

Exploring Sustainability Challenges in Omani Sports Federations: Aligning with SDGs and Oman Vision 2040

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ABSTRACT

This study examines the key challenges faced by 13 Omani sports federations in promoting sustainability through SDGs 3, 4, 5, 8, 11, and 16 within the framework of Oman Vision 2040. Using a qualitative approach, researchers conducted semi-structured interviews with 13 officials from these federations and analyzed the data with Atlas.ti software through content analysis. The findings reveal significant barriers, including inadequate coordination and fragmented governance among stakeholders such as sports federations, the Ministry of Health, and the private sector; limited collaboration with the Ministry of Education and educational institutions; and a pronounced gender gap in participation, leadership, and program development. Contributing factors to this gap include underrepresentation of women in decision-making, restricted opportunities for female coaches and referees, and persistent cultural and structural obstacles. Financial instability, insufficient infrastructure, weak governance, and a lack of sustainability-focused strategies further hinder progress. Additionally, ineffective coordination with governmental bodies and local communities in urban planning and green space management highlights the need for structured policies, robust partnerships, and enhanced collaboration among federations, government entities, and civil society. To overcome these challenges, the study recommends that Omani sports federations strengthen governance, foster cross-sector collaboration, promote gender inclusion, invest in infrastructure, and develop clear sustainability strategies to fully realize sport's potential in achieving the SDGs and Oman Vision 2040.

Keywords: Sustainability in Sports; Sustainability Challenges; Sport for Development and Peace (SDP); Sports Federations; Oman Vision 2040.

INTRODUCTION

LITERATURE REVIEW

Recently, the sport-for-development (SFD) field has advanced significantly in research and practice (Maher & Haegele, 2024). Unlike sport development focused on athletic skill improvement and professional pathways, Lyras and Peachey (2011) defined SFD as: “The use of sport to exert a positive influence on public health, the socialization of children, youth and adults, the social inclusion of the disadvantaged, the economic development of regions and states, and on fostering intercultural exchange and conflict resolution.” (p. 311)

Sport builds local skills, knowledge, resources, social cohesion, community dialogue, leadership, and civic participation. Further research is needed on sport's role in capacity building and promoting democratic values and inclusion (Edwards, 2015). In September 2015, the United Nations General Assembly launched the 2030 Agenda for Sustainable Development, featuring 17 Sustainable Development Goals (SDGs) to address global challenges like poverty, inequality, and climate change (Chasek et al., 2016). Oman attended the United Nations (UN) Summit and committed to achieving these goals alongside other member states (The official e-government services portal, 2015).

Sport has significant potential to advance SDGs (Triantafyllidis & Mallen, 2022). The UN recognizes sports' role in promoting SDGs, especially through Sport for Development and Peace (SDP) at goals 3, 4, 5, 8, 11, 16,

and 17 (The International Platform on Sport and Development [sportanddev], n.d.). Harnessing sport can help achieve these goals for a better future (United Nations [UN], 2023). Additionally, Hozhabri et al. (2022) emphasized the significance of sport in attaining five key priority SDGs: Goals 3, 4, 5, 8, and 16, as well as environmental sustainability. This crucial aspect of sustainable development can also aid in achieving SDGs 6, 7, 11, 12, 13, 14, and 15.

Many studies have explored sport's role in development and peace via the SDGs. Campillo-Sánchez et al. (2021) analyzed 17 Spanish regions with 16 indicators tied to five sport-related SDGs, finding only 46.2% regular physical activity (SDG 3), men outperforming women for gender equality (SDG 5), and high rates of sport businesses in the Balearic and Canary Islands for economic growth (SDG 8). Gadais et al. (2022) developed an SDP model using SDGs 3, 4, 5, 8, and 16. Öztopcu (2024) addressed all SDGs by grouping them into environmental, social, and economic categories. This article emphasizes the need to address sustainability in organizations, especially sports institutions, which are seeking ways to improve performance and tackle sustainability issues. Building on previous research, it adds to studies on environmental, social, and economic aspects of sustainability (Almenhali, 2019; Guevara Pérez et al., 2023; Moon et al., 2022; Öztopcu, 2024; Santini & Henderson, 2021; Svensson & Hardie, 2024; Trendafilova et al., 2023).

Svensson and Hardie (2024) noted that as SDP initiatives expand, external stakeholders often have unrealistic expectations, and funding has not matched the field's growth, leading to competition for limited grants. While some funders are adapting, the study examines how practitioners think funders can better support SDP through long-term funding, capacity building, local context consideration, strategic innovation, and improved trust dynamics. Naria (2022) also found that sports aid regional development by stimulating the economy and creating jobs in clubs, associations, and government. In light of Oman Vision 2040, Omani sports federations can support SDGs through SDP. This research highlights the challenges facing sports federations in this approach.

Oman is striving to improve its sustainability rankings under Oman Vision 2040, including the Sustainable Development Index (Oman Vision 2040, 2019). However, communication with relevant national bodies revealed that there is currently no framework or data infrastructure to measure sustainability performance in Oman's sports sector.

The vice president of one of Oman's sports federations confirmed that there is no clear strategy to use sport for advancing environmental, social, and economic aspects supporting the SDGs. This aligns with González-Serrano et al. (2020), who emphasized the need for more studies combining sports, environment, innovation, sustainability, and knowledge.

OMAN VISION 2040

The Oman Vision 2040 serves as the main source of national economic and social planning for the period 2021-2040 and contains sector strategies and five-year development plans. His Majesty the late Sultan Qaboos Bin Said initiated this policy, and it has been carried forward under the wise leadership of His Majesty Haitham bin Tarik. His Majesty Sultan Haitham bin Tarik officially approved Oman Vision 2040 in 2020, following extensive involvement of the community in its development. This vision was implemented starting from the beginning of 2021 and will remain operative until 2040 (Oman Vision 2040, 2019). The Sultanate of Oman has established twelve national priorities as part of its vision 2040 in line with twelve strategic goals. These priorities and goals are directly linked to the SDGs. Various measures, including royal decrees, directives, projects, regulations, and laws, have been implemented to ensure the achievement of these goals.

SPORT FOR DEVELOPMENT AND PEACE (SDP)

Sport plays a vital role in development, diplomacy, and peacebuilding (Baker et al., 2021). SDP initiatives use sport, physical activity, and play to achieve development and peace goals, ensuring everyone's right to participate (Sport for Development and Peace International Working Group [SDP IWG], 2008). Effective SDP programs promote inclusivity, positive sport values, and integrate sport with non-sport components for greater impact (Baker et al., 2021). SDP enhances peace-making, conflict resolution, intercultural understanding, and community development, addressing diverse objectives within the international agenda (Baker et al., 2021). It

intentionally targets development outcomes in low- and middle-income countries as well as disadvantaged groups in high-income contexts (Richards et al., 2013), using a variety of physical activities—from play and recreation to indigenous sports—to promote fitness, mental well-being, and social interaction (United Nations International Children's Emergency Fund [UNICEF], 2008). SDP serves people of all ages and abilities, often focusing on vulnerable populations such as refugees, child soldiers, the impoverished, and people with disabilities (Marinho et al., 2020), and typically emphasizes mass participation rather than elite sport (Bailey & Talbot, 2015). SDP is a global movement involving governments, NGOs, the sport sector, businesses, and academia. Cross-sector collaborations are central, enabling the sharing of expertise, resource mobilization, capacity building, and fostering sustainable development outcomes (UNICEF, 2008).

METHODS

This article aims to identify the challenges Omani sports federations face in promoting sustainability in their programs and competitions through sustainable development, and to provide a comprehensive understanding of the current situation in light of Oman Vision 2040. We used content analysis and a qualitative approach (Coe, 2017; Junjie & Yingxin, 2022) through semi-structured interviews. The study population included presidents, vice presidents, and members of Omani sports federations, whose roles involve managing sporting events and competitions, as well as forming partnerships with governmental and private institutions. The study sample consisted of 13 individuals purposively selected from this population based on their availability and willingness to participate, in the following order: President, Vice President, Secretary General, and Member.

Data Collection and Analysis

There are 15 sports federations in the Sultanate of Oman. The study involved 13 officials from 13 sports federations, as two federations declined to participate (see Table 1). From September to November 2025, data were collected through semi-structured interviews with the study sample. We explained the study's objectives and data collection methodology to the federations. Participants consented to audio recordings of the interviews, which averaged 54 minutes, ranging from 39 to 62 minutes. We used ATLAS.ti software (Savin-Baden & Howell Major, 2013) to analyze the data. Semi-structured interviews with officials from 13 Omani sports federations provided in-depth qualitative data. We conducted systematic content analysis (Saldaña, 2021), starting with broad codes and refining them into sub-codes for nuanced categorization. Simultaneous coding addressed overlapping themes, while magnitude coding gauged the significance of issues. We initially coded challenges as environmental, social, or economic, then aligned them with selected Sustainable Development Goals. Finally, we coded the scale of the challenges based on their frequency. Frequency counts of codes and themes ensured analytical rigor and transparency, helping to identify common challenges and patterns and strengthening the validity and reliability of our findings. RMIC protocol no. 2025-0755-01 at Sultan Idris Education University ensured privacy and compliance with the Data Privacy Act.

FINDINGS

Q- What challenges do Omani sports federations face in promoting SDP?

To achieve the study's objective—exploring the challenges faced by the 13 Omani sports federations in promoting sustainability through SDGs 3, 4, 5, 8, 11, and 16, in alignment with Oman Vision 2040—we based our findings on semi-structured interviews with officials from the sports administrative body representing these federations, as shown in table 1.

Table 1

Semi-structured interviews with officials in Omani Sport Federations

	President	Vice-president	Secretary-general	Member	Total
Number	7	4	1	1	13

Table 2 Sustainability Challenges from Interviews Quotations

Sustainability	Health	Education	Gender equality	Economic empowerment	Enhanced urbanism	Governance and peace	Total
Economic challenges	7	2	2	70	20	22	123
Social challenges	7	3	5	1	1	8	25
Environmental challenges	-	-	-	14	2	-	16
Total	14	5	7	85	23	30	164

Table 2 presents quotes related to sustainability challenges from interviews with sports sector officials from Omani sports federations. These statistics highlight the urgent need to address various challenges. The data reveals the mindset of stakeholders and measures their concerns, underscoring the importance of formulating solutions in line with Oman’s Vision 2040, which can use sport as a tool for development and peace.

The data in table 2 clearly show that economic sustainability is the primary challenge for Omani sports, accounting for 75% of all issues (123 quotes). This significantly outweighs social (15.2%, 25 quotes) and environmental (9.7%, 16 quotes) challenges. The stark contrast underscores the critical nature of financial concerns. To achieve comprehensive sustainability in Omani sports, policymakers and stakeholders must prioritize economic solutions, as without a solid financial foundation, efforts to improve social and environmental aspects are likely to falter. Most citations focused on economic challenges, but their frequency doesn't reflect the impact's size.

SDG 3 Health

Several participants (A, E, F, I, K, L, M) reported a lack of collaboration between sports federations and the Ministries of Culture, Sports and Youth, or Health on NCD-related initiatives. As one participant explained, “Communication with the Ministry of Health is mostly limited to event support. Participant (G) noted that their federation does not organize specific programs to address inactivity or support individuals with NCDs. Participant (I) added, “Currently, we do not have such programs... Our main goal is still to promote our sport and competitions. Any impact on NCDs would be indirect.”

Participant (A) highlighted difficulties in attracting broader community participation, attributing this to a focus on sports clubs. Nonetheless, recent efforts to tailor activities for groups such as people with disabilities, the elderly, youth, and women have led to higher engagement: “These programs are successful because they are tailored to these categories.” Most participants (B, C, D, E, F, G, H, I, J, K, L, M) cited insufficient budgets as a primary barrier, noting that funds are “barely enough for existing programs.” Additionally, a lack of government direction and poor high-level coordination were identified as major obstacles to leveraging sports for public health and sustainability objectives.

SDG 4 Education

Participant (A) described the union’s summer youth programs, which include competitions, seminars, and courses to “enhance youth health and well-being by utilizing free time productively.” Similarly, the Oman School Sports Federation launched a four-year initiative targeting student obesity in Muscat and North Al Batinah, coordinating with school staff and ministries to move “beyond competitions to include awareness-raising through education and health,” addressing “a worrying issue: obesity in the Sultanate of Oman.” Annual tournaments are paired with referee and coaching courses to “develop national cadres for future events.” Collaboration with educational authorities has integrated the sport into school curricula, and training workshops

for local referees are held before events to prepare residents to officiate.

According to Participant (D), their initiatives have “reduced screen time and improved awareness, commitment, and discipline,” raising health standards among youth. A formal agreement with the Education Ministry includes the sport in the curriculum from grade five, along with school competitions and teacher training. Participant (C) noted that the federation also supports players’ needs—like university placements and jobs—through partnerships. “Formalizing these efforts with the Olympic Solidarity Committee” could further benefit lower-income athletes, improving sporting and social outcomes. Participant (M) noted a significant shortage of national coaches and referees in Oman, saying, “we have a very small number of employees.” This limits both male and female participation and hinders development.

SDG 5 Gender Equality

Most participants (A, B, D, F, G, I, J, L, M) reported that their federations offer competitions and programs for women, similar to those for men, across different age groups. In contrast, participant (E) noted, “Although our federation has several female employees, there are no women on the Board of Directors, and we don’t offer sports programs or competitions for women.” Participants (D, H, J, K, L, & M) confirmed that a board seat is reserved for women in line with Ministry of Culture, Sport and Youth (MCSY) agreements supporting female leadership, but participant (E) highlighted the absence of women on their board.

While participants (I) and (K) said their federations provide training for women in refereeing and coaching, participant (M) reported no national female representatives in these roles. Participants (I, L, & M) stated their federations have women’s first teams. Participant (D) noted their federation is still establishing itself and has no women’s team yet, while participant (H) explained that social pressures led to the disbandment of their women’s team. A representative from the Oman Aquatics Federation highlighted cultural and privacy concerns limiting women’s participation: “We need special enclosed spaces for women at swimming pools, which cannot be implemented at sea level due to societal privacy, customs, and traditions.”

SDG 8 Economic Empowerment

Most participants (A–M) emphasized their heavy reliance on annual government funding and limited sponsorships, which are seen as insufficient for sustaining programs. Participant (D) called sponsorship “very limited,” while E said, “We are barely able to implement our activities and programs.” (H) noted that “sponsorship practically does not exist,” and (M) added that local sponsors covered only a negligible part of recent tournament expenses, requiring outside support.

Most participants (B, C, D, F, H, I, J, K, M) cited minimal sports investment due to low public interest and poor attendance. Occasional revenue from international events was offset by costs. Participant (D) noted that “local sports programmes... yielded no returns and drained the federation’s budget.” Participants (F) and (H) said their tournaments rarely generate income because of insufficient support. Even prestigious events brought no lasting financial gains (J, M).

Despite challenges, several participants (A, B, E, F, I, J, K, M) noted federations’ efforts to boost economic diversification through sports by promoting tourism and local businesses. Participant (A) stated that international championships aim to “promote tourism, the economy, and the national product,” citing collaborations with the Chamber of Commerce and Ministry of Tourism. Participant (E) mentioned efforts to create jobs by involving locals in organizing sports events. However, these initiatives have yet to yield significant or lasting revenue, highlighting persistent issues in sports investment returns. Many federations struggle with facility ownership and development. Participants (A, D, L, & M) reported lacking permanent premises. Participant (A) said their federation “operates out of a rented office, in building shared with nine others,” while Participant (M) stated, “We could be evicted at any moment.” Participant (L) confirmed they do not own the land under their headquarters.

Infrastructure improvement efforts have mostly failed. Participant (D) described a failed attempt to build an indoor sports hall, citing rejection from the Economic Chamber and funding issues. Participants (B, C, D, F, G,

L) noted that sports facilities are managed by the MCSY rather than federations, limiting their ability to make improvements. Participant (C) stated, “Our federation, like most, does not own its facilities.” Most venues are outdated and predate current sustainability standards. Even with international funding for new facilities, Participant (L) observed that environmental considerations were not included in their design.

Despite these barriers, there are examples of progress. The Omani Hockey Federation, in partnership with the MCSY, developed a sustainable facility for an international event. This venue features LED lighting to reduce electricity use, Carbon Zero flooring made from sugar cane (reducing water consumption by 80%), and reusable mobile stands for 20,000 spectators. Waste recycling was supported through collaboration with the Environment Foundation. While the facility is prepared for future solar energy adoption, financial constraints have delayed this upgrade. Importantly, management of the facility remains with the Ministry rather than the Federation.

Federation sustainability initiatives have been brief and narrow. Participant (A) cited a partnership with the International Federation and UNICEF for “beach clean-ups and plastic reduction campaigns” at a global championship, but said these were “limited to a single event” without formal requirements or funding.

All participants (A–M) confirmed no formal environmental sustainability policies in their federations, especially for energy, carbon emissions, and transport. This is often because “environmental issues are outside the scope of sports federations.”

Some participants (E, H, J, M) believed their sports had little environmental impact despite lacking formal policies. Participant (H) noted collaboration with the Environment Public Authority and sponsors to manage waste at an international event but admitted, “there is no data on waste amounts or recycling mechanisms.” This reveals a lack of systematic measurement or management of environmental impacts across federations.

SDG 11 Enhance Urbanism

Most participants (A–M, except H) reported little coordination between their sports federations and key government bodies. (E) and (J) noted a disconnect between sports facility planning and green spaces in residential areas due to sport-specific needs. Most (A, B, C, D, F, G, I, K, L, M) confirmed federations do not directly manage facilities. (M) pointed out that all federation-used stadiums are in Muscat, leaving other regions underserved.

Participants (B) and (F) stressed that including sports fields in residential plans would boost their sport’s growth, help identify talent, and create more roles for coaches and referees. Participant (F) stated, “We hope that the Federation will have a share of these green spaces to establish playgrounds... we can allocate trainers... to spread the game and increase the number of its practitioners.” Participant (C) also noted that federations should benefit from sports fields in green spaces, supporting the Ministry’s 2040 goals and generating social and economic benefits. Participant (D) supported adding indoor halls to residential green spaces, emphasizing that they need not meet international standards since their main goal is to enhance community health and participation. These facilities, they said, could save time for players and provide a safe, accessible space for sports.

SDG 16 Governance and Peace

No participants saw state or federation efforts to use sports for peace. Most (A, B, C, D, E, F, H, I, G, K, L, M) said budgets only cover programmes and competitions focused on promoting their sport and finding new talent.

(A, B, C, E, H, I, K, L, M) observed greater cooperation between sports federations, the MCSY, and the Oman Center for Governance and Sustainability under Oman Vision 2040. This led to reforms like appointing Secretaries-General in all federations (not just football), separating executive management from boards and improving stability. Participants (D) and (I) noted ongoing MCSY interference in federation decisions, exposing weaknesses in policy autonomy and governance.

Most participants noted that federation governance is mainly limited to financial reporting, with few broader efforts. Participant (C) called governance “modest,” adding that improvements are usually reactive, triggered by financial or administrative issues rather than proactive strategy. Key obstacles remain in effective governance.

Participant (G) noted slow, complex financial decisions, while (H) and (I) confirmed governance is still underdeveloped across the sports sector.

Participants (C, D, I, K, L, M) noted unclear roles and overlapping responsibilities between federations and government agencies. This confusion and weak coordination hinder innovation and sustainability efforts. Participant (L) emphasized that federation leaders need a better grasp of governance and noted the absence of key tools. He warned that without sufficient knowledge and resources, governance could become a hindrance and harm federation performance.

DISCUSSION

SDG 3 Health

This study, aligning with Alzahrani et al. (2024), finds that poor coordination between stakeholders like sports federations, health ministries, and the private sector hinders effective promotion of physical activity in Oman and the Gulf. Although the Omani Ministry of Health leads current initiatives, fragmented governance and a lack of integrated partnerships hinder efforts to address high NCD mortality rates and economic burdens (Ramirez Varela et al., 2022; Finkelstein et al., 2021).

The study finds that sports federations lack targeted programs to reduce inactivity or support NCD patients, reflecting a regional underuse of sports for public health. Sectoral silos and programmatic inertia undermine sustainable health outcomes, highlighting the need for integrated governance linking sports and health policy. Community engagement challenges worsen these barriers. Focusing on elite and club-based sports excludes women, the elderly, and people with disabilities. Sustainable sport development needs context-sensitive strategies to engage marginalized groups for greater public health impact. Resource constraints—such as limited funding, unclear state direction, and private sector reluctance—further restrict the sector's role in tackling NCDs (Alzahrani et al., 2024). Prioritizing physical activity in public health can reduce NCD-related deaths (World Health Organization [WHO], 2024). This requires cross-sector collaboration, proactive government leadership, and funding (Dudfield & Dingwall-Smith, 2015).

SDG 4 Education

Oman Vision 2040, as outlined by the Ministry of Education and Alzahrani et al. (2024), makes student physical activity a key focus for national development. Integrating physical education into the curriculum through tools like Student Learning Assessment and School Sports Curriculum aims to promote healthy lifestyles and holistic youth growth. Regular activity improves health and builds teamwork, respect, discipline, and social skills (Lemke, 2016). The Omani School Sports Federation (OSSF) uses a strategic, multi-sector approach that aligns with health and education goals, demonstrating effective coordination between policy and practice. This collaborative model among schools, sports organizations, and health stakeholders supports sustainable system-wide impact. Targeted capacity-building strengthens sports in schools. The OSSF leads with strategic programs using sport as an educational tool, while other federations offer workshops and training to increase coaches' and referees' expertise. Oman's higher education produces skilled physical education graduates (AL-Sinani, 2019), but lacks systematic ways to connect them with school programs or national strategies. Addressing this gap is crucial for maximizing sport's educational impact and advancing SDG 4 (Quality Education).

Sport in Oman is increasingly seen as a tool for social impact, providing students with health, academic, and personal growth opportunities. While the OSSF aligns with the SDGs to leverage sport for broader outcomes, its implementation is limited. Stronger partnerships among federations, schools, and universities could better support student-athletes and expand skills development, scholarships, and career opportunities. This would make sport's social benefits more accessible to youth, especially those from marginalized backgrounds. Despite highly qualified physical education professionals, a disconnect persists between expertise and its application in sport and education governance. Sports federations lack clear guidance on supporting educational outcomes with the Ministry of Education, leading to underused personnel and fragmented programs. Bridging this gap requires unified frameworks, strategic goals, and clear collaboration pathways among federations, the Ministry, and educational institutions.

SDG 5 Gender Equality

Recent progress, such as seven women joining sports federations in Oman (Al-Balushi, 2021), shows a commitment to gender inclusivity in sports. However, women still make up only 6% of federation membership, according to the Omani MCSY. This persistent gender gap in participation and program design underscores the need for targeted strategies to boost inclusivity at all levels. Souad Al-Ismailia's call for more women on sports federation boards highlights the importance of leadership in achieving gender equality. Despite measures like reserved board seats, women remain underrepresented in decision-making roles across Olympic committees and national governing bodies (Women on Boards [WB], 2016). Organizational change theories argue that increasing female leadership is essential for more inclusive and sustainable governance in sport.

The development pipeline for female coaches and referees is under-resourced, as Suad Al-Azaria notes, with too few officials and inadequate training. This limits women's career growth in sports and perpetuates gender imbalances. Investing in capacity-building initiatives is essential to empower women for technical and leadership roles, fostering a stronger, more diverse talent pool. Low physical activity among Gulf women, including in Oman, stems from limited social support and persistent gender stereotypes (Osabi et al., 2023). Community attitudes shaped by gender and culture strongly affect women's participation and the sustainability of teams. Dudfield and Dingwall-Smith (2015) suggest that effective sports policies must tackle these community barriers and create environments that support women as athletes and leaders. Cultural norms and facility limitations hinder women's sports development in Oman. Lack of female-friendly infrastructure and limited funding reduce participation and skill growth. Addressing these issues requires coordinated policies and investments that prioritize gender-sensitive planning and resource allocation.

SDG 8 Economic Empowerment

Financial constraints and sponsorship challenges are major barriers to advancing sport-based programs that support the SDGs. Limited investment restricts federations' ability to generate sustainable income and deliver economic benefits. In Oman, the lack of permanent sports federation headquarters highlights these issues, as reliance on rented facilities signals unstable revenue and weak sponsorship, undermining institutional identity and partnerships (Al-Shaibani, 2022; Al-Shaibani & Al-Balushi, 2023). While sports can positively impact tourism, national identity, culture, public health, and youth empowerment (Viviez, 2021), ongoing financial fragility limits federations' capacity to host events and run effective programs. Insufficient investment in facility ownership and infrastructure further reduces the scope and long-term impact of sports initiatives. This instability hampers daily operations and weakens federations' ability to build a stable identity or pursue a long-term vision.

Most sports federations face challenges in facility ownership and infrastructure development, often neglecting environmental sustainability in planning and management. Limited authority over facility decisions hinders meaningful sustainability efforts and adaptation. Many lack dedicated infrastructure, making it hard to provide consistent training, host events, or attract investment. This lack of control and resources stifles growth and limits broader social and economic benefits. Despite early progress, such as building an eco-friendly hockey facility in line with Oman Vision 2040 and SDG goals, most federations lack clear environmental policies or sustainability initiatives. This reveals significant policy gaps. Sports events contribute to tourism and related sectors, but their impact is limited by insufficient sponsorship and low public engagement. Overall, progress toward sustainable infrastructure is minimal, with most federations lagging in adopting sustainability practices.

Significant sustainability initiatives and policy gaps persist within Omani sports federations, where sustainability is rarely a strategic priority and environmental measures are usually advisory, not mandatory. This highlights governance shortcomings in mainstreaming sustainability. Although major sporting events can drive economic diversification, international visibility, and tourism (Viviez, 2021), the sector's potential remains unrealized due to ongoing challenges in revenue generation, public engagement, and technical performance—especially in football (Al-Shaibani, 2022; Al-Shaibani & Al-Balushi, 2023). Despite efforts like the Omani Football Federation's collaboration with scientific research (Oman News Agency (ONA), 2023), progress toward sustainable facilities is slow. Clubs face weak financial incentives and low prize structures compared to high participation costs (Al-Musanna Sports Club, 2023; Al-Suwaiq Sports Club, 2023a, 2023b; bahla24, 2023; Darwish, 2022), sometimes leading them to consider withdrawing from competitions. Without stronger

sustainability initiatives and governance frameworks, Omani sports federations risk missing out on the broader benefits of sport.

Perceptions of environmental impact are largely peripheral in the sector, with sustainability rarely prioritized in facility development or event organization. Environmental concerns are not integrated into sports organizations' culture or operations, and actionable policies are lacking. This highlights the need for better education and capacity-building among sports administrators. Overall, mainstreaming environmental considerations remains a significant gap in strategy and practice.

SDG 11 Enhance Urbanism

The Oman National Spatial Strategy (ONSS) sets out ambitious objectives such as “Delivering Strategic Spatial Development” and moving toward “a low-carbon and climate-resilient economy,” but its implementation in the sports sector is hampered by limited coordination between Omani sports federations and the Ministry of Housing and Urban Planning (Ministry of Housing and Urban Planning, 2020, p. 29). The only recorded interaction—between the Ministry and the Oman Cycling Federation about bicycle paths—highlights missed opportunities to use green spaces for wider sports facility development. This issue exemplifies a broader governance challenge in Oman, where fragmented institutional relationships hinder comprehensive urban improvement strategies. Integrating sports federations into the management of green spaces in residential plans offers significant benefits, but in Oman, there is limited coordination among sports federations, government ministries, and local communities. Although the policy aims to expand public outdoor recreation spaces from 02 to 102 (Ministry of Housing and Urban Planning, 2020, p. 29), successful implementation depends on collaborative management. Without strong involvement from sports federations in planning and maintaining these facilities, their sustainability and usefulness may be compromised—reflecting broader coordination issues across Oman.

The ONSS's focus on expanding public outdoor recreation spaces and promoting an “Efficient Transport System” via active modes like walking and cycling (Ministry of Housing and Urban Planning, 2020, p. 51) highlights the need to integrate sports facilities into urban planning. International research stresses that effective National Urban Policies (NUP) involve diverse stakeholder networks within international frameworks (Tadashi, 2020). In Oman, a disconnect between urban planning and sport governance hinders the integration of sports facilities into urban policy, limiting alignment with global sustainability agendas. Integrating sports facilities into urban residential planning is key to Oman's low-carbon, climate-resilient economy goals. Dedicating green spaces for sports and ensuring sustainable construction and operation directly support national sustainability objectives (Ministry of Housing and Urban Planning, 2020). International research emphasizes embedding such integration in national policy frameworks with active participation from government, civil society, and the private sector (Tadashi, 2020). Oman's experience shows the need for a more systematic approach to incorporating sports facilities into urban development.

Accessible sports facilities improve public health and community cohesion. The ONSS's policy to expand recreation spaces and promote active transport supports these social benefits. However, Dudfield and Dingwall-Smith (2015) note that involving sport and SDP organizations in urban planning is crucial for realizing these gains. In Oman and some similar Gulf states, lack of such engagement limits sports infrastructure's impact on health, sustainability, and broader social development goals. Accessible, sustainable sports facilities drive economic diversification by attracting investment and increasing participation. They foster social sustainability through community programs in green spaces and promote environmental sustainability by using eco-friendly materials, renewable energy, and effective waste management. Involving sports federations, ministries, and community groups in facility management maximizes social impact and supports healthier, more cohesive communities (Dudfield & Dingwall-Smith, 2015).

SDG 16 Governance and Peace

Despite crime in Oman rising from 11, 312 cases in 2020 to 19, 868 in 2024—especially property and drug-related crimes (National Center for Statistic and Information (NCSI), 2021; 2024)—sport's potential for peacebuilding and social cohesion remains underused. International evidence shows sport can promote peace and reduce violence, supporting SDG 16. 1 (Lindsey & Chapman, 2017). However, in Oman and much of the

Gulf, these potential lacks structured policy support.

Oman Vision 2040 calls for adaptable, innovative governance and transparent, participatory legislation (Oman Vision 2040, 2019). In the sport sector, these aims are hindered by fragmented governance and weak institutional collaboration. Lack of formal partnerships among sports federations, government bodies, and civil society limits comprehensive strategies for using sport in peacebuilding and crime prevention. Irregular adoption of international best practices leads to inconsistent implementation and limited long-term impact. Oman's governance of sport and social development is mostly reactive, responding to crime statistics rather than using proactive, preventive strategies. This event-driven approach limits sports-based interventions from addressing the root causes of crime and social issues. Without long-term, coordinated plans, interventions remain short-term and less effective or sustainable.

Despite clear priorities in Oman Vision 2040, effective implementation remains challenging. Bureaucratic inertia, weak cross-sectoral engagement, and misaligned policies and practices hinder sport's potential as peacebuilding tools. These barriers reflect broader governance challenges across Oman, where visionary frameworks often fail to produce practical results. A key obstacle to leveraging sport for peacebuilding is the absence of clear policies outlining stakeholder roles, responsibilities, and resource distribution. Ambiguous mandates between sports organizations and government agencies lead to confusion and duplication, while limited understanding of sport's peacebuilding mechanisms hinders evidence-based action—an issue exacerbated by insufficient research (Lindsey & Chapman, 2017). Both sectors need clear policy responses to define issues, assign roles, and allocate resources (Dudfield & Dingwall-Smith, 2015). In Oman, weak governance in the sports sector impedes efforts to promote peace. Nevertheless, sport has potential to bridge divides, foster unity, prevent radicalization, and facilitate dialogue (Al-Thani & Picco, 2020).

CONCLUSION AND RECOMMENDATION

Semi-structured interviews with Omani sports federation officials revealed challenges they face in using sport to promote environmental, economic, and social sustainability across six SDGs. Addressing these issues will enable sport to drive positive change in all areas. It is worth noting that the tenth five-year plan (2021-2024) included programs for ministries to accelerate Oman Vision 2040 goals (Ministry of Economy, 2021). The MCSY, supported by sports federations, was involved. However, participants (D, F, J, K, L, and M) confirmed that no communication occurred between the federation and the Ministry about developing or organizing sports competitions within these programs. Participant (L) stated, “Unfortunately, it was not there.”

In this scientific paper, we examine the six most significant challenges that hinder the Omani sports sector from utilizing sports as a means to advance sustainable development through sports for development and peace:

- 1) The main challenge for sports federations using sport to promote Sustainable Development Goal 3 is poor coordination and fragmented governance among key stakeholders, such as sports federations, Ministry of Health, and the private sector. This lack of partnership creates silos and program inertia, leading to inadequate programs for reducing inactivity or supporting people with non-communicable diseases (NCDs). These barriers hinder sustainable public health outcomes through sport and highlight the urgent need for collaborative approaches linking sports and health policy.
- 2) The main challenge for sports federations in using sport to promote Sustainable Development Goal 4 is the lack of coordination with the Ministry of Education and educational institutions. Despite skilled professionals and supportive policies, there remains a disconnect between available expertise and its application in schools and national strategies. This leads to underused staff, fragmented programs, and limited impact. Bridging this gap requires unified frameworks, clear goals, and stronger collaboration among federations, schools, and universities to maximize sport's role in education and youth development.
- 3) The main challenge for sports federations in using sport to promote Sustainable Development Goal 5 is the persistent gender gap in participation, leadership, and program design. This gap stems from women's underrepresentation in decision-making roles, limited opportunities for female coaches and referees, and deep-rooted cultural and structural barriers. Despite some progress, women still lack adequate support,

resources, and representation. Overcoming this requires targeted strategies, greater investment in capacity-building, and gender-sensitive policies to create more inclusive opportunities for women at all levels of sport.

- 4) The main challenge for sports federations in using sport to promote Sustainable Development Goal 8 is financial instability and poor infrastructure, worsened by weak governance and a lack of focus on sustainability. Limited funds, insufficient sponsorship, and lack of facility ownership hinder sustainable economic growth. Weak governance and failure to prioritize sustainability further limit the impact of sports on decent work and economic development. Addressing this requires stronger leadership, clear policies, and making sustainability a core priority within federations.
- 5) The main challenge for sports federations in promoting Sustainable Development Goal 11 is the lack of coordination with government ministries and local communities in urban planning and green space management. This fragmentation limits the integration of sports facilities into broader urban sustainability strategies, reducing sport's potential to help create inclusive, safe, resilient, and sustainable cities. Overcoming this requires stronger partnerships and fuller integration of sports federations into collaborative urban planning frameworks.
- 6) The main challenge for sports federations using sport to promote Sustainable Development Goal 16 is weak, fragmented governance. This includes unclear policies, unstructured partnerships, and lack of coordination among federations, governments, and civil society. Such issues lead to ambiguous roles, poor resource allocation, and inconsistent peacebuilding efforts. Realizing sport's full potential for building peaceful societies requires strong governance frameworks, formal partnerships, and evidence-based policies involving all stakeholders.

REFERENCES

1. Al-Balushi, M. (2021, November 21). The 2021 elections for female athletes will be between ambition and future challenges. Oman daily. Retrieved November 21, 2025, from <https://www.omandaily.om/الرياضية-بين-الطموح-وتحديات-المستقبل-na/2021>
2. Almenhali, A. A. A. (2019). Embedding sustainable strategies for competitive advantage in the UAE sports sector. Retrieved November 29, 2025, from <http://hdl.handle.net/2436/622673>
3. Al-Musanna Sports Club [@MusanaFC]. (2023, July 11). Musanna Sport Club [Picture] [X]. X. Retrieved December 3, 2025, from <https://x.com/MusanaFC/status/1678752513380474880>
4. Al-Shaibani, Omar. (2022, August 21). Public reluctance from the stands of football competitions.. What are the reasons!. Oman. Retrieved on December 19, 2025, from <https://www.omandaily.om>
5. Al-Shaibani, Omar; & Al-Balushi, Maryam. (2023, March 11). Increasing financial support and player contracts are the most prominent general discussions of the Football Association. Oman. Retrieved on November 19, 2025, from <https://www.omandaily.om>
6. AL-Sinani, Yousrai. (2019). Reflection on the Objective of Physical Education Department from Lecturers Point of View Physical Education Department at Sultan Qaboos University. Association of Arab Educators, 16(2), 147-160. <https://doi.org/10.21608/RAES.2019.206560>
7. Al-Suwaiq Sports Club [@Alsuwaiq_sc]. (2023a, May 26). A statement issued by Al-Suwaiq Club [Picture] [X]. X. Retrieved December 25, 2025, from https://x.com/Alsuwaiq_sc/status/1662119248531976199?cxt=HHwWjsCz8c6phJEuAAAA
8. Al-Suwaiq Sports Club [@Alsuwaiq_sc]. (2023b, June 24). A statement issued by Al-Suwaiq Club [Picture] [X]. X. Retrieved December 25, 2025, from https://x.com/Alsuwaiq_sc/status/1672638854493270016
9. Al-Thani, A. A. S. & Picco, I. (2020, April 6). The Tangible Contributions of Sport to the SDGs. United Nations [UN]. Retrieved November 28, 2025, from <https://www.un.org/en/un-chronicle/tangible-contributions-sport-sdgs>
10. Alzahrani, A. A., Gelius, P., Bauman, A. E., & Gebel, K. (2024). Physical activity policies in Saudi Arabia and Oman: a qualitative study using stakeholder interviews. Health Res Policy Sys, 22(111). Retrieved December 5, 2025, from <https://doi.org/10.1186/s12961-024-01192-w>
11. bahla24 [@bahla24]. (2023, May 26). For the sums of money provided by the Omani Football Association, prizes for the 2023/2022 sports season competitions, His [Text and numbers] [X]. X.

- Retrieved December 15, 2025, from <https://x.com/bahla24/status/1662180677822058496?cxt=HHwWgMDQ4aKhoJEUAAAA>
12. Bailey, R., Talbot, M., & Bailey, R. (2015). *Elite sport and sport-for-all*. New York: Routledge.
13. Baker, R. E., Esherick, C., & Baker, P. H. (2021). *Sport for development and peace: foundations and applications*. Rowman & Littlefield.
14. Campillo-Sánchez, J., Segarra-Vicens, E., Morales-Baños, V., & Díaz-Suárez, A. (2021). Sport and sustainable development goals in Spain. *Sustainability*, 13(6), 3505. <https://doi.org/10.3390/su13063505>
15. Chasek, P. S., Wagner, L. M., Leone, F., Lebada, A. M., & Risse, N. (2016). Getting to 2030: Negotiating the post-2015 sustainable development agenda. *Review of European, Comparative & International Environmental Law*, 25(1), 5-14. <https://doi.org/10.1111/reel.12149>
16. Coe, R. J. (2017). The nature of educational research. *Research methods & methodologies in education*, 2, 5-14.
17. Darwish, N. (2022, June 26). 14 clubs apologize for participating in the league, and 7 suspend their football activities. Retrieved December 12, 2025, from <https://www.omandaily.com/الرياضية/na/14-ناديا-تعتذر-عن-المشاركة-في-الدوري-و7-تجمد-نشاطها-الكروي>
18. Dudfield, O., & Dingwall-Smith, M. (2015). *Sport for Development and Peace and the 2030 Agenda for Sustainable Development Commonwealth Analysis*. Amazon. Retrieved April 2, 2025, from <https://www.sportanddev.org/research-and-learning/resource-library/sport-development-and-peace-and-2030-agenda-sustainable>
19. Edwards, M. B. (2015). The role of sport in community capacity building: An examination of sport for development research and practice. *Sport management review*, 18(1), 6-19. <https://doi.org/10.1016/j.smr.2013.08.008>
20. Finkelstein, E. A., Malkin, J. D., Baid, D., Alqunaibet, A., Mahdi, K., Al-Thani, M. B. H., Belaila, B. A., Alnawakhtha, E., Alqahtani, N., El-Saharty, S. & Herbst, C. H. (2021). The impact of seven major noncommunicable diseases on direct medical costs, absenteeism, and presenteeism in Gulf Cooperation Council countries. *Journal of medical economics*, 24(1), 828-834. <https://doi.org/10.1080/13696998.2021.1945242>
21. Gadais, T., Favier-Ambrosini, B. & Rioux, M. A. (2022). Proposal of Milestones to Map and Understand the Uses of Sport for Development and Peace. In: Sobry, C., Hozhabri, K. (eds) *International Perspectives on Sport for Sustainable Development*. Springer, Cham. https://doi-org.squ.idm.oclc.org/10.1007/978-3-031-06936-9_3
22. González-Serrano, M. H., Añó Sanz, V., & González-García, R. J. (2020). Sustainable Sport Entrepreneurship and Innovation: A Bibliometric Analysis of This Emerging Field of Research. *Sustainability*, 12(12), 5209. <https://doi.org/10.3390/su12125209>
23. Guevara Pérez, J. C., Sandino Rodríguez, M. C., Gómez Barrios, S. A. , & Urdaneta Camacho, R. (2023). La Agenda 2030 y las prácticas de responsabilidad social corporativa en las federaciones deportivas colombianas (The 2030 Agenda and corporate social responsibility practices in Colombian sports federations). *Retos*, 48, 450–460. <https://doi.org/10.47197/retos.v48.96804>
24. Hozhabri, K., Sobry, C., & Ramzaninejad, R. (2022). *Sport for Sustainable Development: Historical and Theoretical Approaches*. Springer.
25. Junjie, M., & Yingxin, M. (2022). The Discussions of Positivism and Interpretivism. *Online Submission*, 4(1), 10-14. <https://doi-org.squ.idm.oclc.org/10.36348/gajhss.2022.v04i01.002>
26. Lemke, W. (2016). The Role of Sport in Achieving the Sustainable Development Goals. *Sport Aims for the Goals*, LIII (2). Retrieved December 18, 2025, from <https://www.un.org/en/chronicle/article/role-sport-achieving-sustainable-development-goals>
27. Lindsey, I., & Chapman, T. (2017). Enhancing the contribution of sport to the sustainable development goals. Commonwealth Secretariat.
28. Lyras, A., & Peachey, J. W. (2011). Integrating sport-for-development theory and praxis. *Sport management review*, 14(4), 311-326. <https://doi.org/10.1016/j.smr.2011.05.006>
29. Maher, A. J., & Haegele, J. A. (Eds.). (2024). *Disabled Children and Young People in Sport, Physical Activity and Physical Education*. Taylor & Francis.
30. Marinho, D. A., Neiva, H. P., Johnson, C. P., & Mohamudally, N. (Eds.). (2020). *Sports science and human health: Different approaches*. BoD–Books on Demand.

31. Ministry of Economy (2021). Tenth Five-Year Development Plan 2021-2025: Strategic Programs. Ministry of Economy. Retrieved November 3, 2025, from <https://www.economy.gov.om/library.aspx>
32. Ministry of Housing and Urban Planning. (2020). Spatial Strategy. Ministry of Housing and Urban Planning. Retrieved October 11, 2025, from https://www.housing.gov.om/cmsapi/files/content/information_center/Features%20of%20the%20Urban%20Strategy%202040%20.pdf
33. Moon, P., Bayle, E., & François, A. (2022). Assessing International Sport Federations' Sustainability Practices: Toward Integrating Sustainability in Their Main Sports Events. *Frontiers in Sports and Active Living*, 3, 397. <https://doi.org/10.3389/fspor.2021.752085>
34. Naria, O. (2022). Sports Practices and Governance of Local Actors in the Islands: What Are the Challenges for Sustainable Development and Territorial Dynamics in the Indian Ocean?. In *International perspectives on sport for sustainable development* (pp. 299-322). Cham: Springer International Publishing.
35. National Center for Statistic and Information [NCSI]. (2021). Crimes and Offenders 2020. National Center for Statistic and Information [NCSI]. Retrieved September 10, 2025, from <https://www.ncsi.gov.om>
36. National Center for Statistic and Information [NCSI]. (2024). The Crime. National Center for Statistic and Information [NCSI]. Retrieved September 10, 2025, from <https://data.gov.om/gdbmhlb/the-crime?accesskey=judchjd>
37. Oman News Agency [ONA]. (2023, April 19). Football Association launches research grants initiative related to football development in the Sultanate of Oman. Oman News Agency [ONA]. Retrieved December 2, 2025, from <https://omannews.gov.om/topics/ar/8/show/416766>
38. Oman Vision 2040. (2019). Vision Document 2040. Implementation Follow up Unit. Retrieved June 2, 2025 from <https://www.oman2040.om/oman2040?lang=en>
39. Osabi, L. A., van de Klundert, J., Alhurishi, S. A., & Cramm, J. M. (2023). A theory-informed systematic review to understand physical activity among women in Gulf Cooperation Council countries. *BMC Public Health*, 23(1009). <https://doi-org.squ.idm.oclc.org/10.1186/s12889-023-15725-5>
40. Öztopcu, A. (2024). Environmental sustainability in sport: formula 1's SDGs responsiveness. *Environment, Development and Sustainability*, 26, 31075–31097. <https://doi.org/10.1007/s10668-023-04243-4>
41. Ramirez Varela, A., Hallal, P., Pratt, M., Bauman, A., Borges, C., Lee, I.-M., Heath, G., Powell, K. E., Pedisic, Z., Klepac Pogrmilovic, B., Milton, K., Nguyen, A., Foster, C., Cozzensa, M., Mclaughlin, M., Niño, G. I., Ferreira, P., Ekelund, U., Salvo, D., Ding, D., & Kohl, H. W., Ill. (2022). Status and Trends of Physical Activity Surveillance, Policy, and Research in 164 Countries: Findings From the Global Observatory for Physical Activity—GoPA! 2015 and 2020 Surveys. *Journal of Physical Activity and Health*, 20(2), 112-128. <https://doi.org/10.1123/jpah.2022-0464>
42. Richards, J., Kaufman, Z., Schulenkorf, N., Wolff, E., Gannett, K., Siefken, K., & Rodriguez, G. (2013). Advancing the evidence base of sport for development: A new open-access, peer-reviewed journal. *Journal of sport for development*. <http://hdl.handle.net/10453/33490>
43. Saldaña, J. (2021). *The Coding Manual for Qualitative Researchers*. SAGE.
44. Santini, D., & Henderson, H. (2021). The winners and losers in the race to environmental sustainability: a ranking of Summer Olympic International Federation progress. *Emerald Open Research*. <https://doi.org/10.35241/emeraldopenres.14195.1>
45. Savin-Baden, M., & Howell Major, C. (2013). *Qualitative Research: The Essential Guide to Theory and Practice*. Routledge. <https://doi-org.squ.idm.oclc.org/10.4324/9781003377986>
46. Sport for Development and Peace International Working Group [SDP IWG]. (2008). *Harnessing the power of sport for development and peace: Recommendations to governments*. Toronto: Right To Play. Retrieved November 27, 2025, from https://www.sportanddev.org/sites/default/files/downloads/rtp_sdp_iwg_harnessing_the_power_of_sport_for_development_and_peace.pdf
47. Svensson, P. G., & Hardie, A. (2024). Listen to us”: Sport for development practitioners’ insights for funders. *Journal of Sport for Development*, 12(1), 63-71. <https://jsfd.org/>
48. Tadashi, M. (2020). *The National Urban Policy Programmeme Overview-October 2019 UN-Habitat, OECD, Cities Alliance. Policy Commons*. Retrieved May 30, 2025, from

<https://policycommons.net/artifacts/3838556/the-national-urban-policy-programmeme-overview/4644448/>

49. The International Platform on Sport and Development [sportanddev]. (n. d.). Sport's Role in Addressing the SDGs. The International Platform on Sport and Development [sportanddev]. . Retrieved December 11, 2025, from <https://www.sportanddev.org/sport-and-development/sustainable-development-goals/sports-role-addressing-sdgs>
50. The official e-government services portal. (2015). Sustainable Development. Omanuna. Retrieved December 19, 2025, from <https://oman.om/en/sustainability>
51. Trendafilova, S., J. Ross, W., Triantafyllidis, S., & Pelcher, J. (2023). Tokyo 2020 Olympics sustainability: An elusive concept or reality?. *International Review for the Sociology of Sport*, 58(3), 469-490. <https://doi.org/10.1177/10126902221110157>
52. Triantafyllidis, S., & Mallen, C. (2022). *Sport and Sustainable Development: An Introduction*. Routledge. <https://doi-org.squ.idm.oclc.org/10.4324/9781003128953>
53. United Nations [UN]. (2023). International Day of Sport for Development and Peace. United Nations [UN]. Retrieved December 11, 2025, from <https://www.un.org/en/observances/sport-day>
54. United Nations International Children's Emergency Fund [UNICEF]. (2008). Introduction to sport for development and peace [online]. Retrieved November 13, 2025, from <https://www.sportsthintank.com/uploads/sport-for-international-devt.pdf>
55. Viviez, L. (2021). The sports event opportunity in the Kingdom of Saudi Arabia. EY. Retrieved December 21, 2025, from https://www.ey.com/en_bh/technical/tmt/mena-tmt-resources/the-sports-event-opportunity-in-the-kingdom-of-saudi-arabia
56. Women on Boards [WB]. (2016). GENDER BALANCE IN GLOBAL SPORT REPORT. Women on Boards [WB]. Retrieved May 21, 2025, from <https://library.olympics.com/Default/owl-network.aspx>
57. World Health Organization [WHO]. (2024, June 26). Physical activity. World Health Organization [WHO]. Retrieved November 2, 2025, from <https://www.who.int/news-room/fact-sheets/detail/physical-activity>