing sports event organization and student participation across different zones of Karnataka remains limited. A systematic zone-wise assessment is therefore essential to understand existing disparities and support evidence-based planning for strengthening sports programmes in technical institutions.

II. RESEARCH GAP

Although previous studies have extensively examined physical activity, sports participation, sports infrastructure, and student health in higher education, comparatively limited research has focused on the organization of sports events and students' participation in intramural and extramural sports within technical institutions. Most existing investigations have emphasized students' physical activity levels or sports infrastructure, while relatively few have assessed how frequently institutions organize indoor and outdoor sports events and how these activities influence student participation. Furthermore, there is a lack of zone-wise comparative studies examining sports event organization and student participation among technical institutions in Karnataka. This gap highlights the need for a systematic assessment to provide baseline information for institutional planning, sports promotion, and policy formulation.

III. PURPOSE OF THE STUDY

The purpose of the present study is to conduct a comparative analysis of sports event organization and student participation in technical institutions across different zones of Karnataka. Specifically, the study aims to assess the frequency of organizing indoor and outdoor sports events and to examine the extent of students' participation in intramural and extramural sports. The findings are expected to provide valuable information for institutional administrators, Physical Education Directors, Sports In-charge personnel, university authorities, and policymakers to strengthen sports programmes, enhance student participation, and promote a vibrant sports culture in technical institutions across Karnataka.

IV. OBJECTIVES OF THE STUDY

1. To assess the organization of indoor sports events across different zones of Karnataka.
2. To assess the organization of outdoor sports events across different zones of Karnataka.
3. To assess students' participation in intramural sports across different zones of Karnataka.
4. To assess students' participation in extramural sports across different zones of Karnataka.
5. To compare sports event organization and student participation across different zones of Karnataka.

V. METHODOLOGY

Research Design

The present study adopted a descriptive comparative research design to examine the organization of sports events and students' participation in technical institutions across different zones of Karnataka.

Study Area

The study was conducted in selected technical institutions (engineering colleges) affiliated with

Visvesvaraya Technological University (VTU), Karnataka. The institutions were selected from eight zones: Bangalore North, Bangalore South, Bangalore Central, Central Karnataka, Mysore, Mangalore, Belagavi, and Gulbarga.

Population

The population of the study comprised all engineering colleges affiliated with Visvesvaraya Technological University (VTU), Karnataka.

Sample and Sampling Technique

A total of 120 technical institutions were selected using a random sampling technique, with 15 institutions chosen from each of the eight zones of Karnataka.

Respondents

The respondents were the Physical Education Directors of the selected institutions. In institutions where a Physical Education Director was not available, the Sports In-charge served as the respondent.

Research Instrument

Data were collected using a self-structured questionnaire developed by the investigator. The questionnaire obtained information on the frequency of organizing indoor and outdoor sports events and the percentage of students participating in intramural and extramural sports.

Validity of the Instrument

The questionnaire was reviewed by experts in Physical Education, Sports Sciences, and Research Methodology to establish content validity. Necessary modifications were incorporated based on the experts' suggestions before the final administration.

Data Collection Procedure

Prior permission was obtained from the respective institutional authorities. The questionnaire was administered to the Physical Education Directors or Sports In-charge personnel of the selected institutions. The completed questionnaires were collected, verified, coded, and prepared for statistical analysis.

Statistical Analysis

The collected data were analysed using IBM SPSS Statistics (Version 29.0). Frequency and percentage were used to summarize the organization of sports events and student participation, while comparative analysis was carried out across the eight zones of Karnataka. The results were presented using tables and graphical representations for better interpretation.

VI. RESULT

Table 1. Distribution of the Frequency of Organizing Indoor Sports Events in Technical Institutions across Different Zones of Karnataka

Zone	Weekly n (%)	Monthly n (%)	Quarterly n (%)	Half Yearly n (%)	Yearly n (%)	Does Not Organize n (%)
Mangalore	5 (33.3)	5 (33.3)	3 (20.0)	2 (13.3)	0 (0.0)	0 (0.0)
Bangalore Central	5 (33.3)	4 (26.7)	4 (26.7)	2 (13.3)	0 (0.0)	0 (0.0)
Bangalore South	3 (20.0)	5 (33.3)	4 (26.7)	2 (13.3)	1 (6.7)	0 (0.0)
Mysore	2 (13.3)	4 (26.7)	5 (33.3)	3 (20.0)	1 (6.7)	0 (0.0)
Central Karnataka	1 (6.7)	3 (20.0)	5 (33.3)	4 (26.7)	2 (13.3)	0 (0.0)
Bangalore North	1 (6.7)	3 (20.0)	4 (26.7)	5 (33.3)	2 (13.3)	0 (0.0)
Belagavi	0 (0.0)	2 (13.3)	4 (26.7)	5 (33.3)	3 (20.0)	1 (6.7)
Gulbarga	0 (0.0)	1 (6.7)	3 (20.0)	5 (33.3)	4 (26.7)	2 (13.3)

Table 1 presents the distribution of the frequency of organizing indoor sports events in technical institutions across different zones of Karnataka. The findings indicate that the Mangalore and Bangalore Central zones organized indoor sports events more frequently, with a higher proportion of institutions conducting events on a weekly and monthly basis. In contrast, the Belagavi and Gulbarga zones reported comparatively lower frequencies, with most institutions organizing indoor sports events half-yearly or yearly, while a few institutions reported not organizing indoor sports events. Overall, the results reveal considerable regional variations in the frequency of organizing indoor sports events, with the Mangalore and Bangalore Central zones demonstrating a more active institutional sports culture than the other selected zones.

Table 2. Distribution of the Frequency of Organizing Outdoor Sports Events in Technical Institutions across Different Zones of Karnataka

Zones	Weekly n (%)	Monthly n (%)	Quarterly n (%)	Half Yearly n (%)	Yearly n (%)	Does Not Organize n (%)
Mangalore	4 (26.7)	6 (40.0)	4 (26.7)	1 (6.7)	0 (0.0)	0 (0.0)
Bangalore Central	4 (26.7)	5 (33.3)	5 (33.3)	1 (6.7)	0 (0.0)	0 (0.0)
Bangalore South	3 (20.0)	5 (33.3)	4 (26.7)	2 (13.3)	1 (6.7)	0 (0.0)
Mysore	2 (13.3)	4 (26.7)	5 (33.3)	3 (20.0)	1 (6.7)	0 (0.0)
Central Karnataka	1 (6.7)	3 (20.0)	5 (33.3)	4 (26.7)	2 (13.3)	0 (0.0)
Bangalore North	1 (6.7)	2 (13.3)	5 (33.3)	5 (33.3)	2 (13.3)	0 (0.0)
Belagavi	0 (0.0)	2 (13.3)	4 (26.7)	5 (33.3)	3 (20.0)	1 (6.7)
Gulbarga	0 (0.0)	1 (6.7)	3 (20.0)	5 (33.3)	4 (26.7)	2 (13.3)

Table 2 presents the distribution of the frequency of organizing outdoor sports events in technical institutions across different zones of Karnataka. The findings indicate that the Mangalore and Bangalore Central zones organized outdoor sports events more frequently, with a greater proportion of institutions conducting events on a monthly and quarterly basis. In contrast, the Belagavi and Gulbarga zones reported comparatively lower frequencies, where most institutions organized outdoor sports events half-yearly or yearly, and a few institutions reported not organizing outdoor sports events. Overall, the results demonstrate noticeable regional variations in the organization of outdoor sports events, with the Mangalore and Bangalore Central zones exhibiting a comparatively stronger commitment to regular outdoor sports activities than the other selected zones.

Table 3. Distribution of Students' Participation in Intramural Sports across Different Zones of Technical Institutions in Karnataka

Zones	Less than 20% n (%)	20%–40% n (%)	40%–60% n (%)	Above 60% n (%)	Total
Mangalore	0 (0.0)	2 (13.3)	5 (33.3)	8 (53.3)	15
Bangalore Central	0 (0.0)	3 (20.0)	6 (40.0)	6 (40.0)	15
Bangalore South	1 (6.7)	4 (26.7)	6 (40.0)	4 (26.7)	15
Mysore	2 (13.3)	5 (33.3)	5 (33.3)	3 (20.0)	15
Central Karnataka	3 (20.0)	6 (40.0)	4 (26.7)	2 (13.3)	15
Bangalore North	4 (26.7)	6 (40.0)	3 (20.0)	2 (13.3)	15
Belagavi	5 (33.3)	6 (40.0)	3 (20.0)	1 (6.7)	15
Gulbarga	6 (40.0)	6 (40.0)	2 (13.3)	1 (6.7)	15

Table 3 presents the distribution of students' participation in intramural sports across different zones of technical institutions in Karnataka. The findings indicate that the Mangalore Zone recorded the highest level of student participation, with 53.3% of institutions reporting participation above 60%, followed by Bangalore Central. In contrast, the Belagavi and Gulbarga zones reported comparatively lower participation, with the majority of institutions indicating student participation below 40%. Overall, the results reveal considerable regional variations in intramural sports participation, with the Mangalore and Bangalore Central zones demonstrating comparatively higher student involvement than the other selected zones.

Table 4. Distribution of Students' Participation in Extramural Sports across Different Zones of Technical Institutions in Karnataka

Zones	Less than 20% n (%)	20%–40% n (%)	40%–60% n (%)	Above 60% n (%)	Total
Mangalore	1 (6.7)	4 (26.7)	7 (46.7)	3 (20.0)	15
Bangalore Central	2 (13.3)	5 (33.3)	6 (40.0)	2 (13.3)	15
Bangalore South	3 (20.0)	6 (40.0)	5 (33.3)	1 (6.7)	15
Mysore	4 (26.7)	6 (40.0)	4 (26.7)	1 (6.7)	15
Central Karnataka	5 (33.3)	6 (40.0)	3 (20.0)	1 (6.7)	15
Bangalore North	6 (40.0)	6 (40.0)	2 (13.3)	1 (6.7)	15
Belagavi	7 (46.7)	6 (40.0)	2 (13.3)	0 (0.0)	15
Gulbarga	8 (53.3)	6 (40.0)	1 (6.7)	0 (0.0)	15

Table 4 presents the distribution of students' participation in extramural sports across different zones of technical institutions in Karnataka. The findings indicate that the Mangalore Zone recorded the highest level of student participation, with 46.7% of institutions reporting participation between 40%–60% and 20.0% reporting participation above 60%, followed by Bangalore Central. In contrast, the Belagavi and Gulbarga zones exhibited comparatively lower participation, with the majority of institutions reporting student participation below 40%, and none reporting participation above 60%. Overall, the results demonstrate significant regional variations in extramural sports participation, with the Mangalore and Bangalore Central zones showing comparatively higher student involvement than the other selected zones.

VII. DISCUSSION

The present study examined the organization of indoor and outdoor sports events and students' participation in intramural and extramural sports across different zones of technical institutions in Karnataka. The findings revealed considerable regional variations, with the Mangalore and Bangalore Central zones organizing sports events more frequently and reporting comparatively higher levels of student participation than the Belagavi and Gulbarga zones. These findings suggest that regular organization of sports events contributes to greater student involvement in institutional sports programmes.

The higher levels of intramural participation observed in the Mangalore and Bangalore Central zones may be attributed to the frequent organization of indoor and outdoor sports events, which provides students with more opportunities to participate in recreational and competitive activities. These findings are consistent with Keating et al. (2005), who reported that institutional support and organized sports programmes positively influence students' participation in physical activity. Similarly, UNESCO (2015) emphasizes that regular sports programmes within educational institutions promote inclusive participation and contribute to students' physical, social, and educational development.

The findings also revealed that extramural sports participation was comparatively lower than intramural participation across most zones, particularly in Belagavi and Gulbarga. This may be associated with differences in institutional support, coaching, sports infrastructure, financial resources, and opportunities for inter-institutional competition. These observations support the recommendations of the World Health

Organization (2020), which highlights that supportive institutional environments and regular opportunities for participation are essential for increasing physical activity among young adults. Furthermore, Warburton and Bredin (2017) reported that participation in organized sports contributes significantly to physical health, psychological well-being, and overall quality of life.

Overall, the findings indicate that technical institutions organizing sports events more frequently demonstrate higher student participation in both intramural and extramural sports. Strengthening institutional sports programmes and ensuring equitable opportunities for participation across all zones may enhance student engagement and contribute to the holistic development of students.

VIII. CONCLUSION

The present study concludes that the organization of sports events and students' participation in sports vary considerably across technical institutions in different zones of Karnataka. The Mangalore and Bangalore Central zones demonstrated comparatively higher frequencies of organizing indoor and outdoor sports events and greater participation in both intramural and extramural sports, whereas the Belagavi and Gulbarga zones reported comparatively lower levels. These findings indicate that the regular organization of sports events plays an important role in enhancing student participation in institutional sports programmes. Therefore, technical institutions should strengthen sports event planning and encourage greater student involvement through regular indoor and outdoor sports activities. Such initiatives can contribute to improving students' physical well-being, social development, and overall educational experience while fostering a vibrant sports culture across technical institutions in Karnataka.

IX. PRACTICAL IMPLICATIONS

The findings of the present study provide valuable information for institutional administrators, Physical Education Directors, Sports In-charge personnel, university authorities, and policymakers regarding the organization of sports events and student participation in technical institutions. The study highlights the importance of organizing regular indoor and outdoor sports events to enhance students' participation in intramural and extramural sports. The findings may assist technical institutions in strengthening sports programmes, improving student engagement, and promoting an active and healthy campus environment across different zones of Karnataka.

X. FUTURE RESEARCH DIRECTIONS

Future studies may examine the factors influencing the organization of sports events and students' participation, including the role of sports infrastructure, institutional support, financial resources, and coaching facilities. Similar comparative studies may also be conducted in technical institutions affiliated with other universities and in different states of India to provide broader evidence for policy formulation and the promotion of sports in higher education.

Conflict of Interest

The author declares that there is no conflict of interest regarding the publication of this study.

Funding

This research received no external funding.

REFERENCES

[1] AICTE. (2020). Approval Process Handbook 2020–2021. All India Council for Technical Education.

[2] Bailey, R. (2006). Physical education and sport in schools: A review of benefits and outcomes. Journal of School Health, 76(8), 397–401. https://doi.org/10.1111/j.1746-1561.2006.00132.x

[3] Coalter, F. (2013). Sport for development: What game are we playing? Routledge. https://doi.org/10.4324/9780203114984

[4] Eime, R. M., Young, J. A., Harvey, J. T., Charity, M. J., & Payne, W. R. (2013). A systematic review of the psychological and social benefits of participation in sport for adults. International Journal of Behavioral Nutrition and Physical Activity, 10, Article 135. https://doi.org/10.1186/1479-5868-10-135

[5] Fraser-Thomas, J., Côté, J., & Deakin, J. (2005). Youth sport programs: An avenue to foster

positive youth development. Physical Education and Sport Pedagogy, 10(1), 19–40. https://doi.org/10.1080/1740898042000334890

[6] Keating, X. D., Guan, J., Piñero, J. C., & Bridges, D. M. (2005). A meta-analysis of college students' physical activity behaviors. Journal of American College Health, 54(2), 116–126. https://doi.org/10.3200/JACH.54.2.116-126

[7] Ministry of Education. (2020). National Education Policy 2020. Government of India.

[8] Ministry of Youth Affairs and Sports. (2018). Khelo India: National Programme for Development of Sports. Government of India.

[9] National Intramural-Recreational Sports Association. (2023). NIRSA: Leaders in Collegiate Recreation. https://nirsa.net

[10] UNESCO. (2015). Quality Physical Education (QPE): Guidelines for Policy Makers. UNESCO.

[11] Warburton, D. E. R., & Bredin, S. S. D. (2017). Health benefits of physical activity: A systematic review of current systematic reviews. Current Opinion in Cardiology, 32(5), 541–556. https://doi.org/10.1097/HCO.0000000000000437

[12] Weed, M., Coren, E., Fiore, J., Mansfield, L., Wellard, I., Chatziefstathiou, D., & Dowse, S. (2015). The Olympic Games and raising sport participation: A systematic review of evidence and an interrogation of policy for a demonstration effect. European Sport Management Quarterly, 15(2), 195–226. https://doi.org/10.1080/16184742.2014.998695

[13] World Health Organization. (2020). WHO Guidelines on Physical Activity and Sedentary Behaviour. World Health Organization.