

SPORT #WithoutWaste

Sport #WithoutWaste

**D2.1 Research document on #WithoutWaste grassroots
sport events**



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1. Introduction

In order to achieve effective change within communities, cities, or specific organizations, it is crucial to base one's strategies for implementing new methods on reliable data. Often, we underestimate the realities of communities we want to affect with our changes. This deliverable of the Sport #WithoutWaste Erasmus+ project is therefore a foundation of data that will inform the upcoming activities of the project, with the goal to reduce waste around local sports events.

This report is based on a quantitative research process which was conducted in a collaborative effort of all partners in this project. It includes a comprehensive study of the partner countries: Albania, Bulgaria, Hungary, Romania, Serbia, and Türkiye.

Essentially, this research report provides answers to the following research questions:

1. How is a *#WithoutWaste grassroots sport event* defined?
2. What is the context of each partner organisation of grassroots sports events in relation to the #WithoutWaste concept?
3. What are the needs of each partner organisation of grassroots sports events in relation to the #WithoutWaste concept?

This report should offer a foundation of data. However, this data should not only be of limited use to the project partners. Municipalities, sports organizations, cultural organizations, and placemakers are equally able to use this data for their activities. Additionally, those who participate in local sports events will benefit from this data collection.

To offer a comprehensive overview of the topic of Sport #WithoutWaste in the partner countries, this report is structured as follows: First, the research process and data collection will be explained. Then, definitions of #WithoutWaste sports events will be expanded on. Afterwards, each partner country will be presented regarding challenges and opportunities in relation to implementing #WithoutWaste sports events. Lastly, the report will summarize good examples of the project as a whole.

2. Research Process

For the purpose of gaining insights into each project partner's current situation and describing stakeholders' views, we decided to use a quantitative survey-based research method. Around Sport #WithoutWaste, many stakeholders could be considered to participate in the survey. Based on accessibility for all project partners, this survey covered two essential stakeholder groups: those who participate in Sport #WithoutWaste events, and those who organize them. These two target groups hold essential information which will help us understand important perspectives about the implementation of Sport #WithoutWaste events.

Research Methods

Quantification of certain details can help us accurately understand specific aspects of the world. Generally, a quantitative approach can be seen as a way to remove oneself from a specific environment and practice an objective view of the components we wish to study. Quantitative studies also allow us to easily reach larger target groups, ensuring thus a reliable result (O'Leary, 2017). Quantitative data can be statistically analysed, making this research approach less difficult to apply in projects that bring together different project partners. From quantitative results, knowledge about specific populations can be deducted. While existing data has informed this research design, its aim is to generate new primary data about our participants, which can then be compared to, differ from, or support the conclusions drawn from project partners' first-hand experiences (O'Leary, 2017).

Data Collection

Based on this research approach, we conducted a quantitative survey. The survey was cross-sectional, as it aimed to only include a sample of the target groups which could represent them and allow us to generalize our findings (O'Leary, 2017). Questions were developed after receiving information from each partner organization. Partners were able to provide context-specific feedback. Answer options were designed as a Likert scale from 1-5. The survey included both open and closed response questions. All project partners were provided with a handbook

(Annex I) that explained the research process and gave instructions on how to collect the data.

In order to provide the easiest access for participants, the survey was a self-administered online survey. The survey was conducted through the software “SurveyMonkey” to facilitate easy access, language translations, and a streamlined analysis of the data. Partners were also able to provide analogue printouts of the survey to participants unfamiliar with the technology or unable to digitally participate. These responses were then manually entered into the software.

Survey Participants

The two stakeholder groups were the target of this study. More specifically, we targeted citizens participating in grassroots leisure and sporting events organized on local and national levels. These were at least 16 years old and would generally be participants of local sports events. Partners were advised to reach out through sport events, social media and newsletters, and through other partner organizations. The second target group were people working with local sports events (this included sports organizations, schools, and volunteers). Respondents were at least 16 years old and were actively involved in creating and implementing local sports events. Partners were advised to reach out through their personal networks, newsletters and emails, and workshops or conferences. Partners were requested to reach at least 15-20 respondents of each target group.

General demographics

370 participants provided valid responses (553 people in total began the survey, but some did not complete it). Table 1 presents general demographics of respondents. It can be seen that survey respondents were generally quite equal in regard to gender and type of target group. This means that the conclusions drawn in this report can be compared regarding these differences. However, most respondents were located in urban areas. Since rural areas and capital cities are underrepresented, most of the implementations suggested in this report will target urban areas of local sports events.

Number of Respondents	370
Age Range	16-76
Target Group	
Sports event participants	193
Sports event organizers	177
Gender	
Men	181
Women	187
Other	2
Locations	
Capital	87
Urban	240
Rural	43

Table 1. General demographics of all survey respondents.

3. #WithoutWaste grassroots sports event

3.1 Experience of BG Be Active in Bulgaria

Inspired by prior success, in 2019 BG Be Active created the project 'Plovdiv - Zero Waste Capital of Culture'. The project aimed to introduce and start the zero-waste movement in Bulgaria, further exploring the relationship between culture and waste recycling, and testing various messages and engagement interventions. As part of the project BG Be Active provided event organisers with consistent support with educational resources, volunteers, practical assistance with littering prevention (providing separate waste collection bins), local partnerships with waste management companies, and this way managed to reduce the littering of public spaces in 2019. After the successful implementation of the project, a survey revealed that for more than 95% of people in Plovdiv, a waste-free environment is important and 74% are ready to contribute to specific activities to protect the environment (Institute for Financial Studies and Innovations, 2020).

While testing the #WithoutWaste concept during the European Capital of Culture 2019, BG Be Active supported 32 medium and large-scale cultural events and developed a methodology to help deliver events #WithoutWaste. Transferring from culture to grassroots sport events we started implementing all of our sporting events such as Move Week, European School Sports Day, No Elevators Day and others to be waste free in several ways:

- infrastructure - positioning visible recycling bins
- installing littering prevention signage
- promoting event #WithoutWaste resources
- training volunteers to react to and prevent littering
- communicating with participants the need to celebrate responsibly before, during and after the event

In 2020, BGBA decided to transfer both practical knowledge and learnings to 6 other Bulgarian cities by implementing the project 'Partnership for Waste Free and Beautiful Bulgaria'. The project aimed to grow the network of waste-free supporters in partner cities (by up to 10% from 25-30% to up to 40%), thus supporting the vision to reduce littering practices in Bulgaria, increase separate collection of waste, improve recycling rates (by up to 10%) and enhance public spaces to promote a

cleaner and healthier environment. Successful implementation led to extending project activities into 2021.

By using sport and physical activity to encourage environmentally-friendly actions, positively influencing the overall behaviour of the participants organisations can minimize the generated waste and prevent littering not only at their sporting events but also at a local and national level.

Data from the national research of 2020 carried out under the _Spot Bulgaria programme, measuring environmental awareness of citizens across 6 participating Bulgarian cities, suggests that while 82% of people are ready to contribute to a waste-free environment, only around 54% take litter preventive actions. This implies that around 30% are hesitant about the concrete actions. For the past 5 years BG Be Active has been working with this 30% to convert them to be more environmentally aware and active. Partnering countries' cultural and geographical proximity, and shared challenges related to littering prevention and waste management lead to believe that these findings are to a high extent representative of the general attitudes in the region (Institute for Financial Studies and Innovations, 2020).

3.2 Expanding the Definition of #WithoutWaste

Through this research study, we are now able to add to the definition of the concept #WithoutWaste in order to include other Eastern European countries, and their needs and contexts. Thereby, we make the concept more holistic, more applicable, and more detailed. When looking at the full analysis of the quantitative study at hand, we can draw conclusions for a larger sample, which is sports participants and sports organizers in Eastern Europe. Therefore, we can extend the concept of #WithoutWaste comprehensively. The following conclusions relate to all 370 respondents regardless of their country of residence in all 6 partner countries.

Gender Differences

When it comes to sports participants, significantly more women than men *rarely* notice waste at sports events. At the same time however, significantly more men

than women *very often* notice efforts to reduce waste during local sports events. While men seem to be more aware in general about waste surrounding sports events, future waste implementations could target women more directly. Similarly, men were generally more optimistic about their cities' efforts when it comes to waste-reduction. Significantly more men than women answered *just enough* is being done for a waste-free sport environment in their city, whereas women more often answered *nothing* and *little*. There seems to be a difference in awareness between men and women when it comes to communicating efforts of waste-reduction.

Interestingly, significantly more women than men thought that organizing waste-free local sport events was *difficult* for local sports organizations and schools. Similarly, when it came to people's individual recycling habits, significantly more women thought that it was *difficult* for people to change, whereas significantly more men thought it was *easy* for people to change their recycling habits. This leads to the conclusion that when communicating waste-reduction efforts to sports participants, it is worth directing the possibilities and accessibility of strategies more towards women, to increase their awareness as well as their motivation to participate in reducing waste in their local communities.

Differences in Locations

Differences in locations were stronger between people living in urban areas and capital cities. While we had participants from rural areas, their responses were not statistically significant overall. Sports participants that live in capital cities claim to recycle less often than those living in urban areas. Sports participants from capital cities significantly answered *sometimes* more often than those in urban areas, who most often answered *very often* or *always*. Here, there seems to be potential in exploring waste strategies in capital cities and examine how placemaking methods could be transferred from urban areas to larger cities. This also relates to the fact that sports participants in urban areas notice efforts to reduce waste during local sports events significantly more *rarely* than those living in capital cities. This could be because people in urban areas are more aware of their own measures towards reducing waste, whereas people living in capital cities rely more often on strategies implemented by other institutions.

We can see this in the perception of difficulty when it comes to organizing waste-free sports events. Significantly more sports participants from capital cities said it was *difficult* for sports organizations, while significantly more sports participants from urban areas said it was *easy* for sports organizations to organize waste-free sports events. The level of agency as well as trust in capabilities of sports institutions differs strongly between urban residents and those living in capital cities. This could be read as positive, given that urban residents have a strong confidence in their own abilities, however it does leave potential for increasing visibility of waste-reduction abilities in urban areas. The difference between urban areas and capital cities is therefore a lucrative research outlook when it comes to placemaking methods surrounding waste reduction.

Waste-Reduction Strategies and Available Resources

Moving on to sports organizers, it is most interesting to analyse the perceptions of access to resources when it comes to implementing waste-free local sports events. Most sports organizers claimed they implement the following strategies most often:

- Briefing staff on how to deal with trash during an event
- Highlighting locations of trash cans
- Reducing unnecessary material such as flyers

This seems to be in line with the previous conceptualization of Sport #WithoutWaste: we can see a focus on working with staff and volunteers and displaying recycling during events for participants. The following strategies were claimed to be implemented the least across all countries:

- Sufficient recycling stations
- Using reusable plates and cutlery
- Using reusable cups

After having implemented the most common strategies, it seems that sports organizers lack the awareness of or the experience in implementing efforts to reduce waste related to their individual events. Organizing recycling stations or changing suppliers of material and equipment is much more difficult than highlighting trash cans where they are. Organizers should therefore be more strongly supported in completing the next step of waste-reduction, which is to create holistic environmental

strategies for their local sports events, from caterers and food to sustainable material and equipment. This could be implemented either through creating more experiences to draw from or to directly provide organizers with context-dependent resources.

When it comes to accessibility of resources, there were in general not a lot of strong opinions, this will be more significant on a country basis. Resources most available are in line with the data analysed so far in this report. Therefore, sports organizers already possess a lot of knowledge and education about recycling, as can be seen in Table 2.

Most available	Least available
Knowledge and information	Funding
Training and education	Collaboration with the media
Time	Partnerships with other organizations
Volunteers	

Table 2. Most and least available resources of sports organizers across all countries.

We can conclude that generally, sports organizers struggle less with awareness of waste-free strategies, and much more with the implementation of them. Funding is the main resource lacking, but a network of media and organization collaborators can facilitate implementations through resource sharing as well. Future guides and strategies should therefore focus less on the concept of waste reduction, and rather on achieving implementation in different contexts.

#WithoutWaste grassroots sports events

To summarize the data presented in this section, we can now extend the definitions of grassroots sports events that implement the #WithoutWaste concept. In general, sports organizations implementing the #WithoutWaste concept, should pay attention to the following key characteristics:

- *Providing*
 - Opportunities for people to participate

- Infrastructure during sports events (such as clearly visible recycling bins)
- Displays of information related to recycling during events
- *Training*
 - Staff and volunteers to react and prevent littering
 - Organizations to implement placemaking methods to increase ownership
- *Communicating*
 - the responsibility to recycle for participants
 - the efforts made by organizations
- *Collaborating*
 - With media to reach out to communities and communicate efforts
 - With other organizations to efficiently share resources
- *Creating*
 - Funding opportunities
 - More experiences of waste-free strategies (such as reusable plates, cutlery, cups, etc.)

While some of these key points seem to not directly affect local sports events, they are crucial to achieve a #WithoutWaste mindset that can be transferred to sports organizers as well as sports participants. The report will now explore individual partner countries and adapt this definition to their local contexts and needs.

4. Albania

Total Responses	60
Age range	16-76
Target Groups	
Sports participants	62%
Sports organizers	38%
Gender	
Women	58%
Men	42%
Locations	
Capital cities	77%
Urban areas	22%
Rural areas	2%

Table 3. Survey Demographics of Albania.

In Albania, there is a low rate of recycling in general and the country struggles with illegal dumping and a high reliance on landfilling (European Environmental Agency, 2021). Therefore, environments required for sport activities are often not waste-free. National and local targets in Albania focus on increasing the awareness of recycling and people's ability to do so. This is also reflected in the data of this study, as Albanian respondents felt least confident in their knowledge about recycling.

Sports Participants

In comparison to other countries, the most sports participants (94.59%) claimed that a waste-free environment is *very important* for the sport they carry out. At the same time however, Albanian respondents in this survey claimed to recycle the least out of all six partner countries: 5.41% selected *never* and 13.51% selected *rarely*. This is in line with research previously mentioned, however it means that we cannot completely forget the education, awareness, and knowledge aspect of bringing information about recycling to sports participants. However, this data suggests not just a lack of knowledge, but probably also a lack of infrastructure to recycle (especially in comparison to the other countries). While only a small number of respondents answered *strongly disagree* (2.70%) or *disagree* (5.41%) to "I know how to recycle," this is also a major difference to other countries (in which almost no respondents selected these options).

When it comes to infrastructure, most sport participants agreed that there are not enough trash cans in their neighbourhoods. In comparison to the other countries, most Albanian sports participants *agreed* (38.89%) or *strongly agreed* (13.89%) that it is difficult for them to recycle. Additionally, in comparison to the other countries, most Albanian sports participants *agreed* (29.73%) or *strongly agreed* (13.51%) that it is expensive for them to recycle. This relates to the fact that in Albania, recycling is expensive for the municipality and often outsourced to residents (EEA, 2021).

Sports participants in Albania perceived the resources available to organizations to implement waste-free local sports events as follows:

Most available	Least available
Knowledge and information	Volunteers
	Partnerships with other organizations
	Funding

Table 4. Most and least available resources as perceived by sports participants in Albania.

Here, the main differences to other countries lie in a very low perception of available resources in general. For example, only knowledge and information were perceived to be available to a great extent. Simultaneously though, the greatest number of respondents in Albania in comparison to other countries claimed that it is *very important* (89.19%) to them that local sports events are waste-free.

Sports Organizers

Where sports participants seem to lack confidence in recycling, sports organizers in Albania make up for it. In comparison to other countries, most sports organizers in Albania claim to *always* (56.52%) be able to implement efforts to reduce waste during local sports events – and no respondents selected *never* or *rarely*. However, when it came to strategies being implemented, Albanian sports organizers had the most fluctuation, suggesting that strategies were not quite known or implemented. In comparison to other countries however, Albanian sports organizers *agreed* (65.22%) and *strongly agreed* (4.35%) that people use their waste-free strategies at events.

Most implemented	Least implemented
Briefing staff on how to deal with trash during the event	Sufficient recycling stations

Highlighting locations of trash cans	Using reusable plates and cutlery
Reducing unnecessary material such as flyers	Collaboration with trash organizations

Table 5. Most and least implemented waste-free strategies according to sports organizers in Albania.

Sports organizers in Albania viewed accessibility to resources similarly to perceptions of sports participants.

Most available	Least available
Training and education	Funding
Knowledge and information	Collaboration with the media
Volunteers	Partnerships with other organizations

Table 6. Most and least available resources according to sports organizers in Albania.

Challenges and Recommendations

In Albania, the challenges around reducing waste at local sports events are centred mostly around people’s ability to make decisions regarding their recycling, as well as sport organizers ability to share resources through networks. Therefore, the following five challenges have been identified and respective recommendations created:

1. Lack of knowledge and ability to recycle in sports participants
 - Increase education and information about recycling
2. Lack of infrastructure around recycling
 - Increase and co-create infrastructure around recycling
3. Sports participants do not recognize waste-free strategies
 - Increase visibility of efforts to reduce waste for sports participants
4. Lack of resource-sharing through collaboration
 - Increase collaboration and network with relevant organizations
5. Adequate funding
 - Increase resource-sharing with other organizations

5. Bulgaria

Total Responses	56
Age range	22-63
Target Groups	
Sports participants	43%
Sports organizers	57%
Gender	

Women	82%
Men	18%
Locations	
Capital cities	9%
Urban areas	84%
Rural areas	7%

Table 7. Survey Demographics of Bulgaria.

Bulgaria, given their previous role in Sport #WithoutWaste has been actively working towards social inclusion and specifically the empowerment of youth when it comes to local sports events, given that only 33% of young people are engaged in physical activity (World Health Organization, 2018). Here, there is a strong connection to community work coming out of a feeling of ownership for local sports events. Mostly, Bulgarian organizations focus on raising awareness, making it easier to recycle and establish opportunities for participation. It is however important to reward people for their effort and work, and to keep messages mostly positive.

Sports Participants

In comparison to the other countries, sports participants in Bulgaria tend to notice waste at local sports events the least, more specifically *never* (12.50%) and *rarely* (29.17%). When asked about how often they notice efforts to reduce waste during local sport events, answers were however quite similar to other countries with a nearly even divide between often and rarely. Most interestingly, all sports participants in Bulgaria *agreed* (73.91%) or *strongly agreed* (26.09%) that they know how to recycle. This is the strongest answer in comparison to the other countries (where some still selected undecided). This is also the same case for “I care about recycling,” suggesting a strong confidence and awareness of recycling in Bulgarian sports participants. They had the strongest disagreement of all countries to “Everyone in my neighborhood recycles” (*strongly disagree* (41.67%) and *disagree* (54.17%)). This suggests a disconnect between people in their abilities of recycling: they assume they do most themselves and do not expect it from their neighbors.

Bulgarian sports participants perceived sports organizations to have very few resources in general. They were generally quite similar to the other countries.

Most available	Least available
Knowledge and information	Volunteers
	Collaboration with the media
	Partnerships with other organizations

Table 8. Most and least available resources as perceived by sports participants in Bulgaria.

Similar to the other countries, sports participants in Bulgaria were quite divided on how difficult it is for organizations to organizer waste-free local sports events: 33.33% said *difficult*, 37.50% said *easy*. This division also extends to the difficulty for people to change their recycling habits. It seems that more research is needed here in attitudes towards difficulty of implementation to find out nuances.

Sports Organizers

Responses for sports organizers seemed to be quite varied and not a lot of data is statistically significant. When it comes to the strategies organizations implement most often, Bulgaria had similar strategies as the other countries. Here, it seems that experiencing new ways of reducing waste during local sports events could motivate organizers increase their impact and inspire them.

Most implemented	Least implemented
Briefing staff on how to deal with trash during the event	Sufficient recycling stations
Highlighting locations of trash cans	Using reusable plates and cutlery
Reducing unnecessary material such as flyers	Using reusable cups

Table 9. Most and least implemented waste-free strategies according to sports organizers in Bulgaria.

In comparison to other countries, Bulgarian sports organizers felt most strongly they did not have enough access to funding. However, similar to other countries, Bulgarian sports organizers agreed that they have enough staff and knowledge available. Furthermore, these resources were thought to be most and least available:

Most available	Least available
Knowledge and information	Funding
Staff	Volunteers
Training and education	Partnerships with other organizations

Table 10. Most and least available resources according to sports organizers in Bulgaria.

Challenges and Recommendations

It seems that there is a disconnect between people (especially sports participants) in Bulgaria. While most think they have quite a lot of capabilities and awareness of recycling, they do not think that about each other. Increasing community relations seems to be a good focus point for future implementations to reduce waste at local sports events. Therefore, the following five challenges have been identified and respective recommendations created:

1. Lack of trust in and support of people's capabilities
 - Increase co-creation opportunities for sports participants to impact waste-free strategies
2. Lack of volunteers for local sports events
 - Increase opportunities for participation and identity towards local sports events and the community
3. Lack of resource-sharing through collaboration
 - Increase collaboration and network with relevant institutions and other organizations
4. Adequate funding
 - Increase resource-sharing with other organizations
5. Lack of imagination for how to increase waste-free strategies
 - Increase experience of new waste-free strategies

6. Hungary

Total Responses	81
Age range	25-74
Target Groups	
Sports participants	35%
Sports organizers	65%
Gender	
Women	41%
Men	58%
Other	1%
Locations	
Capital cities	20%
Urban areas	64%
Rural areas	16%

Table 11. Survey Demographics in Hungary.

In Hungary, waste-free strategies most commonly happen during local sports events directly, for example reusable cups or bringing your own water bottles. Additionally, plogging – collecting trash while jogging – has become quite popular since 2018. Encouraging young people, especially in schools, has been a major focus of local sports events in Hungary.

Sports Participants

In general, sports participants from Hungary did not have very strong opinions compared to participants from other countries. Interestingly, most sports participants in Hungary *disagree* (57.14%) or *strongly disagree* (14.29%) that recycling is difficult for them. In comparison to other countries, sports participants from Hungary had the strongest disagreement to “There are not enough trash cans in my neighborhood.” It seems that in comparison, Hungary has quite a good infrastructure for recycling, at least according to sports participants.

Most available	Least available
Volunteers	Funding
Knowledge and Information	Staff
Partnerships with other organizations	Collaboration with the media

Table 12. Most and least available resources as perceived by sports participants in Hungary.

Sports Organizers

Most implemented	Least implemented
Briefing staff on how to deal with trash during the event	Sufficient recycling stations
Highlighting locations of trash cans	Information about proper recycling
Reducing unnecessary material such as flyers	Using reusable plates and cutlery

Table 13. Most and least implemented waste-free strategies according to sports organizers in Hungary.

In comparison to other countries, Hungarian sports organizers disagree and strongly disagree most with “We have enough support from the municipality.” Interestingly, most sport organizers disagree (28.85%) and strongly disagree (13.46%) that they

had enough access to training and education, unlike other countries. No access to collaboration with the media was also much stronger than in other countries. Hungarian sports organizers also think that it is difficult (26.42%) and very difficult (30.19%) to organize waste-free local sports events with the least number of respondents of all countries stating it was easy.

Most available	Least available
Volunteers	Funding
Knowledge and Information	Training and education
Time	Collaboration with the media

Table 14. Most and least available resources according to sports organizers in Hungary.

Challenges and Recommendations

Because most answers were quite divided or just not very strong, there is more research needed into waste-free local sports events in Hungary. Nonetheless, it is valuable to find that Hungarian sports participants perceive infrastructure to be quite good. Therefore, it seems that motivation and inspiration is the biggest hurdle for sports participants in Hungary. Therefore, the following five challenges have been identified and respective recommendations created:

1. Lack of recycling from sports participants
 - Increase awareness, motivation, and inspiration to recycle
2. Lack of relationship with municipality
 - Increase opportunities for co-creation with municipalities
3. Lack of visibility of partnerships to sports participants
 - Showcase partnerships towards sports participants
4. Lack of information about recycling at sports events
 - Collect and display adequate and engaging information for sports participants
5. Lack of training and education for staff
 - Increase training and education for staff during events

7. Romania

Total Responses	61
Age range	25-62
Target Groups	
Sports participants	59%
Sports organizers	41%
Gender	
Women	39%
Men	59%
Other	2%
Locations	
Capital cities	2%
Urban areas	75%
Rural areas	23%

Table 15. Survey Demographics of Romania.

In Romania, waste management is closely related to EU policy in general (Ecoteca & ExpertDeseuri, 2022). However, the country struggles mostly with educating its population about environmental issues and the importance of recycling. This happens mostly through public campaigns throughout different institutions. Therefore, there is also an awareness about the importance of strong communities and increasing direct impact.

Sports Participants

Unlike other countries, sports participants from Romania notice efforts to reduce waste during local sports events *very often* (50.00%) and *always* (2.78%). Similar to other countries, Romanian sports participants claim to care and know about recycling. The most sports participants from Romania *agree* (52.78%) and *strongly agree* (22.22%) that they have enough space to recycle, unlike participants from other countries. In comparison to other countries, they also *strongly disagree* and *disagree* (36.11% and 55.56%) that it is expensive or difficult for them to recycle. This is one of the strongest opinions throughout the survey. Therefore, infrastructure and awareness seem to be given for sports participants to recycle. When it comes to perceptions of resources available, most sports participants were quite divided on their opinions. However, they perceive volunteers to be the most accessible

compared to other countries, and it general assume quite a lot of accessibility of resources.

Most available	Least available
Volunteers	Funding
Knowledge and Information	Staff
Collaboration with the media	Partnerships with other organizations

Table 16. Most and least available resources as perceived by sports participants in Romania.

Sports Organizers

Sports Organizers in Romania had the most implementation (76.00%) of all countries in briefing staff on how to deal with trash during local sports events. Unlike the other countries, sport organizers in Romania also implement most often to provide information about proper recycling (52.00%). This probably relates to sport participants noticing efforts of waste-reduction. Here, experiences could be transferred to other countries.

Most implemented	Least implemented
Briefing staff on how to deal with trash during the event	Sufficient recycling stations
Highlighting locations of trash cans	Using reusable cups
Information about proper recycling	Using reusable plates and cutlery

Table 17. Most and least implemented waste-free strategies according to sports organizers in Romania.

In general, sports organizers in Romania claimed to have a lot of access to resources, with funding being the least available. This could be interpreted negatively, either as little self-awareness or as high availability that might just not be used. Either way, more of these resources should be communicated to the public.

Most available	Least available
Knowledge and information	Funding
Training and education	
Time	

Table 18. Most and least available resources according to sports organizers in Romania.

Challenges and Recommendations

Given that many participants notice efforts to reduce waste during local sports events in Romania, it seems that their national efforts to spread awareness are impactful. More research will be needed in the future to evaluate the challenges that organizations are still facing, given that infrastructure is also generally available for recycling. The most important factor is that there seems to be a disconnect of visibility between what organizers think and what participants notice. Therefore, the following five challenges have been identified and respective recommendations created:

1. Sports participants do not perceive efforts by sports organizations
 - Increase visibility of resources to sports participants
2. Adequate funding
 - Increase resource-sharing with other organizations
3. Lack of imagination for how to increase waste-free strategies
 - Increase experience of new waste-free strategies
4. Lack of visibility of partnerships to sports participants
 - Showcase partnerships towards sports participants
5. Lack of connection of sports participants to the challenges of sports organizations
 - Communicate challenges more openly to the public

8. Serbia

Total Responses	43
Age range	27-74
Target Groups	
Sports participants	49%
Sports organizers	51%
Gender	
Women	53%
Men	47%
Locations	
Capital cities	26%
Urban areas	63%
Rural areas	12%

Table 19. Survey Demographics of Serbia.

In Serbia, it is important to offer a wide range of different activities and provide activities to encourage healthy lifestyles. This should also reach every age range. Organizations see an emphasis on local sports events as positive development of their society.

Sports participants

In Serbia, the most sports participants in comparison to the other countries claimed they noticed waste at sports events *very often* (52.38%) or *always* (23.81%). However similarly to other countries, sports participants from Serbia were quite divided on noticing efforts to reduce waste at sports events. Similar to Albania, most Serbian sports participants *agreed* (52.38%) or *strongly agreed* (19.05%) there are not enough trashcans in their neighborhoods. Here, answers were generally similar to other countries: Serbian sports participants claim to know and care about recycling, and do not find it expensive or difficult to do so. However, most Serbian participants claimed that *nothing* (9.52%) or *little* (61.90%) is being done to reduce waste in their city. This is the highest out of all other countries and could relate to perceiving not enough infrastructure in their city to actually recycle. In general, Serbian sports participants do not think sports organizations have a lot of access to resources. However, all of the resources listed were quite equally perceived with only slight variations.

Most available	Least available
Volunteers	Partnerships with other organizations
Knowledge and Information	Funding

Table 20. Most and least available resources as perceived by sports participants in Serbia.

Sports organizers

Most Serbian sports organizers had similar opinions to other countries. It is important to them to reduce waste for their sports environment, and most agreed that they could implement the strategies they have for their sports events. Interestingly, only Serbia and Türkiye often collaborate with trash organizations during their events. In Serbia, it seems that while this is a great effort during sports events, this could be further developed to increase the public's opinion of infrastructure in their cities. Similar to other countries, Serbian sports organizers could also benefit from experiencing new strategies during sports events in order to be able to implement them.

Most implemented	Least implemented
Collaboration with trash organizations	Information about proper recycling
Briefing staff on how to deal with trash during the event	Using reusable cups
Highlighting locations of trash cans	Using reusable plates and cutlery

Table 21. Most and least implemented waste-free strategies according to sports organizers in Serbia.

Most strikingly, Serbian sports organizers *agreed* (40.91%) or *strongly agreed* (4.55%) that they have enough funding to implement waste-free strategies during their sports events. This is the highest out of all countries. Here then, strategies would not have to focus solely on improving funding opportunities. However, at the same time, sports organizers rated funding as the least available resource. It is therefore worth investigating how funding is being spent for sports events, and if there are particular opportunities that fund waste-free strategies. Additionally, strategies could focus on teaching and training. The least number of Serbian sports organizers *agreed* (27.27%) or *strongly agreed* (13.64%) that they have enough knowledge about recycling out of all countries. While participants claimed knowledge and time as an available source, this was much lower than other countries. Out of all

resources, staff and volunteers were the least available, according to sports organizers. Here, we can see a disconnect between what sports participants perceive and what sports organizers claim. If partnerships with other organizations are a strong factor in waste-free sports events, it should be made more visible.

Most available	Least available
Collaboration with the media	Staff
Knowledge and information	Volunteers
Partnerships with other organizations	Funding

Table 22. Most and least available resources according to sports organizers in Serbia.

Challenges and Recommendations

Given that a few perceptions differed between sports participants and organizers, strategies should focus on increasing the connection to communities and creating stronger relationships of understanding and participation. Additionally, many strategies that already exist in Serbia could be transferred to other countries as good examples. Therefore, the following five challenges have been identified and respective recommendations created:

1. Lack of visibility of partnerships to sports participants
 - Showcase partnerships towards sports participants
2. Lack of training and education for staff
 - Increase training and education for staff during events
3. Lack of imagination for how to increase waste-free strategies
 - Increase experience of new waste-free strategies
4. Lack of visibility of partnerships to sports participants
 - Showcase partnerships towards sports participants
5. Lack of connection of sports participants to the challenges of sports organizations
 - Communicate challenges more openly to the public

9. Türkiye

Total Responses	69
Age range	18-69
Target Groups	
Sports participants	68%
Sports organizers	32%
Gender	
Women	38%
Men	62%
Locations	
Capital cities	12%
Urban areas	80%
Rural areas	9%

Table 23. Survey Demographics of Türkiye.

In Türkiye, many initiatives focus on creating zero-waste strategies, including the Zero Waste Project initiated in 2017. Implementing zero waste management systems is steadily increasing (UNDP, 2021). Initiatives reach nation-wide and include also public institutions.

Sports participants

In Türkiye, the most sports participants across all countries *strongly agreed* (72.34%) that recycling was important to them personally. Similar to Serbia, most sports said that they notice waste at sports events *very often* (38.30%) or *always* (27.66%). Most sports participants claimed they know and care about recycling, and have enough space to do so. They also *disagreed* that it is expensive or difficult for them to recycle. Most *agreed* that there were not enough trash cans in their neighborhood.

In comparison to other countries, sports participants in Türkiye perceived collaboration with the media as least available to organizations. Volunteers were rated as most available. Interestingly, sports participants from Türkiye also perceived knowledge and information as quite unavailable to organizations, which was rated higher in other countries.

Most available	Least available
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Volunteers	Collaboration with the media
	Knowledge and information
	Partnerships with other organizations

Table 24. Most and least available resources as perceived by sports participants in Türkiye.

Most interestingly, sports participants from Türkiye thought the least of all countries that it was *very difficult* (0%) or *difficult* (6.38%) to organize waste-free local sports events. There is a strange perception of sports organizations in Türkiye from the participant side, where they do not see knowledge or collaboration, and yet they feel it is easy to implement waste-free strategies. This aspect should be explored more in-depth. This relates to the perception of difficulty of people to change their recycling habits: Turkish sports participants said it is *easy* (42.55%) or *very easy* (12.77%) for people to change their recycling habits, this is the highest for all countries.

Sports Organizers

In comparison to other countries, sports organizers in Türkiye claimed to implement information about proper recycling during their sports events the most. This is quite interesting if related to participants perception of knowledge and information. At the same time, briefing staff on how to deal with trash during sports events is least implemented out of all countries. Therefore, this could be a good starting point to increase training and information.

Most implemented	Least implemented
Collaboration with trash organizations	Briefing staff on how to deal with trash during the event
Information about proper recycling	Using reusable cups
Highlighting locations of trash cans	Sufficient recycling stations

Table 25. Most and least implemented waste-free strategies according to sports organizers in Türkiye.

This further relates to the perception of sports organizers in Türkiye that they have enough knowledge about recycling, perceived the strongest out of all other resources. In comparison to other countries however, Turkish sports organizers also feel that they have too many participants at their sports events to implement waste-free strategies. Additionally, it seems that Turkish sports organizers struggle more than other countries with having enough staff for their sports events.

Most available	Least available
Volunteers	Funding
Knowledge and information	Staff
Time	

Table 26. Most and least available resources according to sports organizers in Türkiye.

Similar to sports participants, sports organizers from Türkiye believe that it is *easy* (31.82%) and *very easy* (13.64%) for people to change their recycling habits. This is much higher than in other countries. Strategies to reduce waste at local sports events in Türkiye should focus on increasing active participation in how waste-free strategies look like and impact their community. It seems that there is an opportunity to connect directly to sports participants and involve them in effective strategies.

Challenges and Recommendations

There is an interesting relationship with the individual agency relating to organizing waste-free local sports events in Türkiye, because most respondents perceived people to change habits quickly. At the same time, there is a disconnect between the knowledge portrayed towards sports participants. Therefore, the following five challenges have been identified and respective recommendations created:

1. Sports participants do not perceive sports organizations to be knowledgeable
 - Increase visibility and communication of knowledge and information to sports participants
2. Lack of training and education for staff
 - Increase training and education for staff during events
3. Lack of imagination for how to increase waste-free strategies
 - Increase experience of new waste-free strategies
4. Lack of visibility of partnerships to sports participants
 - Showcase partnerships towards sports participants
5. Lack of participation from sports participants in waste-free strategies
 - Connect to sports participants to increase active participation in waste-free strategies

10. Collection of 10 Good Examples of Waste-Free Strategies

In addition to asking sports participants and sports organizers about their individual perceptions on local sports events and waste, the survey also included open-response questions about organizations they work with, they know, or they think are environmentally friendly. This database will be used in the other Work Packages in the project, building a network and connecting to other organizations for training.

Additionally, we asked sports participants in each country to list waste-free strategies they remember. This list was exhaustive, and also included specific organizations or sports events in each partner country. However, here we will collect 10 Good Examples of waste-free strategies that seem useful to all partners, and which could actually facilitate tackling the challenges identified.

1. *Provide opportunities for people to participate in #WithoutWaste sports events*
 - Cleaning sports environments together before and after an event
 - Providing common recycling events in which participants bring recyclable material (sometimes as an entrance fee)
 - Connecting trash clean-ups to routes and hikes
2. *Provide participation to increase ownership, community, and identity of local sports events*
 - Create common challenges together (such as collecting recyclable material together for a week)
 - Gamify the process, for example through micro competitions during a sports event with prizes (for example for separate waste collection)
3. *Provide adequate and engaging infrastructure during sports events for people to exercise correct recycling habits*
 - Providing different and sufficient recycling bins with descriptions or illustrations
 - Bringing own drinking bottles to events
 - Providing water dispensers
 - Adding deposits to be paid for materials that can be returned
4. *Provide adequate materials during sports events for participants to experience new waste-free strategies*
 - Using only recyclable materials for merch or equipment
5. *Provide fun, engaging, and informative displays to encourage recycling habits*
 - Distinctive signs with recycling information and locations

- Include the community in creating these displays (through art for example)
6. *Training different stakeholders in a fun, engaging, and participatory way to increase ownership and identity of making local sports events waste-free*
 - Training staff and volunteers to react and prevent littering during local sports events
 - Training organizations to implement placemaking methods to increase ownership
 7. *Communicating to the public and to organizations' networks to showcase the importance of waste-free local sports events and increase participation*
 - Communicate the responsibility to recycle for participants
 - Distributing information about recycling
 - Communicate the efforts made by organizations
 8. *Collaborating with the media to reach out to communities to increase engagement*
 - Presenting community-led awards to impactful organizations and projects
 9. *Increasing collaboration with other organizations to increase responsibility and the feeling of community connected to local sports events*
 - Tasking partner organizations and institutions during collaborations to make sustainable changes (i.e., put up relevant signage)
 10. *Creating new opportunities to experience novel waste-free strategies to encourage stakeholders to participate*
 - Funding opportunities
 - Raising money during events for charities concerned with environmental issues
 - More experiences of waste-free strategies (such as reusable plates, cutlery, cups, etc.)
 - A community around waste-free environments and sustainability (including a sense of belonging)

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12. Annex I: Handbook for Partners



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13. Annex II: Survey Questions



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