

Fusing Sport and Environment: Necessitating a Forward-Looking Approach in India

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Abstract

This research paper explores the intricate relationship between sports and the environment, emphasizing the imperative for a forward-looking approach to sports development in India. As the nation witnesses rapid urbanization and industrialization, the environmental impact of sporting activities becomes increasingly pronounced. This paper delves into key aspects of this connection, addressing resource utilization, carbon emissions, waste management, biodiversity conservation, water conservation, climate change resilience, and community engagement.

Highlighting the resource-intensive nature of sports events, the research paper advocates for the integration of sustainable practices in the planning and execution of sports infrastructure. Emphasis is placed on reducing carbon footprints through eco-friendly stadium designs, promoting sustainable transportation, and adopting renewable energy sources. The discussion extends to waste management strategies, urging the implementation of recycling programs and circular economy principles to minimize the environmental fallout of sports-related waste.

Furthermore, the research paper underscores the importance of preserving biodiversity amidst the expansion of sports infrastructure. It suggests incorporating green spaces into stadium designs and restoring ecosystems to mitigate the impact on local flora and fauna. Water conservation emerges as a critical concern, especially in water-scarce regions, necessitating water-efficient practices and the incorporation of rainwater harvesting systems.

In the context of climate change, the research paper argues for the development of sports infrastructure that is resilient to extreme weather events and changing climate patterns. This involves flood-resistant stadium construction, adaptive event scheduling, and measures to address heat-related risks. Lastly, the research paper explores the potential of sports as a catalyst for community engagement and environmental education. Leveraging the popularity of sports, it advocates for initiatives that raise awareness, promote eco-friendly practices, and empower local communities.

With India at the crossroads of development, this research paper concludes by asserting that a futuristic approach to sports is not just an environmental necessity but also a strategic investment in sustainable growth. By prioritizing eco-friendly sports policies, infrastructure development, and community involvement, India has the opportunity to lead by example, setting the stage for a harmonious coexistence between sports and the environment in the years to come.

I. Introduction

In recent years, the intersection of sports and environmental sustainability has emerged as a compelling area of focus, drawing attention to the potential synergies and trade-offs between athletic activities and ecological conservation. Nowhere is this convergence more critical than in India, a country renowned for its rich sporting heritage and diverse natural landscapes. As India grapples with the dual challenges of rapid urbanization and environmental degradation, there is an urgent need to adopt a forward-looking approach that reconciles the demands of sports development with the imperatives of environmental protection and sustainability.

The fusion of sport and environment underscores the interconnectedness of human activities with the natural world and highlights the profound impact of sporting events and infrastructure on local ecosystems, biodiversity, and climate. From the construction of stadiums and sports facilities to the organization of mega-events such as the Indian Premier League (IPL) and international tournaments, the sports industry exerts

significant pressure on land, water, energy, and resources, contributing to habitat loss, pollution, and carbon emissions.

Against this backdrop, it becomes imperative to reimagine the role of sports in India through a lens of environmental stewardship and sustainability. By embracing innovative approaches, technologies, and policies, India can harness the transformative power of sports to advance environmental conservation, promote eco-friendly practices, and inspire communities to become champions of sustainability.

This paper explores the complex interplay between sport and environment in India, highlighting the challenges, opportunities, and best practices for integrating environmental considerations into sports development and management. From green stadium design and waste management to eco-friendly transportation and community engagement, there is immense potential to leverage sports as a catalyst for positive environmental change.

As India embarks on its journey towards a more sustainable future, the fusion of sport and environment offers a compelling pathway to foster ecological resilience, promote social inclusion, and cultivate a culture of environmental responsibility among athletes, fans, and policymakers alike. By prioritizing sustainability in sports, India can not only enhance its global competitiveness but also leave a lasting legacy of environmental stewardship for generations to come. The connectivity between sports and the environment is a critical aspect that deserves attention and a futuristic approach, particularly in a country like India. Here are several key points to consider:

1. Environmental Impact of Sporting Events:

- **Venue Construction:** The construction of sports facilities often involves significant environmental changes, such as deforestation and alteration of natural landscapes. A futuristic approach would involve sustainable construction practices and the use of eco-friendly materials.
- **Energy Consumption:** Sporting events, especially large-scale ones, require substantial energy for lighting, air conditioning, and other facilities. Transitioning to renewable energy sources and adopting energy-efficient technologies can minimize the environmental footprint.
- **Waste Generation:** Events generate a considerable amount of waste, including packaging, food containers, and promotional materials. Implementing effective waste management strategies, such as recycling and reducing single-use plastics, is crucial.

2. Transportation and Emissions:

- **Travel:** The movement of athletes, officials, and spectators contributes to carbon emissions. Promoting public transportation, carpooling, and investing in sustainable transportation options can help reduce the environmental impact.
- **Carbon Offsetting:** Consideration of carbon offsetting initiatives for sports events can help neutralize emissions. This involves investing in projects that reduce or capture an equivalent amount of carbon to that emitted during the event.

3. Water Conservation:

- **Water Usage:** Maintaining sports fields and providing amenities often requires significant water usage. Adopting water-efficient technologies, rainwater harvesting, and sustainable landscaping practices can contribute to water conservation efforts.

4. Promoting Eco-friendly Sports:

- **Encouraging Green Sports:** Promoting sports that have a lower environmental impact, such as non-motorized sports, can be part of a futuristic approach. This could include cycling, hiking, or eco-friendly events that focus on minimal environmental disruption.
- **Sustainable Gear and Apparel:** Manufacturers can explore sustainable materials for sports equipment and apparel, reducing the environmental impact of production and disposal.

5. Community Engagement and Education:

- **Environmental Awareness:** Using sports as a platform to raise awareness about environmental issues can be highly effective. Athletes and sports organizations can engage in educational campaigns to promote eco-friendly practices.
- **Community Involvement:** Involving local communities in environmental initiatives related to sports events fosters a sense of responsibility and ownership.

6. Government Policies and Regulations:

- Incentives for Sustainability: Governments can play a crucial role by providing incentives for sports organizations that adopt environmentally sustainable practices. This could include tax benefits, grants, or recognition for eco-friendly initiatives.
- Regulatory Framework: Implementing regulations that mandate environmental impact assessments for sports events and facilities can ensure accountability.

II. Literature Review :

Sport has a unique place in modern life, with millions of people watching or participating in their favorite games worldwide. While its power to entertain and improve health is tremendous, Sport has the unfortunate side effect of degrading the environment. To address this, professional teams and institutions worldwide are using sustainable methods to transform Sport into a positive force for environmental change. "If you put a stadium in the middle of a city and you have 80,000 people converge on the space for a day, the impacts on the environment are going to be very negative," Kyle Bunds, "There's not much of an argument to be made that there isn't an issue with waste, water, and air pollution. The task is mitigating those negative impacts." (Gosalvez, 2020).

One significant impact of sports competitions is air pollution, mostly from transportation and tailgating. A few years ago, a study on air pollution at NC State's Carter-Finley Stadium was conducted. The study concluded with some interesting results (Gosalvez, 2020).

The researchers set up and employed stationary and mobile air quality monitors throughout the tailgate lots six hours before each game. The monitors measured relative humidity, ozone, temperature, and carbon dioxide levels. When supporters began to arrive three hours before the game, air pollution spiked, with the main culprits being charcoal grills, older generators, and mainly idling cars. There's kind of a slow ingress and egress from an event, so there are many idling cars that generate a plume of air. In the microenvironment around the stadium, there were some games where the air pollution didn't go back to low levels until about 12 hours after the match. These pre-game pollutants caused spikes that were more than 20 times worse than the recognized levels for moderate air quality. Pollutant levels also rose significantly when a rush of fans left the game in their cars. (Gosalvez, 2020)

(Falt, 2006) There is almost certainly a significant piece about the environment and its relationship to human health, well-being, or economic security in any newspaper or magazine these days. Environmental sensitivity appears to be shifting from the margins to the foreground. Major corporations' adoption of sustainability concepts is the best proof that this is true. Full-page adverts by energy providers and car manufacturers declaring their environmental credentials are wedged between those pieces on the environment. "What's good for the environment is good for the bottom line" is an increasingly common sentiment in the business community. Teaming up with the world of Sport has long been a priority for the United Nations Environment Programme (UNEP).

Tasked by the UN General Assembly to "provide leadership and encourage partnership in caring for the environment by inspiring, informing and enabling nations and peoples to improve their quality of life without compromising that of future generations" (UNEP 2006), UNEP allied with the Olympic Movement back in 1994. As a member of the International Olympic Committee's (IOC) Commission on Sport and the Environment, UNEP advises the IOC Executive Board on environment-related policy and, increasingly, works with bidding cities to refine the environmental component of their bids, monitor how well they have followed through on commitments, and help them raise ecological awareness during the events themselves (UNEP 2004). The Torino Winter Olympics is probably the best example of a sport-environment collaboration that UNEP feels has significant promise in helping to embed green principles throughout society. The organizing committee's sustainability report (TOROC 2006b) demonstrated a detailed understanding of the environmental implications of staging a large-scale sporting event. It also shows the organizers' commitment to integrating sustainability principles into all aspects of planning the Games. As well as the Heritage Climate Torino (HECTOR) project for making the climate of the game neutral (TOROC 2006a), the organizers implemented green procurement policies, reduced energy, and water consumption, and monitored a wide range of environmental indicators, such as air quality and waste production. Nonetheless, it can be argued that such initiatives are like a drop in the ocean.

However, there are two essential points to consider. First, the axiom "think globally, act locally" is the kernel of environmental thinking. It is the opposite of throwing up your hands, saying, "What's the point?" and waiting for others to take the lead. The spirit led Rachel Carson to stand up to the combined power of government and industry. For many, *Silent Spring* (Carson 1962), which raised the alarm about the toxic effects of DDT and other pesticides, marked the dawn of an environmental movement that has seen the establishment of organizations such as UNEP and documents such as the 1992 Earth Summit's Agenda. Therefore, when organizations such as the NFL and the IOC say they embrace environmental sustainability, however small, their

impact is never insignificant. The second point is that Sport has a vast environmental footprint. Consider just one example: athletic shoes. Most children and adults wear them. An initiative such as Nike's "Reuse-A-Shoe" program (Nike 2004), which recycles old shoes to create new products such as basketball and tennis courts and athletics tracks, has to be better than adding to already overflowing landfills. This example of what we call "life-cycle thinking" is just one of a growing number of innovations that together could make a difference. A difference is what we need. The environment is front-page news because things seem to worsen, not improve. Glaciers are melting, hurricanes are getting fiercer, fisheries and other ecosystems are collapsing, and environmental degradation is driving the emergence or re-emergence of infectious diseases. UNEP's job is to monitor these changes; alert our partners in government, business, and civil society to the dangers; and help them to identify effective responses. The world of sports is one such partner. It is a major industry in its own right, with considerable environmental impact. It is also a symbol and a powerful tool for advocacy.

Sports Federations across the spectrum recognize the significance of protecting the environment and have been engaging to focus their efforts to address the pressing environmental issues. On 2020's United Nations' World Environment Day, International Sports Federations (IFs) demonstrated their commitment to protect biodiversity and promote awareness for pressing environmental issues (Bureau, 2020).

The International Olympic Committee (IOC) has reaffirmed its commitment to minimizing its ecological footprint, protecting the environment, and raising awareness about its importance. More extensive collaborations, such as the UN Sports for Climate Action Framework, use the power of Sport to help step up global efforts to address climate change. Co-created by the IOC and the UN Climate Change in 2018, the Framework now includes more than 125 sports organizations committed to developing a climate action agenda for Sport. The International World Games Association (IWGA) and World Bowling became the latest IFs to join the United Nations Framework Convention on Climate Change (UNFCCC) under the UN Sports for Climate Action Framework, which unites sports organizations to take responsibility for their climate footprint (Bureau, 2020).

FIFA reiterated its commitment to protecting the environment. Over the past decade, FIFA has continuously increased its requirements and expanded its programs related to environmental protection covering issues such as climate change, waste management, recycling, and sustainable construction. FIFA Secretary General Fatma Samourah has remarked, "Our commitment to protecting our climate remains unwavering. We recognize the critical need for everyone to help implement the Paris Agreement and accelerate the change needed to reach greenhouse gas emission neutrality in the second half of the 21st century." World Rowing's Athletes Commission has joined the voices in support of the 'Big Plastic Pledge,' a global campaign around the issue of plastic pollution, specifically in Sport, initiated by Olympian Hannah Mills. Norwegian rower Martin Helseth is on board as an Athlete Ambassador for the movement. The International Automobile Federation (FIA) President Jean Todt has expressed the FIA's commitment to global environmental protection, noting the creation of the FIA Formula E-Championship and establishing an Environment and Sustainability Commission (Bureau, 2020).

How to bring the change

Sports in India refers to the large variety of games played in India, ranging from tribal games to more mainstream sports such as field hockey, kabaddi, cricket, badminton, and football. India's diversity of culture, people, and tribes is reflected in the wide variety of sporting disciplines in the country. Cricket is the most popular sport in India; the country has hosted and won the Cricket World Cup on multiple occasions. Field hockey is the most successful Sport for India at the Olympic Games; the Indian men's team has won fourteen Olympic medals, including eight gold medals. Other popular sports in India are badminton, football, shooting, wrestling, boxing, tennis, squash, weightlifting, gymnastics, athletics, table tennis, basketball, volleyball, and cycling. Popular indigenous sports include chess, kho-kho, kite-fighting, leg cricket, polo, snooker, and Gillidanda. Kabaddi is an ancient sport and one of the fastest-growing sports in India. India won many matches and seasons of kabaddi at the Asian Games and all three seasons of the Kabaddi World Cup (Standard style). India has hosted and co-hosted several international sporting events, most notably the 1987, 1996, and 2011 Cricket World Cups, the 1951 and 1982 Asian Games, the 2010 Commonwealth Games, and the 2017 FIFA U-17 World Cup. Domestic professional sports leagues in the country include the Indian Premier League (Twenty20 cricket), the I-League and the Indian Super League (football), the Pro Kabaddi League (kabaddi), the Hockey India League (hockey), Premier Badminton League (badminton), the Pro Wrestling League (wrestling), the Ultimate Table Tennis League (table tennis), and the Pro Volleyball League (volleyball). The Ultimate Kho-Kho League was expected to launch in 2020. Major international sporting events annually held in India include the Chennai Open in tennis, the Indian Open in golf, and the Indian Open in badminton (Sport in India, 2021). Besides being highly enthusiastic if not checked and balanced, all these activities yield to environmental degradation. Now, it is time for authorities to monitor, rectify and correct the footprint of these sporting events on ecological degradation. Increasingly, we find sports personalities who speak out on behalf of the environment. They care because environmental change is affecting their sports. In the words of the Namibian sprinter Frankie

Fredericks, "I breathe at least twice as deeply when I'm running. Air pollution is a threat to my health and my physical performance" (UNEP 2005). The highly profiled Indian players also need to speak on this burning issue. According to McConnell et al. (2002), in some communities in California where air quality is poor, the most athletic children are three times more likely to suffer from asthma than their peers who do not exercise. Sports personalities also care about the environment because they are citizens of the world. Across the globe, children's health is being damaged by environmental pollution.

The Union Internationale de Pentathlon Moderne (UIPM) marked the 2020 World Environment Day by celebrating the ecological impact of a decade of lead-free 'Laser-Run.' At the start of the decade, the UIPM created a new competition format that generated an annual saving of 25 tonnes of lead, a colossal amount of metal previously required for shooting competitions and training worldwide. Laser-Run has become a symbol of an eco-friendly sporting movement (Bureau, 2020). A similar technique needs to be adopted in India.

Sportsgoverning bodies, teams, and players must reduce their environmental footprint by implementing sustainable practices at their facilities, including solar panels. In the different cities, for example, the various governing bodies of the other sports should host quarterly meetings to examine the latest metrics and explore opportunities to improve the impact of Wolfpack sporting events on the environment. The agenda of the meetings must include environmental Sustainability, Waste Reduction, and Recycling, etc.

One significant step forward could be the addition of solar panels at the Stadiums. The installation could serve as a critical opportunity to reduce the environmental footprint and set an example for the fans.

Internationally, SC Freiburg, a German football club, is working to reduce the negative impacts of air pollution by setting up a system where each game ticket allows attendees to take the train for the day to and from the games. (Gosalvez, 2020). The Indian authorities also need to consider such ideologies.

Millions die before their fifth birthday or have their intellectual and physical potential diminished by poor air quality, inadequate sanitation, and preventable diseases. The ultimate bottom line is the health and future of the world's children. We believe that is why companies such as Nike and organizations such as the NFL and the IOC are increasingly recognizing the link between Sport and the environment and are looking at incorporating the principles of sustainability and environmental responsibility into what they do.

III. Conclusion

In conclusion, a futuristic approach in India should involve a holistic perspective that integrates sustainability into all aspects of the sports industry. This includes infrastructure development, event management, athlete practices, and community engagement. By considering the environmental impact of sports and adopting sustainable practices, India can contribute to global efforts to address climate change and create a healthier and more sustainable future.

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