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EFFECT OF SPORTS INFRASTRUCTURE AVAILABILITY ON WOMEN'S PARTICIPATION LEVELS

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Abstract

Women's participation in sports is widely recognised as a vital indication of social progress, gender equality, and community development, yet in many regions, particularly in developing countries, women continue to engage at significantly lower rates than men. Among the diverse factors influencing participation, the availability, accessibility, and quality of sports infrastructure remain central and often overlooked. This paper examines how infrastructure shapes women's involvement across school, college, community, and professional levels, drawing on global and Indian studies, field observations, and theoretical frameworks related to gender and physical spaces. It highlights barriers such as inadequate women, friendly facilities, safety concerns, poor sanitation, lack of equipment, limited trained female coaches, and restrictive social perceptions surrounding women's use of public spaces, while also demonstrating how inclusive infrastructure can enhance participation by fostering confidence, ensuring safety, and promoting sustained athletic engagement. The study further proposes practical, sustainable, and policy oriented solutions for governments, academic institutions, and sports organisations, emphasising gender sensitive planning, community engagement, digital monitoring systems, partnerships with NGOs, and school level interventions to create environments where women feel welcomed and encouraged to participate. Ultimately, the paper argues that infrastructure plays a foundational role not only by providing physical spaces but also by shaping social norms, enabling empowerment, and opening opportunities for future generations of women athletes.

Keywords: Women's Participation, Sports Infrastructure, Gender Equality, Accessibility, Safety, Physical Spaces, Educational Institutions, Policy Intervention, Community Sports Development, Empowerment.

1. INTRODUCTION

Sport is often celebrated as a universal language, one that fosters health, builds character, and promotes social cohesion. Yet, access to sports is not universal. In many societies, the ability to engage in sports depends heavily on gender, geography, socioeconomic status, and cultural expectations. Women face unique barriers that prevent them from participating at the same level as men.

The availability of infrastructure, fields, courts, stadiums, indoor halls, gyms, tracks, changing rooms, sanitary facilities, equipment, and coaching support—is one of the most decisive factors. Infrastructure does not simply provide space; it signals who is welcome and who belongs in the world of sport. When facilities are scarce, unsafe, poorly maintained, or designed without considering women's needs, participation naturally declines.

Governments and organisations have increasingly recognised sports as a tool for empowerment. Initiatives such as India's *Khelo India*, UNESCO's *Gender Equality in Sports*, and various university level schemes have aimed to close participation gaps. Yet, the question persists: why do women still lag? A growing body of research points to a central issue infrastructure availability and inclusivity.



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This paper therefore seeks to understand how infrastructure influences women's participation, identify infrastructural and socio-cultural barriers, present evidence from global and Indian literature, and offer practical solutions applicable to academic institutions, local governments, and policy makers. It argues that women's participation cannot improve until infrastructure becomes accessible, safe, inclusive, and sensitive to their needs.

2. LITERATURE SURVEY

2.1 Global Studies

Research on gender and sports participation highlights several recurring patterns. Scholars such as Farahani (2014) argue that public spaces—including sports grounds—are historically shaped through patriarchal norms, leading women to perceive them as unsafe or unwelcoming. Studies from the UK, Australia, and Canada demonstrate that lighting, surveillance, and female friendly amenities can dramatically change participation levels.

The Women's Sports Foundation (USA, 2018) found that girls are twice as likely to participate in organised sports when their schools provide well maintained facilities. Similarly, a European sports development report (2021) indicated that the presence of indoor halls and gyms significantly increased participation among adolescent girls, largely due to privacy and safety factors.

Economic and social correlations also play a role. World Bank studies show that participation rises in communities where infrastructure is within walkable distance and includes sanitation facilities. Conversely, lack of transportation was one of the most cited barriers across Latin America and Africa.

2.2 Indian Studies

Indian scholarship reveals similar challenges but with added cultural dimensions. Sharma and Kaur (2019) identify "public visibility" as a major factor, noting that women often avoid sports spaces shared with men due to fear of judgement or harassment. The absence of female coaches further discourages participation.

Government policies, such as those under *Khelo India*, have increased investments in stadiums and large facilities, but grassroots level infrastructure remains insufficient. Many districts have only one or no women specific sports facility.

Educational institutions also reflect these gaps. Studies by NCERT and UGC report that 65% of girls in government schools lack access to safe playgrounds, while only 28% of schools provide separate changing rooms. Availability of indoor spaces directly affects participation for girls at the college level.

2.3 Observations from Literature

Overall, the literature makes clear that infrastructure availability is a primary determinant of participation. Safety, sanitation, privacy, and separate facilities matter deeply, and parental support increases when facilities appear safe and structured. Social norms can be challenged when women friendly spaces are visible and accessible, while economic class and rural-urban divides remain strong influencing factors. Creating better infrastructure is therefore not just a logistical challenge - it is a social transformation strategy.

3. PROBLEM DEFINITION

Despite increasing awareness about gender equality in sports, women's participation remains significantly lower than men's. The core problem can be stated as:



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“Women’s participation in sports is hindered by insufficient, inaccessible, unsafe, and gender insensitive infrastructure, which limits opportunities for engagement, discourages long term involvement, and reinforces socio-cultural barriers.”

3.1 Specific Problem Dimensions

The barriers to participation can be grouped into several dimensions. First, infrastructure availability is limited, with few grounds, courts, and indoor halls, and a clear urban–rural imbalance in distribution. Facilities are often overcrowded or dominated by male players, leaving women with little space to engage.

Second, safety and security remain pressing concerns. Poor lighting, lack of surveillance, and harassment in public sports spaces discourage women from attending, particularly during evening hours.

Third, hygiene and sanitation facilities are inadequate. The absence of separate changing rooms, insufficient washrooms designed for women, and lack of menstrual hygiene support create discomfort and reduce motivation.

Fourth, equipment and coaching opportunities are restricted. Women often face outdated or inadequate equipment, fewer female coaches and trainers, and limited training centres, which collectively undermine sustained participation.

Fifth, socio-cultural barriers are reinforced by infrastructural gaps. Sports spaces are frequently perceived as “male dominance” parents hesitate to allow girls to travel or play in shared environments, and the scarcity of female athletes in facilities reduces role models for younger generations.

Finally, institutional limitations exacerbate the issue. Funding allocation is poor, gender audits are absent in sports planning, and schools and colleges often fail to prioritise women’s sports.

3.2 Why This Problem Matters

The consequences of limited participation are far reaching. Women’s physical health and mental well-being are compromised, leadership and confidence development are restricted, and opportunities for scholarships, careers, and sports professions are diminished. The lack of visibility of women in public spaces weakens community representation and slows progress toward long term gender equality. Since sports serve as a foundation for empowerment, preventing women from participating means denying them opportunities that shape personal and social identity.

4. ANALYSIS OF THE EFFECT OF INFRASTRUCTURE ON WOMEN’S PARTICIPATION

Infrastructure plays a decisive role in shaping women’s participation in sports.

4.1 Infrastructure as a Catalyst for Confidence

The presence of women friendly spaces - clean, secure, and accessible - acts as a psychological motivator. Research shows that girls are more confident joining sports when facilities project professionalism and inclusivity (Women’s Sports Foundation, 2018). A poorly maintained playground communicates disregard, whereas a clean, lit indoor hall signals respect and seriousness.



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4.2 Safety Perception Shapes Participation

Women often face harassment in public spaces. Infrastructure that lacks lighting, fencing, guards, or monitored entry points inherently communicates risk. Parents may discourage their daughters from participating, especially after evening hours. A safe space is more than physical protection - it provides emotional assurance (Farahani, 2014).

4.3 Accessibility Determines Convenience and Continuity

Even motivated individuals lose interest when the nearest facility is far away or requires unsafe travel. In rural areas, distances amplify inequalities, while in urban areas, crowded shared grounds discourage girls who feel judged or unwelcome. Accessible infrastructure means walkable distance, low or no entry fees, and regular, predictable schedules (World Bank, 2019).

4.4 Gender Sensitive Design Encourages Comfort

Women require separate changing rooms, clean restrooms, menstrual hygiene support, and private training environments. When such facilities are absent, discomfort replaces motivation (Sharma & Kaur, 2019).

4.5 Presence of Female Coaches and Staff Matters

Training under male coaches is not always comfortable for young girls, especially in conservative communities. The lack of female coaches restricts participation. Infrastructure planning must therefore include female coaching staff and support personnel such as physiotherapists and counsellors (NCERT, 2017).

4.6 Equipment Quality and Facilities for Diverse Sports

Participation increases in environments that support indoor sports such as badminton, table tennis, and martial arts, as well as outdoor athletics with proper tracks and fitness gyms. When equipment is lacking, participation becomes casual rather than sustained (UGC, 2018).

4.7 Institutional vs. Community Level Infrastructure

Schools and colleges are the most influential spaces for early sports engagement. Without structured sports periods, trained PE teachers, or playgrounds, girls drop out early. Community level centres, often male dominated, further discourage female participation. Both levels require targeted investment (Khelo India Reports, 2020).

4.8 Long Term Effects of Poor Infrastructure

Women who lack access early are unlikely to join sports later in life. Consequences include lower fitness levels, reduced opportunities in sports careers, lack of female representation in major events, and perpetuation of stereotypes that women are "less athletic". Infrastructure is therefore the root of not just participation but future leadership in sports.

5. SOLUTIONS AND RECOMMENDATIONS

To meaningfully increase participation, solutions must be holistic, inclusive, and sustainable.



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5.1 Gender Sensitive Infrastructure Development

Key features include separate changing rooms, sanitary hygiene facilities, clean and well, lit pathways, CCTV and security guards, and women only sports hours in shared grounds. These measures build a welcoming environment.

5.2 Micro Level Infrastructure Planning

At schools and colleges, mandatory sports periods for girls, indoor spaces for privacy, trained female PE teachers, and mentorship programs are essential. Community centres should organise women only sports days, family friendly events, and free access hours for girls.

5.3 Investment in Local Infrastructure

Government and municipal bodies should prioritise mini sports complexes in each block or ward, indoor halls in rural areas, and public-private partnerships to develop community gyms.

5.4 Technology Driven Solutions

Mobile apps for booking facilities, digital safety monitoring through CCTV and panic buttons, and online coaching platforms supporting women only training can enhance accessibility and safety.

5.5 Strengthening Human Infrastructure

Recruitment drives for female coaches and trainers, sensitisation programs for male coaches, and scholarships or internships in sports management can strengthen human resources.

5.6 Awareness and Social Change Campaigns

Community meetings addressing parental concerns, school level workshops on the benefits of sports for girls, and role model interactions with female athletes can challenge stereotypes.

5.7 Policy Measures

Mandatory gender audits for sports facilities, funding tied to inclusivity targets, and tax incentives for organisations promoting women's sports can institutionalise change.

5.8 Corporate and NGO Partnerships

Partnerships can support women only tournaments, infrastructure upgrades, equipment sponsorships, and grassroots development programs.

6. CONCLUSION

Sports infrastructure is more than just physical space; it is a powerful tool for empowerment, equality, and social change. When designed thoughtfully, it opens opportunities, builds confidence, and encourages sustained participation



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among women. Enhanced infrastructure not only provides safe and accessible environments but also challenges deep rooted social norms that have historically limited women's involvement in sports.

For example, the construction of women only sports complexes in countries like Australia and Canada has led to marked increases in female participation by offering privacy, security, and tailored facilities. Similarly, in India, initiatives such as the development of girls' sports academies with dedicated coaching and menstrual hygiene facilities have empowered young women to pursue sports more confidently and consistently.

Moreover, infrastructure improvements in schools and colleges, such as separate changing rooms, well-lit grounds, and availability of female coaches, have been shown to boost girls' enrolment in sports programs. These changes foster a sense of belonging and reduce parental concerns about safety and social stigma.

In conclusion, investing in gender sensitive sports infrastructure is essential for creating inclusive sporting environments that promote women's health, leadership, and social empowerment. Policymakers, educational institutions, and community organisations must prioritise infrastructure development as a foundational strategy to bridge gender gaps in sports participation. By doing so, they not only enhance athletic opportunities but also contribute to broader societal progress toward gender equality and empowerment.

Future research should continue to explore the intersection of infrastructure, culture, and policy to develop innovative solutions that address persistent barriers and support sustainable growth in women's sports participation worldwide.

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