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Climate-Related Weather Extremes and Sports Tourism: Focus on Cricket Sporting Events in South Africa

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Abstract

A growing body of literature has emerged documenting the impact of climate change on human activities like agriculture, tourism, aviation, and other nature-based activities. Among various tourism sectors affected by climate change is the sports tourism sub-sector, especially cricket. Cricket activities are dependent on ideal weather conditions. Such weather conditions ensure the optimum participation of both cricketers and their spectators. This paper presents findings on perceptions of climate change vulnerability and exposure to cricket activities hosted on South African soil. The work used data from a survey of fans and associated respondents (n=130). The findings are that weather remains a key factor in determining if the fan will go to the cricket stadium to watch the match. Of the 15 possible weather elements that adversely influence the fans to watch the matches, the top three are excessive flooding, severe rainfall storms, and high snow chances. Match abandonment, match cancellation (washout), and increased call for pitch covers emerged as the top three aspects frustrating fans, leading them to stay home and watch the game on TV. I asked if the fans would support the cricket grounds' roof covering to minimise the extreme weather disruptions, and 71.78% indicated they would. A further 74.22% supported artificial pitches for developmental purposes, especially for townships and academies. The work recommends that cricket administrators take note of the key challenges faced by fans resulting from climate change that may lead to income and livelihood loss and plan accordingly.

Keywords: Sports tourism, cricket, climate change, extreme weather, global warming

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Introduction

Climate change-attributed extreme and slow-onset events are on the rise worldwide with severe ramifications for the environment, economy, society, sports tourism and sports (Dube et al., 2018; Makuyana et al., 2023; Kifworo et al.,2023). Hutchins et al. (2023) observe that cricketing games are vulnerable to heat, lightning, drought, excessive winds, rain and flooding, among other extremes. There are such growing concerns that Ross & Orr (2022) attempt to predict the climate impacts on the Olympic Games and FIFA Men's World Cups between 2022 and 2032. To his end, predicting the weather for uninterrupted games and knowing its impact on supporters remain viable research areas in sports tourism. Nallakaruppan et al. (2019) attempt to do just that for cricket, noting that vast numbers of fans watch all forms of the games at stadiums. While much work has emerged regarding the impact of climate change on ski and skating tourism (Steiger et al., 2019; Demiroglu et al., 2019; Dickau et al., 2020; Rice et al., 2022), this is yet to pick greater momentum on cricket. The focus on seeking alternative technology to mitigate the negative impact of extreme weather events started coming into the mainstream in the early 2000s with a focus on artificial grounds. For example, Fleming (2011) noticed that artificial sports surfaces were gaining momentum for outdoor sports like football (soccer), rugby, hockey, and American football due to the need to address the changing climate and weather conditions. Dingle & Mallen (2020) examined community sports fields and atmospheric climate impacts in Australia and Canada. Their findings confirm that extreme weather events directly damaged playing fields. There were also indirect negative impacts, including higher injury risks, interrupted and/or cancelled competitions, insurance risks, and higher operating and capital costs. In early writings, Gore et al. (1993) focus on involuntary dehydration during cricket matches. What is of interest is that by then, the world had not even reached a consensus regarding climate change. Using 20 players, the authors examined sweat rate, heart rate and core temperature. They also focused on urinary volume, osmolarity, electrolyte concentration, and pH, which were measured using three weather scenarios: cool, warm, and hot. The average dehydration from three fast bowlers stood at -4.3% of initial body mass. This was following two sessions of play during a hot day. Such dehydration was adequate to cause impairment in physical performance. In hindsight, part of this work could have led to the amendment of rules permitting additional water breaks during matches with extreme heat and heat waves. For example, Sports Medicine Australia has extreme heat policy environmental guidelines (Chalmers, 2018; Mallen et al., 2023). Although heat significantly affects players on the field, it also has some effect on the supporters (Orr et al., 2022), many of whom sit in the open. Both the ambient temperature and relative humidity (Gamage et al. (2019), as well as wet bulb globe temperature guidelines (Yamasaki & Nomura, 2022) can be used during sporting events. Ambient temperatures of between 31°C and more, combined with relative humidity of 50% and more, lead to high, very high and extreme risks of health illness for many people (Chalmers, 2018).

Although significant work pops up regarding how sports tourism contributes to climate change through greenhouse gas (GHG) emissions, which falls under the climate mitigation agenda (Otto & Heath, 2010; Mallen & Dingle, 2019; Cury et

al., 2023), this paper focuses more on the adaptation and resilience space. Specifically, the work looks at how cricket fans on South African soil perceive increasing weather extremes linked to the changing climate. The objective was to investigate perceptions of weather extremes resulting from climate change and how this influences decision-making to visit a stadium and other developments associated with cricket in the country. This posture supports Orr et al.'s (2022:1) observation that "the influence of climate change has become more apparent, there is a need to establish a systematic understanding of the impacts of climate change on the operations of sport". The rest of the paper is organised as follows: The next section focuses on the basics of cricket as a sports tourism subject, followed by the materials and methods section. The key findings are then articulated, with a separate section dedicated to discussing the findings before concluding the paper.

Literature review

Basics in cricket as sports tourism

Since not all readers may be familiar with the game of cricket, limited space is reserved to explain it. Cricket Rules (2023) highlights that their fans follow cricket games widely worldwide. Touring teams attract both local and international supporters. Among the popular and big tournaments are the International Cricket Council (ICC) World Cup, the Indian Premier League and The Ashes, which are played between England and Australia. Using a bat and hardball, the game is played by 11 people, with one reserve (commonly known as the 12th person), and typically the games last between hours to days. Three common game versions exist: Test (played over three, four or five days - also known as an unlimited overs game), One Day International with 50 overs, and T20, to denote 20 overs (Banner, 2020). Each over has six balls to be played. Lately, there has been an effort to grow the T10 (version for ten overs), bringing it closer to a football or rugby match time (TTen Sports, 2023). The T10 allocates 90 minutes for the game, which is exactly the same time as a soccer match and slightly shorter than a rugby game at 80 minutes. This version was inaugurated in 2017, with the Abu Dhabi T10 leg being the most popular as the ICC sanctions it.Given the time taken to play the common three formats of the cricketing games, extreme weather events linked to the changing climate remain an ever-growing risk (James et al., 2012). In South Africa, cricket is a summer game. Match overs can be reduced due to bad light, rain or other factors, and in some instances, the entire game can be called off without a ball being bowled. Both teams aim to score as many runs as possible when batting while keeping their ten allocated wickets. This means the team bowling aims to take the wickets or batsmen out through various ways that include direct hit at the wicket (bowled), being caught, Leg Before Wicket (LBW), stumped, run out, hit wicket, handling the ball, time out, obstructing the field, or hitting the ball twice (Cricket Rules, 2023). On the other hand, the batsmen score runs mainly by running to the other end of the field and switching with the other player who has hit the ball away (Australian Sports Camps., 2023). When this is done once, it counts as one run. If batters do it twice, it's two runs, etc. However, there are other ways of scoring runs. As batters watch the ball being bowled, the aim is to score as many runs as possible with that hit. For example, when the ball is hit and crosses the boundary rope on the ground, this is signalled as four (4) runs by the Empire. There is a similar result when a fielder tries to prevent runs close to the boundary and simultaneously touches the boundary rope with any part of their body while the ball is in contact with them. When the ball is hit over the boundary rope, it generates six (6) runs. Runs from scores of 4s and 6s nullify in-between runs by the batsmen. Runs are also scored from no balls, wide balls, byes and leg byes. Again, readers are encouraged to familiarise themselves with these terminologies articulated by Cricket Rules (2023) or other authors.

A game of cricket is played over two innings: one team fields, while the other is batting. The rolls change when the overs or all ten wickets are taken (Australian Sports Camps, 2023). For Test matches, four innings are allocated, two apiece. Given the importance of understanding weather and pitch conditions, a toss is crucial in cricket games. The captain winning the toss decides if they field or bat first. Players religiously inspect the pitch and follow weather forecasting before and on the match day. Rain predictions remain the greatest fear for players and fans as the game time can be lost or the match completely abandoned. Rain also leads to applying the Duckworth–Lewis–Stern (DLS), a methodology used to calculate how a match could have ended had all the overs been taken during T20 and 50 overs games. Pitch conditions may result in dropped catches, changes in ball swings, dictate when certain bowlers, such as spinners or seamers, can be used by the captain when a new ball can be taken, etc. Therefore, one cannot dissociate cricketing games from weather, especially extreme events that are becoming common in South Africa and worldwide.

Materials and methods

The study was mainly conducted through an online survey loaded onto and administered from QuestionPro. The uptake was relatively slow, given the challenges associated with the COVID-19 pandemic. A total of 2,851 potential respondents in the form of cricket supporters viewed the survey online. These became our population for the study. From this number, 184 participated in the survey, with 130 completing the questionnaire and becoming our realised sample. Since this was not a face-to-face survey, a 71.04% return rate on participating participants was reasonable. Details of the 14 ICC-accredited cricket stadiums in South Africa are shown in Figure 1. The survey instrument came in two main sections. Section A addressed key demographics, including the years supporters had been following cricket, the province they came from, teams they supported, their gender (including an option not to disclose), age group, and the level of attained education. Section B focused on perceptions of climate change exposure and vulnerability. Survey questions included probing supporters on how weather influenced their decisions to go and watch stadium matches. In addition, supporters were asked to indicate how each of the pre-determined weather elements influenced their decision to either stay home or go watch their team play at the stadium (where 1 = Likely to go to the stadium and 5 = Likely to stay home). Up to 15 weather elements were identified, including clear and warm day/night, warm day/night with cloud cover/overcast, extremely high temperatures, cool day/night with still wind,

extremely low temperatures and cold, excessive flooding, and severe rainfall storms. Supporters were also requested to indicate their frustration level from weather-related interruptions and how this could contribute to them rather than staying home and watching the game on TV. (where: 1 = Very Low Level of Frustration, and 5 = Very High Level of Frustration). Seven common interruptions were listed, including match cancellation (washed out), match abandonment, reduced overs, application of the DLS method, increased water breaks, increased call for covers, and increased call for rollers. Further questions were fielded that looked at the format of the cricket game and how these were affected by some of the extreme weather events. As indicated earlier, the main formats of the cricket games are Test, One Day and T20. Respondents were asked to identify only one cricket match from living memory in which they felt strongly that the weather played in favour of a particular team. There were additional questions on perceptions as to whether the respondents supported roof covering on South African grounds to minimise match disruptions from extreme weather events. Furthermore, respondents had to indicate if they supported artificial cricket pitches for professional and development-oriented grounds to match disruption and other known issues. The second last question from the 17-question long survey was for supporters to indicate if they, as individuals, believed in climate change and that some of the recent extreme weather disruptions, like heavy rains and extreme heat, were due to this phenomenon. As for the data analysis, it was done in QuestionPro and Excel, with appropriate descriptive statistics presented and graphs plotted. The key findings and their discussions are the subject of the next two main sections.

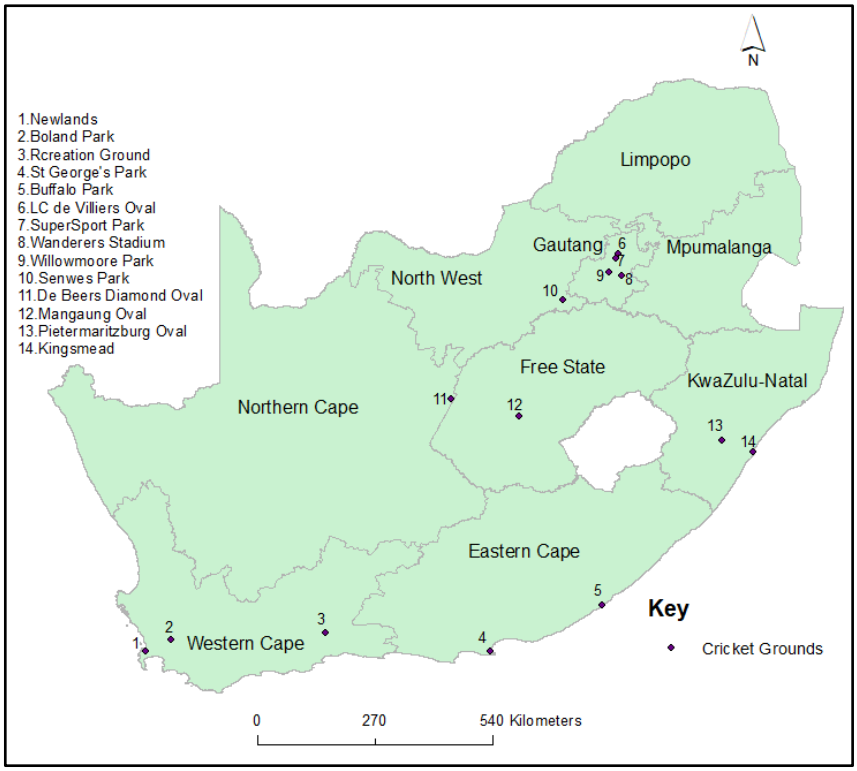

Figure 1: ICC-accredited cricket stadiums in South Africa

Results

General demographics

It emerged that from those sampled, the greater percentage, an estimated 64.34%, had been following cricket games for 15 or more years. This result provides confidence in terms of the necessary period of exposure required in climate studies. If one considers those with ten or more years of experience following cricket games on South African soil, the percentage of the respondents rises to about 80%. The remaining percentage share covers those with 1-4 years' experience (8.53%) and those with 5-9 years following and supporting cricket. As for where the respondents came from, the majority were from the Free State Province (51.16%), followed by Gauteng (21.71%) and Northern Cape (8.53%). The remaining distribution is spread across the remaining provinces. What was of further interest is the fact that an estimated 97.69% of respondents indicated they also followed the South African national team, the Proteas. As for gender, 67.69% were male, and 32.31% were female. No respondent indicated they did not wish to disclose their gender. As for the completed level of education, the bulk had attained a diploma and/or undergraduate degree (46.15%), followed by those with honours and higher qualifications (34.62%). Those who have attained secondary education stood at 16.92%, primary (1.54%), and those who indicated no formal education stood at 0.77%. The high levels of education also give us confidence that most respondents were highly literate and educated. As indicated in the methodology section, the next major section looked at perceptions of climate change exposure and vulnerability of both the game and supporters. To this end, the next section elaborates on the findings associated with the preceding.

Perceptions of climate change exposure and vulnerability

One of the interesting questions in the survey requested respondents to indicate (as individuals), if they believed in climate change and that some of the recent extreme weather disruptions like heavy rains, extreme heat and extreme cold witnessed during cricket games were due to this phenomenon. An estimated 72.44% responded positively to say they did. Only 15.75% indicated the contrary, while the remaining 11.81% were unsure. Closely linked to climate change is weather and its patterns. To this end, respondents had to indicate if the weather remained a key factor in deciding to go to the cricket stadium to watch a match or stay home. Up to 80% said weather played a great role, with 20% indicating otherwise. Then came the critical question asking supporters to indicate how selected weather elements would influence their decision to either stay home or go watch their team play at the stadium (where 1 = Likely to go to the stadium and 5 = Likely to stay home). The findings are summarised in Figures 2a and 2b.

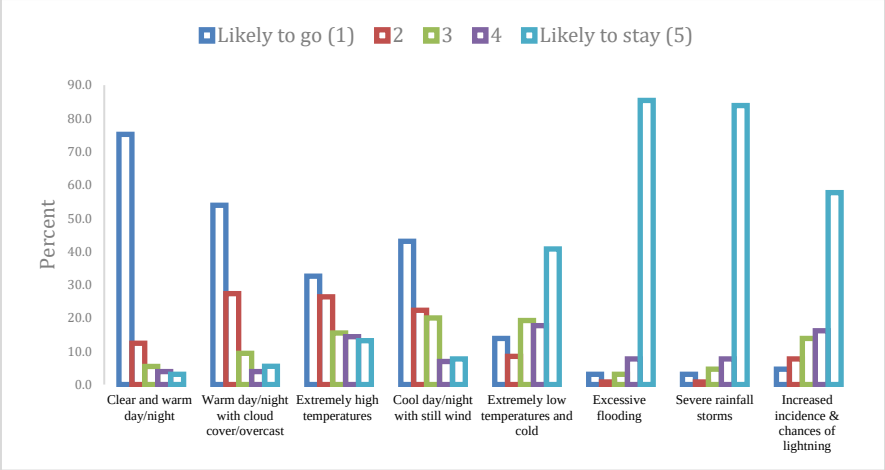

Figure 2a: Weather patterns vs decision to go to the stadium or stay home

Figure 2a shows that increased incidence and chances of lightning will likely keep up to 57,69% of supporters away from the stadiums, while only 4.62% indicated they would still go. These figures are similar regarding severe rainfall storms and excessive flooding, with an estimated 83.85% and 85.38% staying indoors, while 3.08% apiece could go and watch the match, respectively. The trend starts to change with extremely low temperatures, as up to 40.77% of the supporters would stay home, while 13.85% would probably visit the stadium. Ultimately, 43.08% of the respondents said they would go and watch the match should the weather be associated with a cool day/night with still wind, while only 7.69% prefer to keep indoors. Similar trends emerge concerning extremely high temperatures, as 32.56% of supporters prefer going to the stadium compared to 13.18%. A warm day/night with cloud cover/overcast would attack up to 53.91% of stadium supporters, with 5.47 staying home. A clear and warm day/night remains the favourite, with up to 75.19% of respondents indicating they would go out and a mere 3.1% staying home. Further responses for the in-between can be viewed in Figure 2a. Additional weather elements were also pitched. These and the responses from the supporters are shown in Figure 2b.

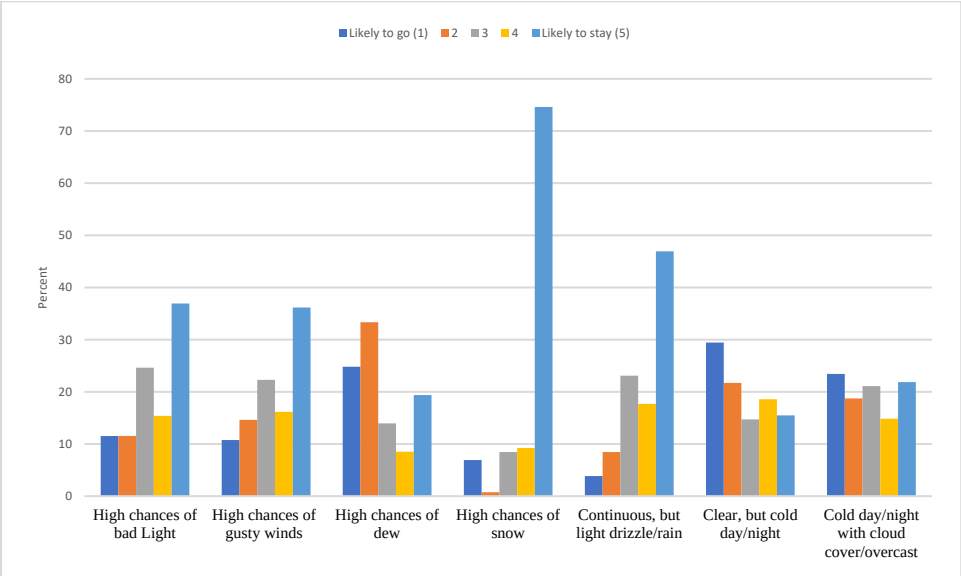

Figure 2b: Weather patterns vs decision to go to the stadium or stay home (Source: Fieldwork)

While supporters seem indifferent concerning their decision to stay home or go to the stadium on a cold day/night with cloud cover/overcast, there are clear preferences for the other weather patterns. On a clear but cold day/night, respondents revealed that 29.46% would prefer to watch the match at the stadium, compared to 15.5% that would say home. The preferences change significantly if the weather shows continuous but light drizzle/rain patterns, as only 3.85% of the fans would travel to watch the match at the stadium, while 46.92% could stay home. Those preferring to stay home increase tremendously should the weather show high snow chances (74.62% stay home), with only about 6.92% leaving for the stadium. There is a high chance of dew, with 24.81% of supporters leaving their homes, while 19.38% will stay. Furthermore, high chances of gusty winds deter 36.15% from going out, leaving about 10.77% of fans willing to braze the winds. A close and similar pattern emerges when there is a high chance of bad light at the stadium. Overall, and from the 15 weather scenarios presented to respondents, the top three weather patterns that could deter supporters from attending cricket matches at stadiums as ranked are excessive flooding (1st), severe rainfall storms (2nd), and high chances of snow (3rd). From the pull weather patterns, the top three that would have fans go to the stadium, as ranked, are clear and warm day/night (1st), warm day/night with cloud cover/overcast (2nd), and a cool day/night with still winds (3rd). A question was slotted to determine the level of frustration from weather-related game interruptions and how this could contribute to a supporter rather than staying at home and watching the game on TV listed. The options were given as 1-5 (where 1 = Very Low Level of Frustration, and 5 = Very High Level of Frustration). The findings show that match abandonment topped the list of the seven options. This was followed by match cancellation. In both instances, 51.56% and 44.53% of the respondents indicated that these lead to very high frustration levels. The remaining picture is presented in Figure 3. The least frustrating weather-related event is increased water breaks.

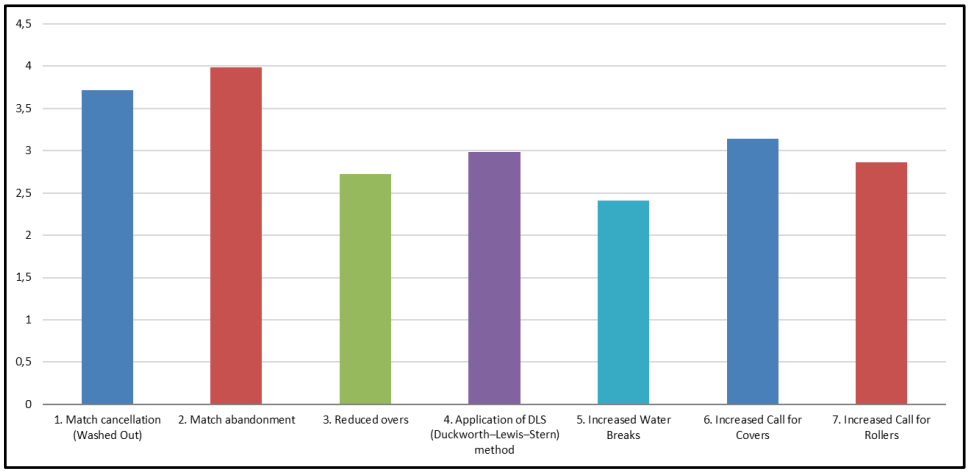

Figure 3: Level of frustration leading to watching the match on TV (Source: Fieldwork)

The cricket supporters were also asked to indicate (in their view) which format of the cricket game was most affected by some extreme weather events due to the changing climate. They had to tick only one option. The findings are shown in Figure 4. The 'all forms of the game' option emerged as a top. This view was shared by 37.69% of the respondents. As for a memorable cricket match in which the respondent felt strongly that the weather played in favour of a particular team or even against the game of cricket, the Cricket South Africa (CSA) T20 Challenge 2018/2019 season topped the list. One respondent recalled how excessive rain led to 10 matches being abandoned, with the Titans, one of the teams suffering three "rainouts". The Titans are based in Pretoria. The disruptive rain was widespread nationwide, with three matches washed out in April 2019. The matches were due to take place in Potchefstroom (North West Province), Bloemfontein (Free State Province), and East London (Eastern Cape Province).

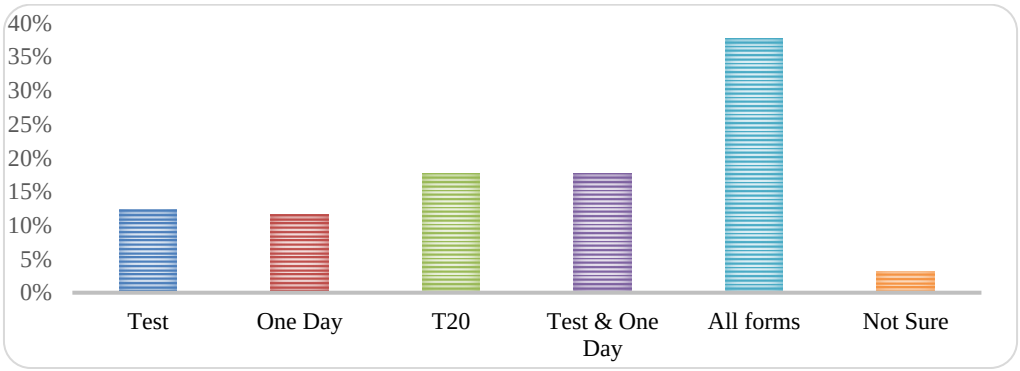

Figure 4: Game format most affected (Source: Fieldwork)

The teams involved were the Highveld Lions vs the Hollywoodbets Dolphins, the Warriors vs the Multiply Titans, and the VKB Knights vs the World Sports Betting Cape Cobras. Other memorable matches negatively impacted by extreme weather mentioned by respondents included Natal vs Transvaal in the 1980s when bad light stopped play, and victory went to Natal, who was on a better run rate. There was also a match between South Africa and Sri Lanka in the 2003 Cricket World Cup. Sri Lanka won the game after South Africa got their DLS calculations wrong in Durban. One respondent said that the DLS constantly changes the game as the run rate plays a huge role in any game format. The Sri Lanka vs Proteas Test match at Kingsmead, Durban, in 2019 also came up. The respondent felt the humid and hot weather favoured Sri Lanka and influenced the pitch condition.

Proposals on roof cover and artificial turf

A question seeking views on the extent to which respondents would support the roof covering on South African cricket grounds to minimise match disruptions from extreme weather events was raised. An estimated 51% indicated they would support the idea, while only 5% would not. Further views are shown in Figure 5. The Docklands Stadium, established in 2000 in Melbourne, Australia, remains the only global cricket ground with a retractable roof (DH Web Desk, 2023).

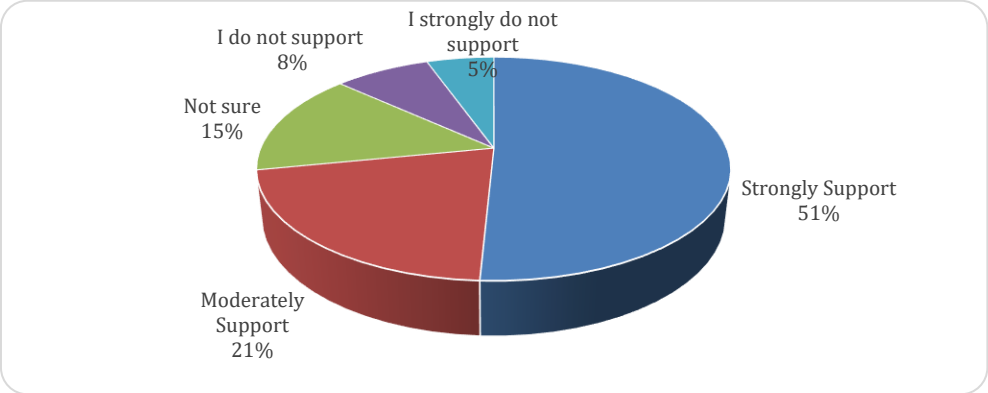

Figure 5: Support for the roof covering on South African cricket grounds (Source: Fieldwork)

Supporters were also requested to indicate if they were happy to have artificial cricket pitches in South African professional grounds to minimise match disruption from extreme weather events. The division between those who supported and those against tilted towards the latter. While about 36.72% indicated they will, 42.97% were against. The remaining 20.31% were not sure. Since artificial turf could also be used in cricket grounds for community developmental purposes, views were sought. The respondents' views tilted favourably to support artificial cricket pitches for developmental purposes. Up to 74.22% indicated they were in favour, compared to only 10.16% that did not support the idea. Those on the fence were 25.62% with the rest strongly being against the idea. The following section is dedicated to discussing the findings. This is done considering existing literature and how it mirrors the results from this study.2

Discussion

Although not played on South African soil, the 22 March 1992 semi-final ICC World Cup match between South Africa and England in Sydney, Australia, came up from more than seven respondents. Excessive rain is said to have reduced the game from South Africa needing 22 runs from 13 balls to 22 runs from one ball. This was after the two overs were lost due to rain, leaving a single ball for 22 runs from the DLS. This target is an impossible scenario in cricket. England then won by 29 runs (ESPN Cricifo, 1992). This match has not left the media space. On 22 March 2020, Vijaykumar (2020) wrote a piece entitled 'On this day: March 22, 1992: South Africa asked to score 21 from one ball England advance to Cricket World Cup final after rain ruins Proteas' chances in Sydney. From the author's view, England progressed to the final of the World Cup because rain ruined the Protea's chances. 2009 England team member Allan Lamb reflected on the 1992 game. He wrote in The Guardian. "At that time even, the umpires were battling to work it out. It was a very unfair way to do it. For them to have lost two overs and then be left needing more than 20 off one ball was shocking" (Ibid., online). More recently, England's women's cricket team was eliminated without a ball being bowled in Sydney during the 2020 ICC World Cup. Furthermore, intense rains resulted in the England vs India semi-final being washed out, with India progressing (Vijaykumar, 2020). The observations made by the majority of the respondents that extreme weather events linked to climate change affect all three formats of the game: T20 (which lasts a few hours), 50 overs (One Day), and Test (allocated five days) make interesting reading. This should be understood in the context of the changing South African climate leading to regular weather extremes. In 2021, the South African Weather Services (SAWS) reported four severe weather events in June and July. A cut-off low that developed from 1-3 June brought "extreme cold, heavy rain and disruptive snow over parts of the Eastern Cape and KwaZulu-Natal" (SAWS, 2022: 48). The second event occurred from 28 June to 1 July. This event was marked by a series of cold fronts in the Western and Northern Cape, with heavy rains and flooding in several places. Very strong and destructive winds were also recorded. During the third week of July, two other cold fronts were experienced, with "dramatic cooling to large parts of the country, together with disruptive snowfall over the Western, Eastern and Northern Cape as well as the Free State provinces" (Ibid.). While low-

temperature records are being broken, similar rainfall patterns are observed. Raw data provided by SAWS for June 2023 provided shock increases from the norm for the four coastal provinces of the country . While the increases of 756% and 504% recorded at Paddock in KwaZulu-Natal and Willomore in the Eastern Cape, as well as that of 431 at Vioolsdfrift in the Northern Cape, bring some shock waves, what is more intriguing is that the average increase across the 27 records comes to about 216%. These figures build a convincing scenario that extreme weather linked to climate change could be causing these anomalies, and cricket will not be spared. The 2021 rainfall anomalies expressed as a percentage of the 1991 to 2020 annual average. SAWS (2022) highlight that the early summer October rains revealed a well above-normal rainfall. By December, the country had received above-normal rainfall, with monthly rainfall figures received in many parts of South Africa coming in multiples of the normal rainfall. There is a lot of summer cricket in South Africa, and above-normal rainfall will likely impact the games, as was indicated for the 2018/2019 CSA T20 Champions season.

While the Marvel Stadium referred to earlier has a roof cover, the ICC prefers not to have matches there (DH Web Desk, 2023). This resistance remains challenging if the world's cricket governing body has this posture. The stadium has a seating capacity of 53,000 people. Given the roof restrictions, regulations covering a six runs score had to be adjusted to include those balls that hit the stadium's roof. While located in Australia, the stadium's popularity is on the rise. Cricket supporters in India called for more such stadiums when the Indian Premier League (IPL) 2023 final got moved to the reserve day. Furthermore, with the global temperature rising, covered pitches protect both the rise and players and fans from heat waves (Yamasaki & Nomura, 2022), such as those experienced during the Tokyo 2020 Games. The authors realise that the climate change-related extreme heat experienced during the games was a wake-up call to all athletes, sports managers, sponsors and supporters. Both cricket fans and former players expressed their views over delayed and washed-out matches during the T20 World Cup in Australia 2022. Michael Vaughan, a former England skipper, took to social media on 28 October, "Rainy season in Australia … Stadium in Melbourne with a roof on … !!!!! Wouldn't it have been sensible to use it??? #JustSaying #ICCT20WorldCup2022" (Ibid., online). The stadium the player was referring to is the Marvel with a roof. The washed-out match was between England and Australia. These are powerhouses in the game, and the supporters, especially the neutrals, were not impressed. The other match washed out was between Afghanistan and Ireland, with all four teams in Group 1 forced to settle for a single point each. This favoured England, which ended up in a second spot and progressed to the semi-finals. The match between South Africa and Zimbabwe in Group 2 was also affected by rain and abandoned, yet South Africa was in a commanding position to win the game. Another point to consider is that the climate, though not raining, will impact the game. For example, taking a bowler who swings a lot, extra wind can help him swing the ball to greater lengths; for a batsman, a bright day can help him connect the ball perfectly, but on a shady day, that's reduced. The authors note that rain interruption was likely to affect the game, leading to fewer supporters going to the stadiums and impacting the financial status of organisations. This finding on reduced stadium attendance due to rain interruption confirms the findings from this current work. Nallakaruppan et al. (2019) then advise further work to accurately predict disruptive weather conditions and adjust fixtures. The observation by respondents to support synthetic surfaces for cricket development in South Africa mirrors what Twomey et al. (2011) found in Australia. The authors indicate that drought in Australia is forcing authorities to seek artificial turf alternatives for community-level football-cricket ovals. Most of these grounds are converted to cricket pitches during football off-season. Green &Strong (2023) raise fascinating questions that relate to fans, events, extreme weather and climate change. The authors pop up two questions in relation to music festivals in Australia: "What if it rains? What if there is a bushfire?" Although the authors are worried about extreme weather in light of music festivals, the same extremes apply equally to cricket. The respondents from the survey informing this paper clarified that rain remained a major consideration when deciding to go to the stadiums.

Conclusion

This paper set an objective to investigate perceptions of weather extremes resulting from climate change and how this influences decision-making to visit a stadium and other developments associated with cricket in South Africa. Based on the findings, it emerged that extreme weather events resulting from climate change have a bearing on supporter decision-making regarding going to the stadium or remaining at home. The pull factors are excessive flooding, severe rainfall storms, and high snow chances. Apart from discomfort, these events can potentially have matches abandoned or shortened with the DLS coming into play. Cricket fans from South Africa also support having roof covers on cricket grounds to minimise extreme weather disruptions. However, while the respondents were happy with artificial pitches for developmental purposes, especially for townships and academies, they did not like in ICC professional pitches. Given the preceding, this work recommends that cricket administrators take note of the key challenges faced by fans resulting from climate change that may lead to income and livelihood loss and plan accordingly. The work further recommends that cricket administrators prioritise addressing some of the key challenges fans face and integrate them into game scheduling.

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