



## **BENCHES**

# ***Biodiversity, Ecosystems, and Nature Conservation Helped and Enhanced by Sports***

## **Work Package 4**

### ***Biodiversity knowledge and awareness in sport***

## **Deliverable 4.1**

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# 1. Introduction and objectives

The aim of the present report is to assess the level of knowledge and awareness of biodiversity issues within sports organizations. The analysis not only focuses on the practices currently adopted by sports clubs but aims also to assess potential barriers, drivers, and expected benefits derived from integrating actions aimed at raising awareness of the impact of sport on biodiversity and vice versa into corporate philosophies.

To achieve this objective, a survey was developed and distributed among managers of sport organizations, i.e., those directly responsible for such implementation. The survey act as a self assessment tool and as an opportunity of reflection on a complex topic such as biodiversity and how it can be successfully integrated into the everyday strategies and into the management of facilities and events. Moreover, it represents an opportunity to integrate already in place environmentally friendly and responsible plans with aspects more dedicated to biodiversity, fostering the commitment at every level of the organisations and between the stakeholders involved in the entire sport value chain.

The dependence on the environment and consequently on biodiversity has gained more ground among the sport industry and becomes mandatory in sports, like the ones surveyed, involved in BENCHES project, which relay on environment and on outdoor activities to be performed.

For this reason, the goal of task 4.1 is to create more awareness of the impact of sports on nature and its role in protecting biodiversity heritage, following principles of intra and intergeneration equity. Furthermore, this deliverable wants to evaluate feasibility of nature-based solutions and their adaptability to different sport disciplines, building consensus, proactivity and develop resilient strategy, while strengthening the interdependency between nature and society, building a

virtuous cycle where biodiversity becomes the central element of a revised competitive formula.

The report is structured as it follows. After a brief introduction regarding the analysis of the link between sport and biodiversity awareness and how it is tackled inside sport society, two sections are dedicated to the survey, one for the method adopted and one for the results. The report is concluded by a summary of the main results drawn from the analysis, as well as takeaway messages and how they suit BENCHES goals.

## 2. Biodiversity protection and sport management

The bidirectional relation between sport and nature (McCullough, 2019) is a well-established principle between the field of sport management. Indeed academia has deeply explored this link analysing the direct influence of sport industry on the environment (Daddi et al.,2022;Kellisong and Hong 2015), as well as the impact that climate change as on sports in terms of modifying the dynamics and the management of the entire value change and of the stakeholders involved (Dingle et al.,2018; Orr and Schneider,2018).

In this changing context it is fundamental for sport organisations individually and for the entire sector to address the issues from a sport ecology perspective (McCoullough,2023) and learn how to readapt its business formula to the new climatic condition and assume a proactive role in the environment preservation, including biodiversity protection. Acquiring awareness regarding the impacts that sports have on biodiversity (Brownlie,2019) is the fundamental prerequisite to create a strategic approach that encompasses different biodiversity issues and consent the creation of key actions and practices that can be adopted and shared between the field of sport management. The Internal Union for Conservation of

Nature(IUCN)' report (Kass, 2020) and the more recent Sport for Nature framework and its 4 main principles (2023) have raised even more the attention on the necessity to implement in a practical and simple way, actions aimed to contribute to biodiversity protection, avoiding damage to natural habitats, reducing risks, regenerate nature and educate and inspire positive change.

To build socio economic business model where biodiversity is a competitive variable and not a personal choice even sport organisations are called to play their role (Arbieu,2025). The knowledge of the impacts, effective and potential, and the consequent actions that can be implemented to support wildlife, are the only way to maintain the privilege to keep performing sport in the natural environment, and guarantee this right also to future generations.

### 3. Methodology

To achieve the goals of the task we have developed a flexible survey since BENCHES targets multiple sports and consequently, different ecosystems and environments, including terrestrial and mountain (during different seasons), fluvial and freshwater, marine and urban green spaces.

All the questions have been measured trough a 5-point Likert scale ranging from 1=Strongly disagree to 5= Strongly agree. Moreover, for the sections related to the management of facilities and events an open question has been added to investigate potential actions not provided in the list. The survey has been shared between the beginning of July and the end of September 2025 thanks to the help of the project partners.

The questionnaire has been articulated into 8 major sections that target all the aspects mentioned in the introduction and that are going to be briefly explained:

- **Level of environmental sustainability awareness:** rating the importance of statement like *“I consider the environmental impact when making decisions about facilities, equipment, or travels in my organization”*
- **Sustainability management competence:** How sustainability management competence is developed in your organisation? *E.g. acquiring knowledge form external sources like federations/universities, building partnerships with external stakeholders*
- **Biodiversity drivers:** In your opinion, what could drive the decision to adopt actions to protect biodiversity in your organisations or during the sport events? *E.g. Sponsors, Guidelines and procedures*
- **Biodiversity barriers:** What are, according to your opinion, the main challenges or barriers to the implementation of biodiversity protection practices in your organisations? *E.g. Lack of institutional support/public incentives, difficulty in the identification/ availability of biodiversity friendly products and services*
- **Biodiversity management of the organisation/event:** What kind of biodiversity management actions are you implementing in your organisation/events? *E.g. sustainability manager has in his roles and responsibilities biodiversity protection, integration of biodiversity management in staff training program*
- **Biodiversity management of sport event/ facilities:** Does your organisation adopt the following actions to promote biodiversity protection in the management of your events or facilities? *E.g. adoption of solution to reduce impact on water, collect evidence about traceability of products*
- **Expected benefits:** Which benefits does your organization expect from implementing biodiversity protection practices? *E.g. preserve natural resource, control or mitigate environmental risks*
- **Organisation information**

To maximize the response rate, each of the above-mentioned sections did not contain more than one multiple-choice question (apart from the section that included an open-ended question). Furthermore, the survey was also **translated** into Italian, as suggested by the consortium partners directly responsible for its dissemination, to facilitate engagement and consequently a greater number of responses.

To give a better representation of the articulation of sections in the box below (BOX 1) we reported some sample questions for different sections.

BOX 1: sample questions from the survey

Section 1: Level of environmental sustainability awareness

**Please rate the following statements:**

(1= strongly disagree-5=strongly agree)

- I consider the environmental impact when making decisions about facilities, equipment, or travels in my organization
- I promote sustainable practices (e.g., recycling, energy efficiency, reducing waste) as a priority in my management approach
- Our organisation encourages athletes, staff, and fans to adopt environmentally responsible behaviours
- Our organization takes part in or supports environmental initiatives (e.g., green events, carbon offset programs, local clean-up projects)
- I stay informed about environmental policies and trends that could affect the sports sector

Section 3: Biodiversity drivers

In your opinion, what could drive the decision to adopt actions to protect biodiversity in your organisations or during the sport events? **Please rate the following statements:**

(1=not important at all; 5= extremely important)

- Athletes
- Organising Committee
- Spectators
- Sponsors
- International and National Federations
- Mandatory legislation (at the regional, national and European levels)
- International sustainability standards
- Local authorities
- Good examples and practices applied in other events

## BOX 1: sample questions from the survey

### Section 5: Biodiversity management of the organisation/events

What kind of biodiversity management actions are you implementing in your organisation/events?

**Please rate the following affirmations:**

(1= strongly disagree-5=strongly agree)

- In the environmental assessment of our events/organisations we consider impacts on biodiversity
- We have mentioned the protection of biodiversity in our sustainability strategy
- We have an action plan, and it lists some actions focused on protection of biodiversity during events
- The sustainability manager has in their roles and responsibilities biodiversity protection
- We have integrated biodiversity management considerations into EMS (Environmental Management System), or we have specific procedures to manage biodiversity in our events/organisations
- We have delivered biodiversity management in our staff training programmes
- We have provided or participated in webinars on biodiversity management
- We collaborated with external stakeholders (e.g., NGOs, natural park managers, biodiversity experts) to improve our capability in biodiversity management
- We adopt actions aimed to select suppliers avoiding the use of endangered species or products that could increase the risk of deforestation

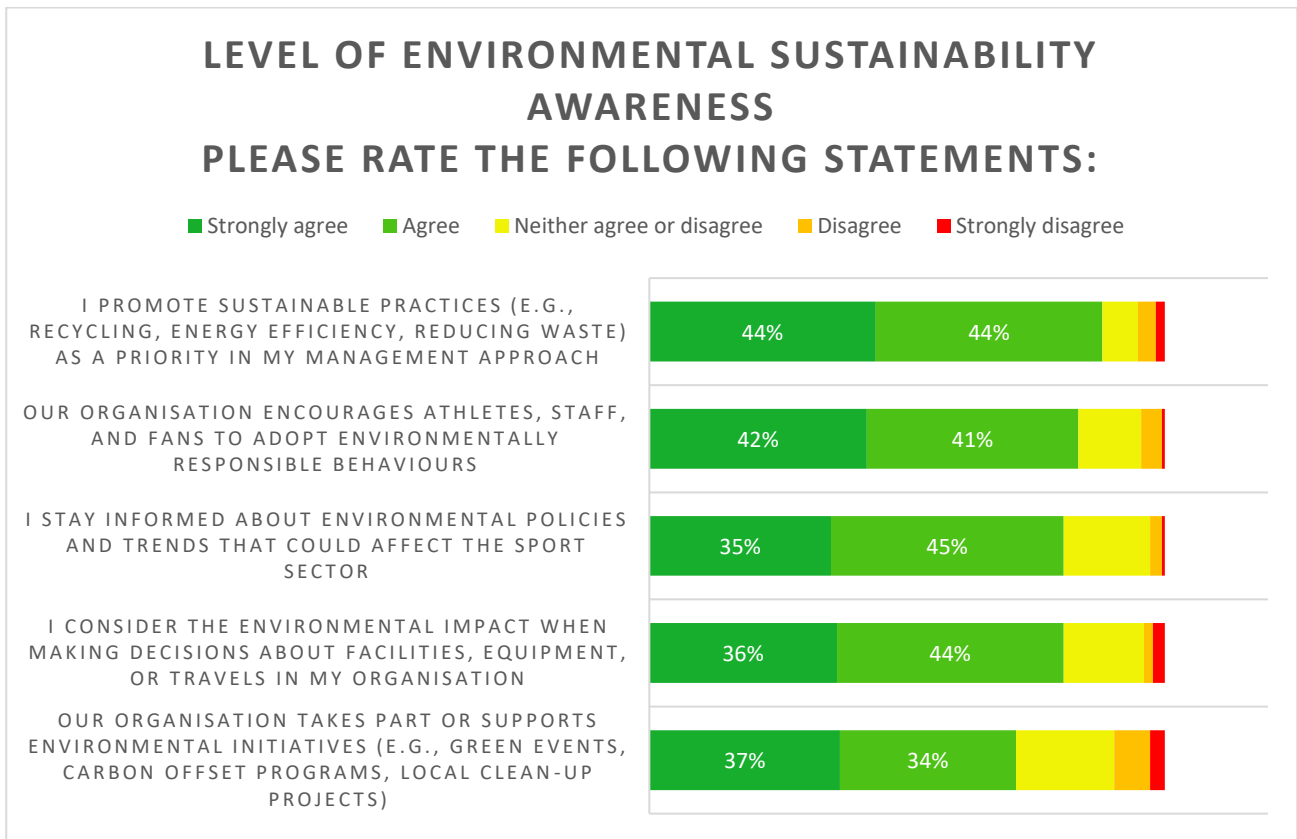
## 4. Survey Results

The survey has gained a total of **173 responses** considering the English and the Italian version. For each section we are going to provide a brief description and analysis of the results obtained.

## Level of environmental sustainability awareness

The first section aims to assess the actual state of the art, the current level of readiness regarding environment sustainability and the responsibility for nature protection of the management of the sport societies by making them rate the affirmations indicated in the following graphs.

Considering the total answers (n=173) most of the respondents indicate a high level of knowledge regarding environmental sustainability inside their organisation as shown by the following graphs (Figure 1)



**Figure 1: Current level of sustainability awareness (n= 173)**

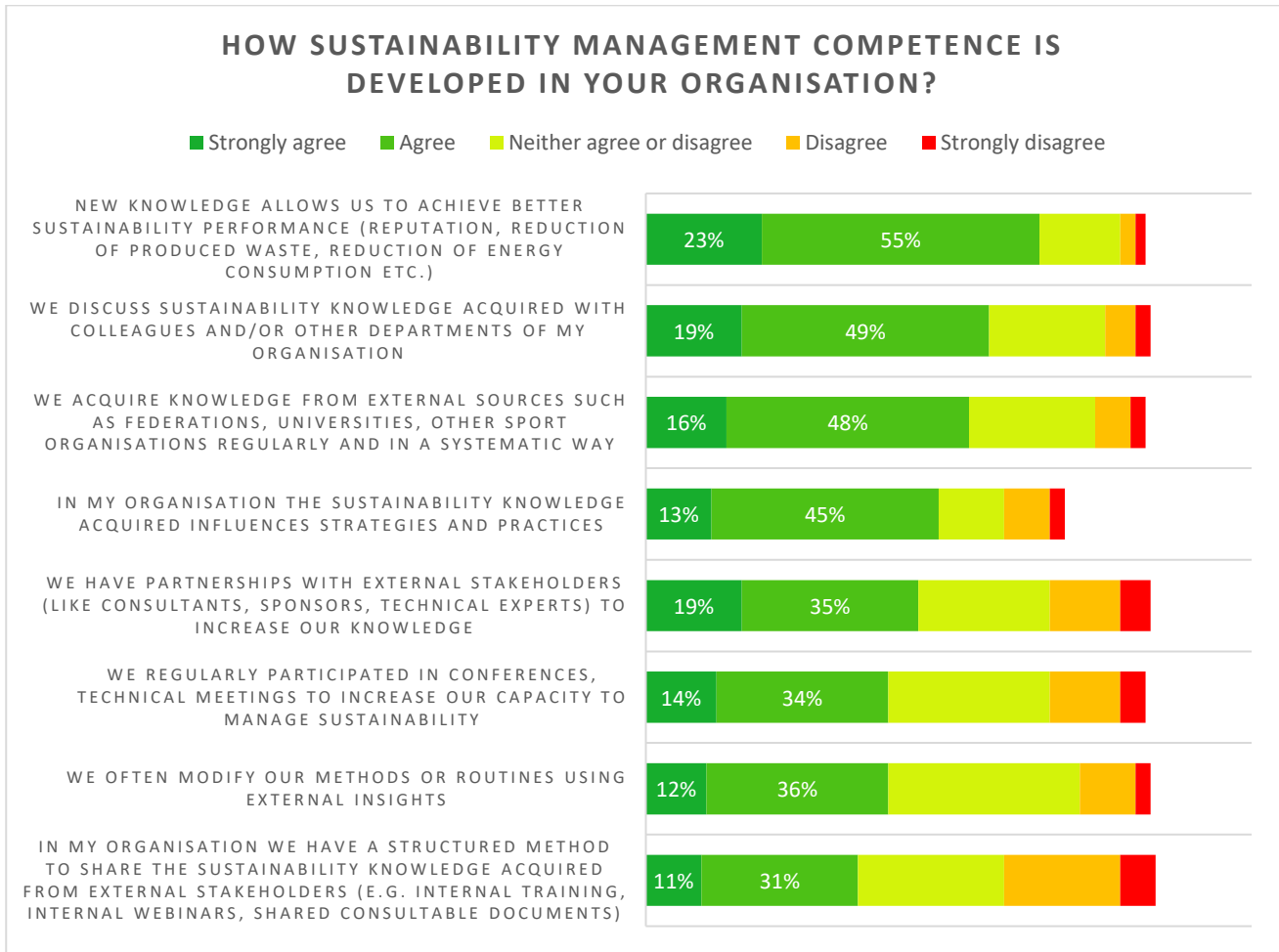
The statement which gained the **highest level of agreement** is the one related to **promotion by the organisation of environmentally responsible behaviour among staff, athletes and staff**, indicating a high level of commitment related to environmental sustainability aspects, while the **lowest level of agreement** is related to the affirmation linked with the involvement of organisations with

**environmental initiatives like green events or local clean up projects.** This gives room of improvement in terms of organisations external image and reputation between stakeholders. **Participation to public events** related to environmental sustainability could act as a leverage for the improvement of biodiversity knowledge as well as an occasion to build consensus, strengthen the networks and sharing best practices for capitalize new knowledge with the one already owned.

### Sustainability management competence

This section is dedicated to the inquiry of the sources and methodologies adopted by sport organisation to acquire sustainability **management knowledge, the level of systematicity of this process and the perception of the benefits derived by it.**

The graph below (Figure 2) shows the percentage of respondents who totally agree or agree with the affirmation aimed to investigate how sustainability management competence is developed in their organisations.



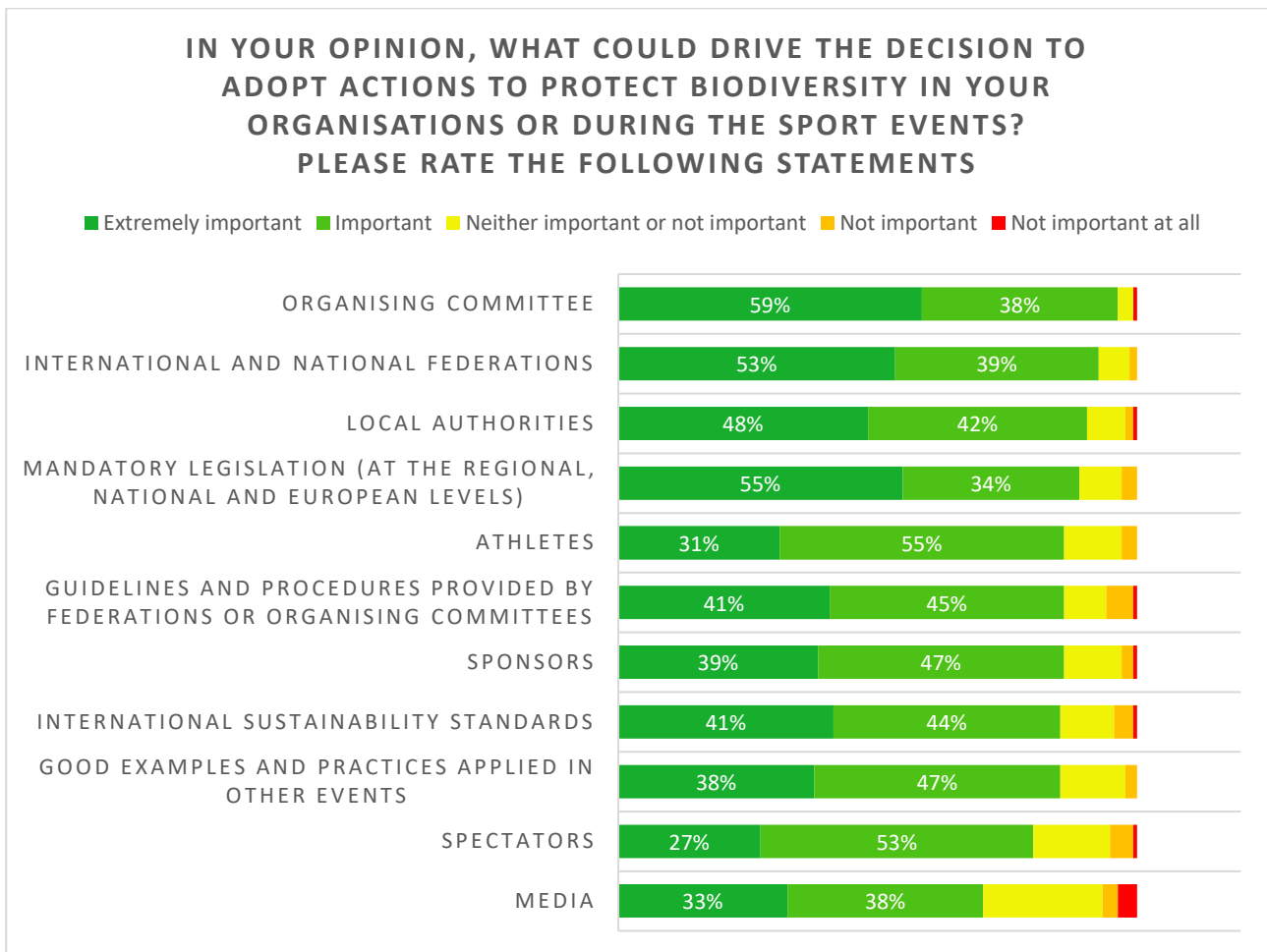
**Figure 2: Sustainability management competence analysis (n= 146)**

**The respondents agree on the idea that sustainability management impacts positively on organisation performances (78%).**

The podium, in terms of agreement, of the sources related to the development of sustainability competences is occupied by the **internal discussion (68%)**, followed by the **systematic interaction with external sources like universities, federations and other sport organisations (64%)**. The **weakest category is related to the creation of a structured methodology based on formal training of staff to constantly update skills and capacities (42%)**. The graph also evidences a **limited participations to dedicated conferences and meetings (48%)**, that instead can act as an important source of new knowledge.

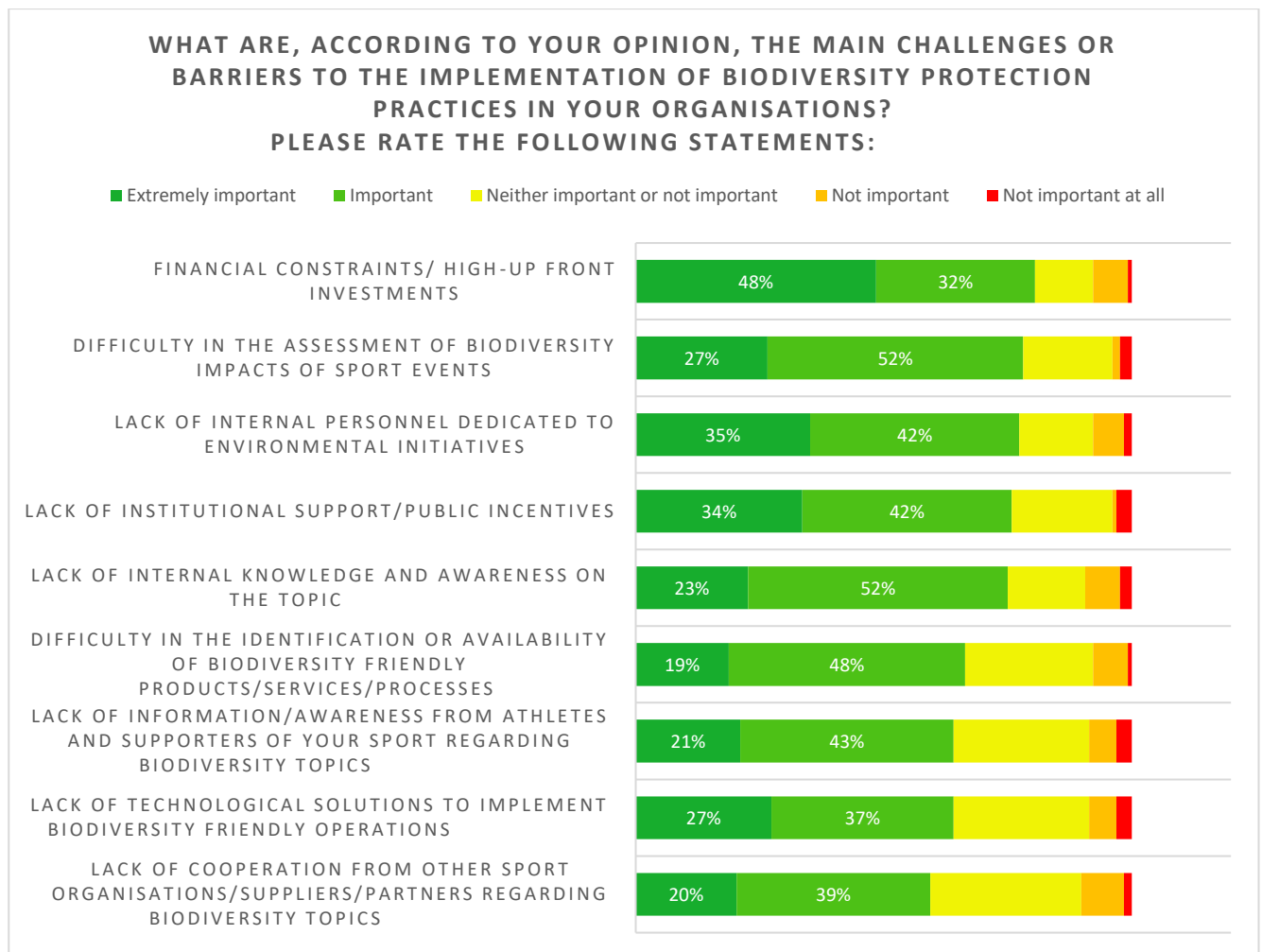
### Biodiversity drivers and Biodiversity barriers

Focusing on biodiversity and the elements that can drive its integration inside sport companies strategies (Figure 3) the most important ones, i.e. elements that gained the highest level of agreement (n. of respondents who totally agree or agree) are **organising committee** of the events, **international and national federations** and **local authorities**, while the less important, according to managers opinion are media and spectators.



**Figure 3: Biodiversity drivers (n=135)**

In terms of barriers (Figure 4) most of the respondents (80%) agree that **financial constraints are the strongest barriers, followed by difficulty in the assessment of biodiversity impacts of sport events (78%) and Lack of internal personnel dedicated to biodiversity management (77%).**



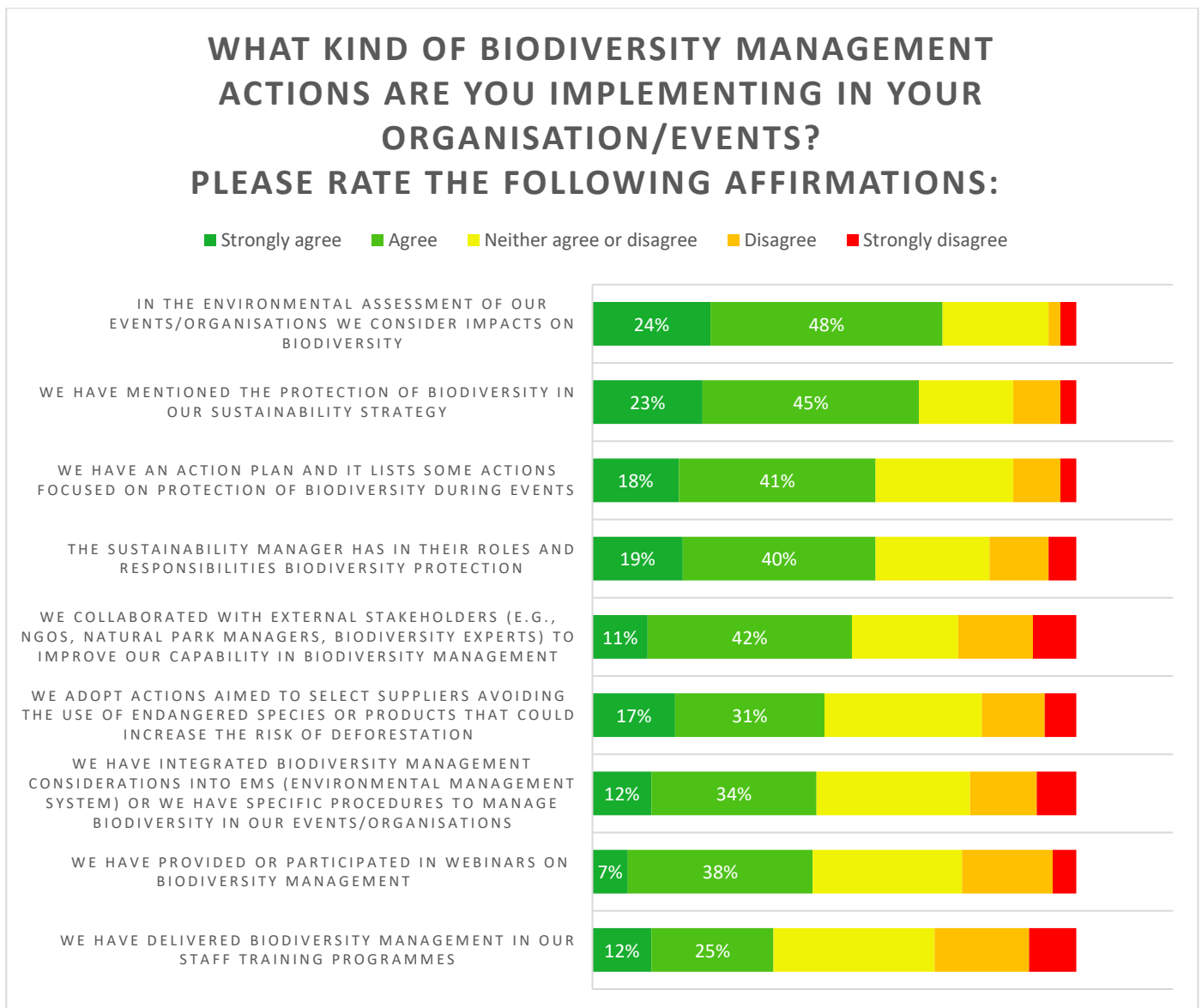
**Figure 4: Biodiversity barriers (n=128)**

The least important barriers are the lack of cooperation between sport organisations, lack of awareness of biodiversity friendly technological solutions and lack of commitment of athletes and supporters considered important, respectively gaining agreement by the 64% and 59% (for the last two items) of

the respondents. These two sections (drivers and barriers) are particularly important since they can guide the investment decisions and the general efforts of organisations towards the variables that weight the most in terms of biodiversity awareness raising activities.

**Biodiversity management of the organisation/event**

From this section we can draw some interesting conclusions, according to the level of agreement (totally agree or agree) of the respondents (Figure 5).



**Figure5: Biodiversity actions implemented in organisation or events (n= 123)**

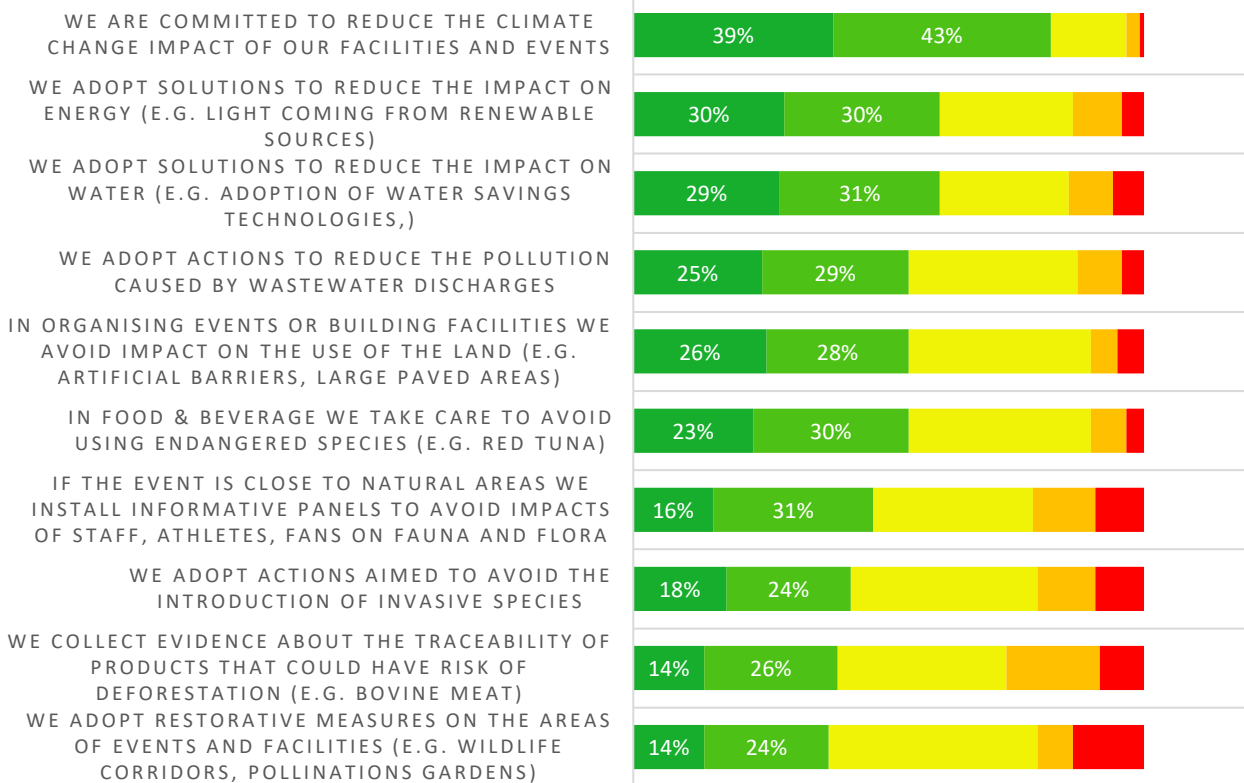
Despite the **strong consideration of biodiversity criteria during the events (72%)** and in the **sustainability strategy (68%)**, the **low importance attributed to biodiversity in terms of systematic inclusion into staff training programs (37%)** and **regular participation to webinars (45%)**, we are able to evidence a **scarce level of systematicity**, that has been also evidenced in the previous sections of the surveys, when it comes to integrate biodiversity actions into practical organisational aspects. Sport organisations should probably increase the effort dedicated to formation of the staff, establishment of clear procedures and participations to learning occasions such as webinars.

#### Biodiversity management of sport event/ facilities

In terms of facilities management the podium is described by the following graph (Figure 6), with majority of respondents **attributing importance to actions defined to reduce climate change, adoption of water saving practices and reduction of energy consumption.**

**DOES YOUR ORGANISATION ADOPT THE FOLLOWING ACTIONS TO PROMOTE BIODIVERSITY PROTECTION IN THE MANAGEMENT OF YOUR EVENTS OR FACILITIES? PLEASE RATE THE FOLLOWING STATEMENTS:**

■ Strongly agree   
 ■ Agree   
 ■ Neither agree or disagree   
 ■ Disagree   
 ■ Strongly disagree



**Figure 6: Biodiversity management of sport event/facilities (n=115)**

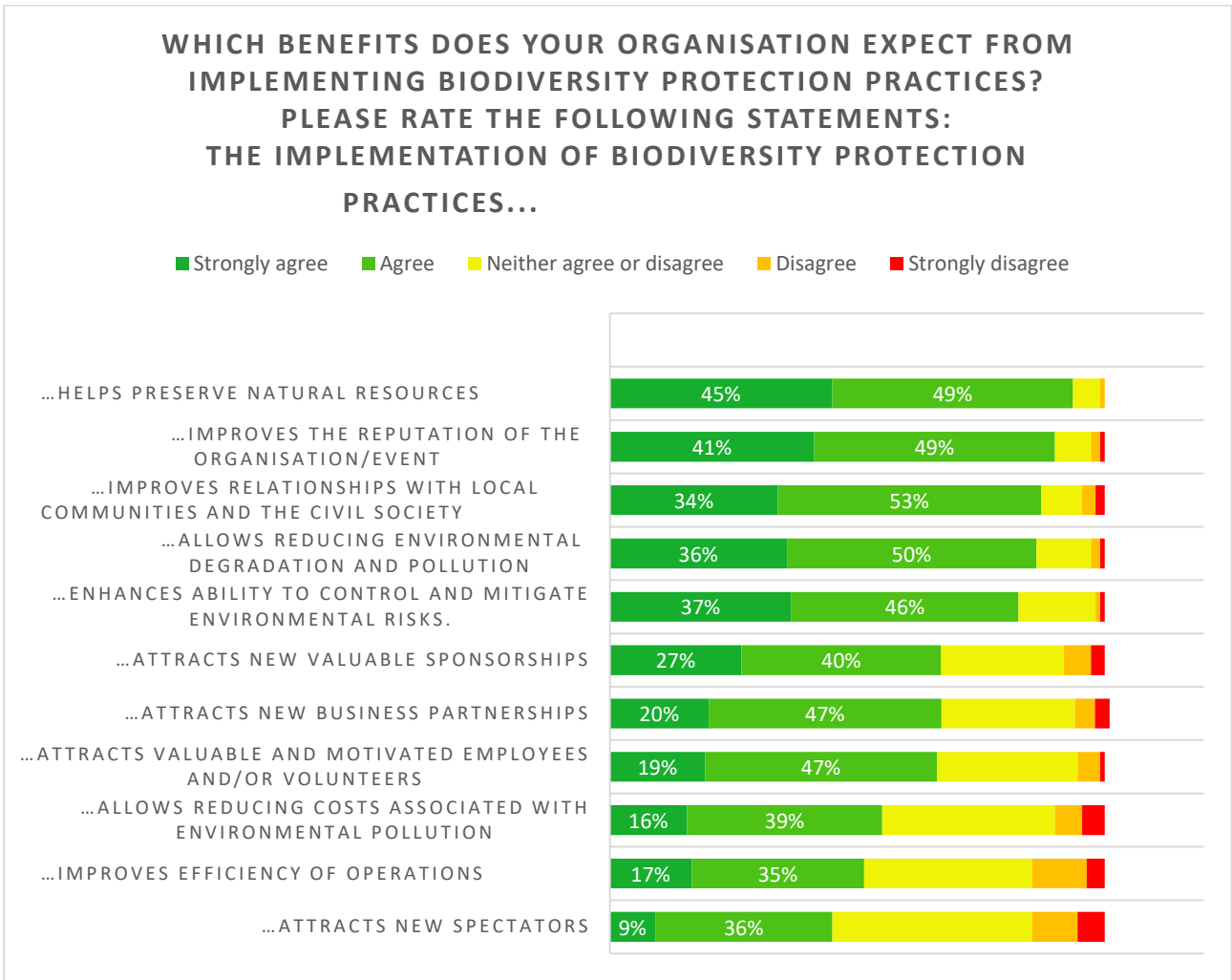
Moreover, this section includes an open question that aims to identify other best practices adopted by management of sport organisations which have not been included in the fixed list provided in the survey.

Between these, one of the most recurrent is the definition of awareness raising campaigns, declined into some specific actions like informative tours of structures, campaign related to waste disposal, tailor made campaign for younger supporters, involving schools and local authorities and specific action plans.

Other actions are related to selection of hotels at a walk distance from competition venues, protection of nature close to the venue/arena of the competition, tree planting for terrestrial environment and Posedonia protection for marine biomes, not anchored buoys to reduce the disturb of marine wildlife and general restorative post events actions aim to mitigate the impact caused by the presence of crowd and temporary venues.

### Expected benefits

The last section before the organisation information is related to the expected benefits that management of sport organisation associate to fostering of biodiversity practices inside their strategic and operative practices (Figure 7).



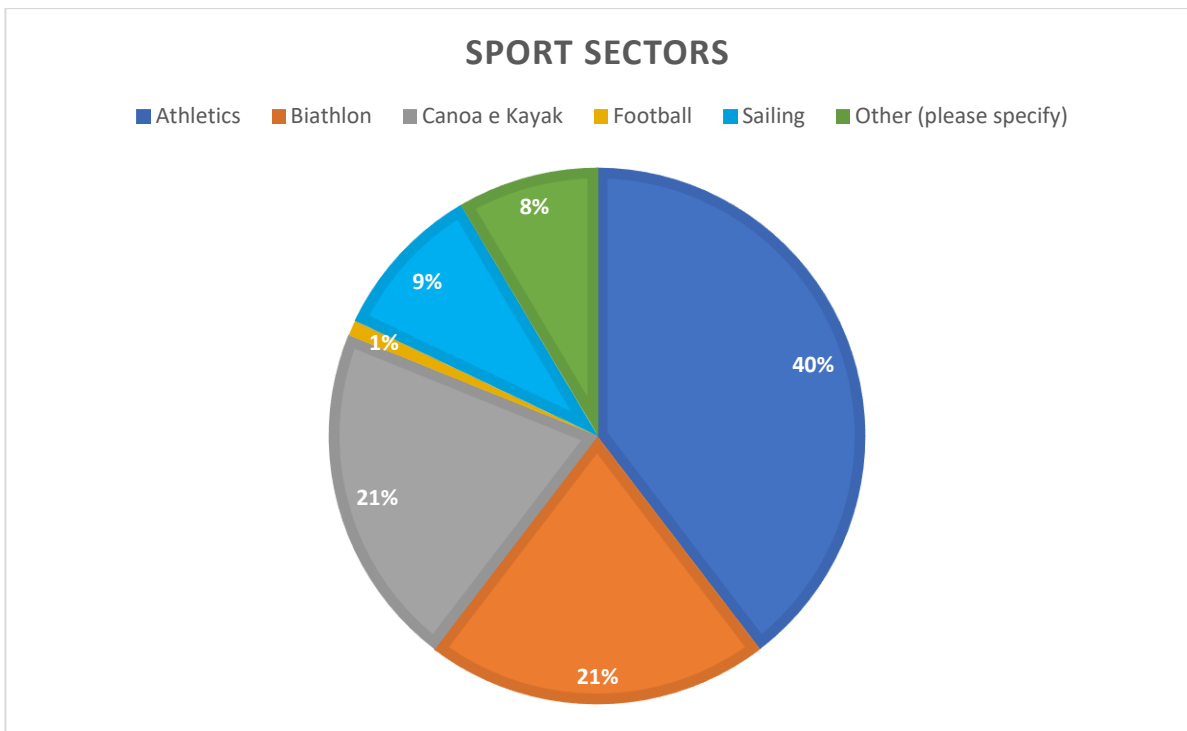
**Figure 7: Expected benefits related to introducing biodiversity management (n=109)**

These benefits, according to management expectations (respondents totally agree or agree), are majorly connected to **nature preservation** (94%), **better reputation** (90%) and **improved relationship with local communities** (87%), while benefits in terms of internal efficiency (52%) and attraction of new spectators (45%) are the less considered.

**Organisations Information**

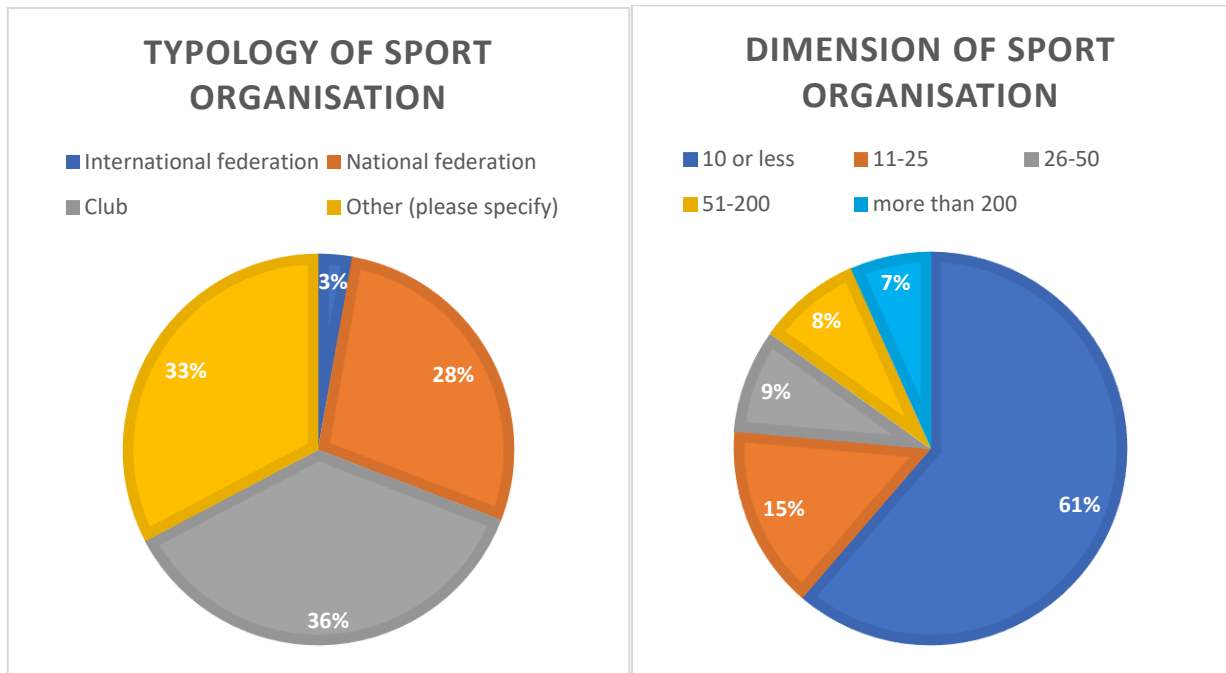
Since the survey follows an elite approach by targeting the high managerial level of sports organisations, we have a limited number of responses for each country (usually 1). Despite this, we have reached a high global representativeness since the respondents (n=105) come from 5 continents, with the majority coming from Italy (32 respondents).

The most represented sport sector (Figure 8) is Athletics (40%).



**Figure 8: Sport sector (n=105)**

The most common typology of sport organisation is small clubs (36%) with less than 10 dependents, while the category “other” is majorly formed by event organisers (Figures 9-10).



**Figure 9-10: Typology and dimension of sport organisation (n= 105)**

## 5. Discussion and conclusions

The survey results reveal that while environmental awareness is widely consolidated among sport organizations, biodiversity still represents an emerging and only partially integrated dimension of sustainability management.

When focusing specifically on biodiversity drivers, the most influential actors are the organizing committees, international and national federations, and local authorities. This finding underlines that **institutional and regulatory pressure is the main enabler** of biodiversity-oriented change in sport. Spectators and media, instead, are perceived as less influential, confirming that public awareness and communication still play a limited role in promoting biodiversity action.

Conversely, the major barriers include financial constraints, the difficulty of assessing biodiversity impacts, and the lack of internal personnel dedicated to environmental or biodiversity management. These obstacles demonstrate that **organizations often lack both the technical expertise and the resources**

necessary to operationalize biodiversity strategies, even when the awareness of their importance is present.

In terms of concrete management practices, a consistent number of organizations declare that they consider biodiversity impacts in their environmental assessments and that biodiversity is mentioned within their sustainability strategies. However, the inclusion of biodiversity in Environmental Management Systems, staff training, or internal procedures remains weak. Webinars, workshops, and staff capacity-building activities are still sporadic, confirming that **the transition from awareness to action is at an early stage.**

Regarding facility and event management, most organizations focus on mitigating climate change impacts and improving resource efficiency—especially in energy and water use—rather than on biodiversity-specific interventions. Direct actions such as preventing invasive species introduction, ensuring product traceability, or implementing restorative post-event measures are much less widespread. Biodiversity protection is therefore often pursued indirectly, as a by-product of general environmental measures, rather than as a structured and measurable goal.

The perception of benefits further reflects this positioning. Respondents associate biodiversity practices mainly with reputational advantages, improved relationships with local communities, and nature preservation. Fewer organizations link biodiversity protection to economic efficiency, innovation, or attractiveness for sponsors and spectators. This suggests that **the business case for biodiversity in sport remains underdeveloped**, and biodiversity is still perceived as a moral or reputational matter rather than a strategic driver of performance and resilience.

Overall, the findings depict a sport sector in transition: one that has achieved a good degree of environmental awareness but is still building the competences, structures, and resources required to act systematically on biodiversity.

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