Full Report
Findings from Online Survey: Cricket Gear Users/Players

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August 2023

Funding for Circular Cricket Gear project was provided by UKRI CE-Hub Flexible Fund

1. Introduction

The survey was conducted using Jisc cloud services between 1st April and 25th April 2023. Prior to circulating the survey to a wider network, it was piloted with 4 cricket experts to verify the scope and content of the questionnaire. It was circulated amongst a wide network of cricket players: twice to an email list of 114 individual involved un cricket, 5 cricket players who distributed to their teams, as well as specific individuals involved in the sector via LinkedIn and Twitter. The survey received a total of 42 responses and therefore, the findings presented in this report should be treated as indicative rather than definitive.

The survey aimed to increase understanding of cricket players perspectives on sustainability considerations, and reuse and repair of cricket gear. Prior to this report an initial analysis was completed which focused on responses relevant to the Vegan Cricket Gear project[1]; and a report was published on the CfSD's project website in June 2023.[2] Insights and main conclusions from the preliminary survey analysis that focused on user perceptions of plant based vegan leathers (PBVL) have been summarised and included within this full report.

2. Survey Demographic

The 42 responses were from: 16 recreational players; 20 league players; 4 'friendlies/ 'friendly club' players; 1 player intermediate recreational/university level player; and 1 response from a 'former league cricketer'. Based on this, below is a percentage breakdown for each category:

i) Recreational: 38 %
ii) League Cricket: 48%
iii) Friendly Club/Friendlies: 10 %
iv) Other: 5%

The demographic percentage breakdown of the respondents was: 83% were identified as male and 41% of the total respondents aged over 55. Other age group percentages are the following: 14% indicated to be between 18-25, 7% between 25-35, 12 % between 35-45 and 26 % between 45-55, making it the second largest age group after the over 55s. Moreover, based on the 42 responses, the average number of cricket games played per year is 13. From the 83% male respondents, 31% of the over 55 group indicated playing at a recreational level while 17% at a league level.

3. Sustainability Considerations

57% of respondents indicated that they have considered the environmental impact of cricket gear in the past 6 months. However, when asked to elaborate further on their response, it appears that most respondents have not identified specific issues. While those that had, focused primarily on the disposal of cricket gear at end of life and the carbon footprint associated with the supply chain.

In this context, the carbon emissions related to overseas manufacturing and transportation were perceived as the highest contributor to cricket gear's environmental impact. This was followed by the use of materials derived from non-renewable sources such as high-density-

[1] See: https://cfsd.org.uk/projects/vlcg/
[2] See https://cfsd.org.uk/wp-content/uploads/2023/04/Final_Players_Vegan_Cricket_Gear-27-04-23.pdf

foam (HDF) for paddings and synthetic leather. Furthermore, as mentioned in the introduction to this report, specific questions focused on player/user perceptions on the use of PBVL in cricket gear. This highlighted that the use of bovine leather to produce cricket gear is not perceived as a high contributor to the negative environmental impacts associated with the production of cricket gear. While only 1 respondent considered the use of bovine leather to be a significant contributor to the environmental degradation in relation to the production of cricket gear, 71% of respondents indicated that they would be willing to trial cricket gear made from a PBVL. Participants were further asked if they were aware of existing repair and reuse schemes for cricket gear. 60 % of respondents indicated that they are unaware of any organisations or programmes dedicated to the repair and reuse of cricket gear. While the remaining 40 % highlighted the Lord Taverners Kit recycling scheme and local club initiatives as the main sources for promoting repair and reuse of cricket gear. Lastly, it is important to mention in this section that while sustainability topics related to cricket gear appears to be of high concern amongst players in this sample of responses, the selection and purchase of cricket gear remains predominantly based on quality, performance, and price.

4. Product Failures and Life Cycle Considerations

The survey focused on product failures and life cycle considerations of batting pads and batting gloves. Other cricket gear products e.g., cricket balls were excluded for the following reasons:

i) The inability to access industry data.
ii) Existing regulations that restrict product innovation for e.g., replacing the use of bovine leather for cricket balls.
iii) The inability to access adequate equipment and skills required to produce working prototypes for other gear.

In this sense, the survey indicated that cricket batting pads appear to be kept for over 8 seasons, as highlighted by 57% of respondents. This was followed by 3-8 seasons, mentioned by 33%. Equally, cricket gloves appear to be kept for over 8 seasons, as indicated by 38% of respondents and at least between 2-3 seasons by 36%. Initially, it was assumed that primarily respondents over 55, playing 'friendlies', would have responded that they kept their kit for over 8 seasons, while those within the age group between 18-25, playing league cricket, would perhaps change their kit between 2-3 seasons. However, after cross-analysing individual responses focusing on age group, level of play, gender and how many seasons batting pads and gloves were kept in use, the survey indicated that there is no correlation between age, gender, level of play and how many seasons cricket gear is kept.
Aligned to how many seasons cricket gear is used, participants were asked to provide the main reasons for purchasing new gear. These are listed below:

i) Approximately 53% mentioned purchasing new gear due to wear and tear e.g. due to equipment becoming worn out, broken, damaged or unusable due to general use and issues such as not being able to remove stains/wash cricket gear. Wear and tear also included seeking new equipment that 'looks fresh' and to manage odour related considerations particularly for batting gloves.

ii) 8% indicated performance and/or new technology considerations for the purchase of new gear e.g., seeking improvements in performance, improved technology, and design innovations.
iii) 4% highlighted changes in sponsorship (which is likely to relate to league players), while the remaining 35% provided other responses e.g., "Not changed gear for over 20 years".

Aligned to the reasons for product replacement, respondents were asked to indicate how cricket gear was disposed of. 29% indicated that unwanted gear was donated to charity, while 26% donate it to the "club bag". This was followed by 19% indicating that unwanted gear is stored in attics, garages, etc.

The survey also aimed to gain insight into the main product failures for cricket batting pads and batting gloves to identify relevant product circularity strategies to address failures that lead to the disposal of cricket gear. The main failures highlighted for batting pads were:

i) 26 % highlighted failures related to the straps e.g., straps tearing off, breaking, and/or becoming loose (Velcro on the straps no longer attaching properly).
ii) Issues related to the exterior material, primarily polyurethane leather (PU) was raised by 14% of respondents e.g. material easily rips/splits which causes the internal padding (HDF) to become exposed and occasionally, to fall out.
iii) Padding related issues was raised by 7% e.g. exposed padding and signs of mould due to sweat and storage conditions. While the remaining 46% indicated other related issues such as "I don't use them frequently enough to fail".

Respondents also highlighted the main failures for cricket batting gloves as the following:

i) 41 % mentioned wear and tear of the palms as the main failure for cricket batting gloves. This includes, stiffening and cracking of the leather, which reduces glove-bat grip and the emergence of holes.
ii) 19 % highlighted wear and tear of straps breaking and/or deterioration of Velcro.
iii) Sweat and odour considerations that contribute to the deterioration of the gloves was raised by 10% of respondents.
iv) The remaining 31% provided other related responses such as, "not having identified visible failures or not using the product as often to experience deterioration".

When questioned about aftercare practices and maintenance provided for cricket gear (specifically for batting pads and gloves), most respondents indicated that they do not provide specific care for their gear after each game. Apart from "wiping down" dirt/mud every now and then, or "airing" gear after a game, particularly on hot days, most gear is stored in a bag until the next game.

However, while the lack of specific care procedures towards the upkeep of cricket gear appears to be uncommon practice amongst male cricket players, the survey shows 1-2 isolated examples of 'sewing and stitching when necessary' which highlight that there are opportunities for repairing cricket gear to extend its use phase.

5. Market Trends

To assess market acceptability towards sustainability initiatives within the cricket gear industry, survey participants were asked to respond to a series of questions related to previously defined product circularity strategies relevant to cricket gear. These were: material substitution to replace the use of bovine leather with a PBVL and the implementation of repair and reuse services for cricket gear.

In this context, 71 % of participants responded positively to the potential use of cricket gear made from PBVL to replace the use of bovine leather. The main reasons provided for the potential acceptability of PBVL is primarily due to an improved awareness of product sustainability issues and alignment with specific lifestyles such as veganism. However, it was also highlighted that to consider switching to a PBVL alternative, new products would be required to match existing products' durability, quality, and performance. Likewise, new products would have to be affordable. From the 28.6% that indicated they would not consider using cricket gear made from a PBVL, the main reason appears to be user perception regarding the quality, durability, and performance of PBVLs, which are deemed to be 'not as hard wearing' as 'true' leather.

Regarding user/player acceptance towards using a repair service for cricket gear, 86% of respondents indicated that they would consider repair. The main reasons provided for potentially using a cricket gear repair service were:

i) To reduce waste.
ii) Potential cost savings associated with repair e.g., cheaper than buying new gear.
iii) To reduce the environmental impact associated with the production of cricket gear.

Furthermore, participants indicated that to increase the acceptability of repair for cricket gear, there needs to be greater availability of repair services, including access to infrastructure (e.g., places to take gear for repair and implementation of industry specific collection points, etc); an increased awareness of repair and donation services (e.g., a nationwide campaign that highlights the environmental and social impact of sports gear production and promotes repair and reuse), and the implementation of design innovations that facilitate repair.

6. Conclusions and Recommendations

The key conclusions from the survey which contained 19 questions covering sustainability considerations related to cricket gear, key product failures, lifecycle issues, the perception of the use of PBVLs and repair and reuse services, are the following:

- The survey revealed that a significant proportion of respondents had considered the environmental impact of their cricket gear in the past 6 months.[3] Thus, perhaps

[3] A caveat to the high awareness levels highlighted by the survey might be that potentially there is a slight bias e.g. 3 of those distributing the survey link to their networks have relatively high level of environmental awareness – but this is not deemed to be significant as the players on their distribution lists are unlikely to have such high environmental awareness.

suggesting that there is a greater awareness level amongst players than previously thought. However, to verify this and offer a more accurate view of player awareness level in relation to sustainability in cricket gear, a large sample survey will be conducted by CfSD in the future.

- The survey shows that 41% of respondents were over the age of 55, which in turn suggests that sustainability in cricket is not only the concern of younger generations, but also, an older generation of cricket players.
- Respondents were not specific with regards to which environmental impacts; they had considered in the previous 6 months. However, when prompted, the main impacts highlighted were the disposal of end-of-life gear and the carbon footprint associated with the supply chain. Therefore, it is recommended that further research should focus on extending the life of cricket gear to avoid it being landfilled e.g. reuse of parts and components as well as establishing repair and reuse services. Likewise, there is a need to identify mechanisms to enable local production to address the high embedded carbon associated with the import of cricket gear produced overseas.
- While the use of bovine leather was not considered to be a high contributor to the negative environmental impact associated with the production of cricket gear, respondents mentioned that they would be willing to shift to cricket gear made with PBVL if these matched or increased existing durability and performance characteristics and was affordable.
- The survey also highlighted that user/player confidence in PBVL materials is low. Particularly, regarding its quality, durability, and technical performance. Therefore, it can be concluded that if users are to adopt cricket gear made from PBVL alternatives, firstly, industry must address consumer confidence in the material. This requires further research into consumer behaviour and a wider demonstration of technical and functional properties of these materials.
- While awareness of repair and reuse initiatives was low, willingness to trial such services was highlighted by 86% of respondents. In this context, a few recommendations are highlighted below:
    - Increase access to relevant infrastructure for repairing cricket gear.
    - Increase awareness of the potential benefits of reuse and repair through for example, national campaigns amongst cricket clubs, schools, and other related stakeholders.
    - Seek to gain acceptance of circular design innovations amongst industry and governing bodies e.g. the use of alternative materials to substitute bovine leather in cricket gear, where appropriate.
- The survey highlighted the lack of aftercare practices by most players (male). This in turn, presents an opportunity for those that place cricket gear on the market to invest in providing its users with web-based instructions on how to look after their products. Lessons can be learned from other industries e.g. some fashion/clothing brands have started to promote aftercare advise to its users as part of their sustainability work.[4]
- The survey highlighted the main reasons for purchasing new gear included wear and tear, seeking improved performance or technology, and changes to sponsorship. Focusing on batting pads, key product failures identified were primarily related to the

[4] See for example H&M's "tips and tricks on repairing, remaking and refreshing your clothes, so they last longer and look their best". Available at: https://www2.hm.com/en_gb/sustainability-at-hm/take-care/take-care.html

straps (e.g. straps breaking or becoming lose and the Velcro no longer attaching properly). Further product failures identified included wear and tear of the external material (e.g. PU leather ripping) and issues with the internal padding (e.g. signs of mould). Therefore, to extend the use phase of batting pads, the following design innovations are recommended:

  - Facilitate the repair of existing Velcro straps.
  - Enable the repair of existing Velcro straps with a 'clip-on' solution (designing for disassembly).
  - Develop the exterior case using a sustainable alternative to PU leather (material replacement).
  - Facilitate the replacement of existing HDF with a sustainable alternative e.g., packaging waste.
  - Enable the reuse of the internal knee protectors and/or replace the knee protector using a sustainable material alternative.

- Lastly, it is pertinent to highlight that the findings presented in this report are based on an older demographic of cricket players (over 55), and primarily from a male perspective. As such, further research focusing on a younger demographic and perhaps from a female perspective are required to gain a better understanding of the requirements for the development circular cricket gear.