

The Role of Sport in the Realization of the UN 2030 SDGs: A Review of World Sailing Sustainability Education Programme

Liwen Ma, Yan Wang^{1*}

School of International Sports Organizations, Beijing Sport University, Beijing 100084, China

ABSTRACT

World Sailing's Sustainability Agenda 2030 outlines how the sport will contribute to the SDGs. The Agenda is split up into World Sailing's six main operational areas with a total of 56 different targets. They are committed to youth education, reduce plastic use, equipment recycling, and marine protection through educational projects, public welfare activities, international forums. A single case study methodology was used in this study to provide an in-depth understanding of the phenomenon. In this study we found that the World Sailing and World Sailing Trust play an exemplary and leading role in the field of sustainable development. The Sustainability Education Program materials will ensure the next generation of sailors learn about wider environmental issues that can affect the sport as well as those areas where the sport can make a positive impact. However, it is obvious that the appeal and action of international sport federation is limited, and it is difficult to form a wider group of participants. More is to arouse people's awareness of protecting the earth through sailing sport.

Keywords: World Sailing; Sustainable Development; Youth Education; International Sports Federations

^{1*} Correspondence writer

1 Introduction

In recent years, the earth has been suffering from frequent and intense extreme weather events, rising sea levels and accelerated loss of biodiversity. The harmonious coexistence of man and nature has been considerably endangered. Ecological problems have severely hampered the realization of the United Nations' Sustainable Development Goals (SDGs).

World Sailing takes sustainability very seriously and is considered a leading International Sports Federation in promoting sustainability at every stage of the sport. On World Earth Day 2020, World Sailing in partnership with the World Sailing Trust and The Ocean Race have launched the first in a series of educational resources to support World Sailing Sustainability Agenda 2030. The materials will ensure the next generation of sailors learn about wider environmental issues that can affect the sport as well as those areas where the sport can make a positive impact. The theme throughout is combining key sailing terminology with environmental issues whilst learning about some of the exciting events and boats in the sport that can inspire the next generation of sailors.

The Sustainability Education Program materials have been split into six topics: 1. Race with World Sailing, learn about different kinds of events and boats; 2. Resources & Climate Change; 3. Navigating Wildlife & Biodiversity; 4. Reducing Waste; 5. Oil & Fuel; 6. Boat

Cleaning & Maintenance. To expand the reach of the education program, World Sailing will work with its Member National Authorities (MNAs), Class Associations and Special Events, to co-brand the materials and launch directly to their membership, and the International Optimist Dinghy Association (IODA) have already adopted and tested the educational resources.

The World Sailing Trust is a global charity established to promote participation and access, support young sailing athletes and safeguard the waters for future generations. The World Sailing Trust was set up by World Sailing, which as the global governing body for the sport, is uniquely positioned to influence and affect change across the global sailing community.

People and Planet are the two core themes of the World Sailing Trust, targeting these two aspects, it has launched 7 special projects: SailGP Inspire, Women in Sailing, World Sailing Ocean Heroes, Education Sustainability Materials, Sustainable Boating Guide for Charters, Sailing Club Sustainability Resources and Carbon Fiber Circular Demonstration Project. More than half of the projects are all related to environmental protection and sustainable development. It is enough to demonstrate the importance and efforts World Sailing Trust has made in sustainability. IOC Climate Action Awards launched in 2022 by the International Olympic Committee (IOC). World Sailing has been shortlisted for two IOC Climate Action Awards

2023: Climate Action & Sustainable Travel and Climate Action & Innovation in recognition of its outstanding commitment to sustainability. Both categories highlight World Sailing's efforts to reduce the environmental impact of the sport.

This study will take World Sailing Sustainability Education Program as an example, because sailing is a highly dependent sport on the natural environment. All forms of sailing depend on the availability of clean, healthy waters, primarily oceans and seas but also rivers, lakes and inland waterways. To summarize how sailors and the sailing community to promote sustainability through youth education by facing an unprecedented crisis.

2 Literature Review

International organizations, as the main actors of global governance, promote the practical process of sustainable development goals through multidimensional governance models (Guo, 2013). Scholars usually emphasize the role of intergovernmental international organizations (IGOs) with the United Nations as the main framework, such as UNESCO, the World Health Organization, and the World Food Program, in promoting educational equality, coordinating public health resources, and ensuring food security (Hans-Joachim et al., 2021). Non-Governmental Organizations (NGOs) are often considered insignificant peripheral organizations in international affairs, but from the perspective of actual contributions, their roles are actually complementary. Intergovernmental international organizations mainly play a coordinating role in building bridges and creating platforms for policy formulation, while international non-governmental organizations play the advantages of action and depoliticization that intergovernmental international organizations lack (Pang, 2016).

International sports organizations are an important component of the international non-governmental organization system (Chen, 2003) and the scholars generally regards the International Olympic Committee (IOC) as the plenipotentiary representative of international sports organizations, and studies its positive contributions in maintaining world peace, promoting gender equality, promoting the right to physical health, and protecting vulnerable groups (Yang, 2008). However, there are few studies on the participation of International Sports Federations (IFs) in the United Nations 2030 Sustainable Development Goals. Therefore, we chose the World Sailing, a highly dependent International Sports Federation on the natural environment, as the research object and explored the contributions on sustainability

made by this federation.

3 Methods

A single case study methodology was used to provide an in-depth understanding of the phenomenon under study (Yin, 2018). In this case, how does World Sailing Sustainability Education Program work is the focus of this study. The theme throughout is combining key sailing terminology and the materials have been split into six topics: 1. Race with World Sailing, learn about different kinds of events and boats; 2. Resources & Climate Change; 3. Navigating Wildlife & Biodiversity; 4.Reducing Waste; 5.Oil & Fuel; 6.Boat Cleaning & Maintenance. Finally, summarize the content of the materials and evaluate their contributions to sustainability goals.

4 World Sailing Trust and Sustainability Education Program

4.1 World Sailing Trust

The World Sailing Trust is a global charity established to promote participation and access, support young sailing athletes and safeguard the waters for future generations. The World Sailing Trust was set up by World Sailing, which as the global governing body for the sport, is uniquely positioned to influence and affect change across the global sailing community. By using this collective influence, and working in partnership with individuals and organizations around the world, the World Sailing Trust has the opportunity to inspire greater participation across the globe and establish far-reaching partnerships to safeguard the future of sailing and our planet's waters (Jiang, 2023). The World Sailing Trust has closely aligned its goals with the SDGs and World Sailing's Sustainability Agenda, both setting specific targets to be achieved by 2030.

People and Planet are the two core themes of the World Sailing Trust, targeting these two aspects, it has launched 7 special projects: SailGP Inspire, Women in Sailing, World Sailing Ocean Heroes, Education Sustainability Materials, Sustainable Boating Guide for Charters, Sailing Club Sustainability Resources and Carbon Fiber Circular Demonstration Project. More than half of the projects are all related to environmental protection and sustainable development. It is enough to demonstrate the importance and efforts World Sailing Trust has made in sustainability.

4.2 Sustainability Education Program

In November 2022, the World Sailing announced Sustainability Policy, including sustainability strategy, which provides the framework to maximize the

opportunity presented by the relationship between nature and the sport of sailing as well as significant issues that have been identified. This has led to the creation of the following objectives: 1. Protect and enhance sailing's waters and the wider water environment. 2. Promote research into the impact of sailing on the environment. 3. Encourage a robust approach to sustainability across the sport and its supporting affiliated industries. 4. Minimize World Sailing's carbon footprint and promote resource efficiency across the sport. 5. Create a sound economic base for World Sailing and the Sport. 6. Provide and promote safe and collaborative working environments. 7. Develop diverse and inclusive operations, promote sailing in an open and accessible way to increase participation. 8. Communicate the benefits and importance of sustainability and facilitate stakeholder engagement in delivery of this strategy.

To achieve these objectives, World Sailing has implemented a sustainability management system utilizing the ISO 20121 and continually improve its effectiveness (Chen, 2022). As an International Federation, World Sailing has a unique opportunity to support and influence sustainability management across areas of operation from events to technical standards and will act as a leader in the sustainable sport movement working with Member National Authorities and other Internal Federations.

World Sailing's Sustainability Agenda 2030 - a plan describes changes within sailing that will help achieve 12 of the United Nations Sustainable Development Goals and maximize the positive effect that sailors can have on the environment. The agenda was put together by a sustainability commission made up of experts and after lots of feedback it was adopted in May 2018 by all 145 member national authorities (Fan & Lu, 2022). There are 56 separate targets grouped under 6 recommendations. This education program contributes to the recommendation to 'Deliver Sustainability through Training'.

The Sustainability Education Program materials were developed with The Ocean Race, capitalizing on the success of their own program in the 2017-2018 edition of the race, and have been split into six topics each comprising of a booklet, trainer's guide and worksheet for age groups 6-8, 8-10 and 10-12. Sustainability Education Program resources are free to use and are broken down into six topics.

4.2.1 Race with World Sailing

Sailing is part of a global movement to create change and positive impact and World Sailing wants its sailors to share their love of sailing, while working together to protect the waters of the world. The United Nations

Sustainable Development Goals were published in 2015, there are 17 goals that 193 countries have committed to. In this topic: Race with World Sailing, will work with the following goals: Quality Education, Sustainable Consumption and Production, Life Under Water and Life on Land. World Sailing's Sustainability Agenda 2030 is also aligned with the 5 focus areas of the IOC's Sustainability Strategy: Infrastructure and natural sites, Sourcing and resource management, Workforce, Mobility and Climate.

In this topic some of the top sailing races, the type of boats that are raced in these events and the skills need to be a top sustainable sailor will be introduced. Olympic Summer Games, America's Cup, The Ocean Race (formerly known as the Volvo Ocean Race), SailGP, Para World Sailing and eSailing World Championship are the main top sailing races. In partnership with Virtual Regatta, the eSailing World Championship was launched in 2018, and will be held every year. In the first year, there were 170,000 players from 74 countries! It is aimed at everyone from expert sailors to sport gamer and players are able to compete in as many races as you want, online, for free. These regattas will allow players to accumulate points to establish the eSailing World Rankings. Laser, Finn, Laser Radial, 49er (skiff), 49er FX (skiff), iQFOIL, Nacra 17, VO65, IMOCA 60 and Formula Kite are the types of boats raced in above events.

Yago Lange is an Olympic sailor in the skiff (49er) class, he is one of the leaders in the Olympic boat class park and an environmental activist who focuses on protecting our ocean from plastic pollution. He highlights positive, sustainable action happening among the sailing community, but isn't afraid to bring attention to races and events where he sees too much plastic being used.

4.2.2 Resources & Climate Change

Climate change is the long-term climate pattern which includes cold and warm changes. At the moment the Earth's atmosphere is warming up. This is caused by something called 'the greenhouse effect'. Greenhouse gases are the types of gas that act as this blanket. Carbon dioxide (CO₂) is the most common, and even though it occurs naturally, the problem is that humans have been creating much more of it, meaning the warming effect is increased.

In the last 100 years, the planet has warmed up by an average of 1°C, which has had a big impact on people, plants and animals all over the world. Weather is becoming more extreme and unpredictable, which means that lots of plants and animals (and humans too!) will not be able to adapt to where they normally live. In the ocean, melting sea ice and rising sea levels mean that

some animals' natural habitats are disappearing. Warming of the ocean where there are coral reefs can lead to coral bleaching; this is when the coral turns white. Sometimes the coral dies - that means a loss of habitat for the huge variety of animals and fish that live there. The more CO₂ that ends up in the atmosphere from human activities, the more acidic the ocean becomes as it absorbs more CO₂. This is causing problems for many species, including coral reefs themselves.

The ocean as a global climate control system when we create and use a product, greenhouse gases are released into the atmosphere. The amount that is created as a result and released into the atmosphere is known as the 'carbon footprint'. It is measured by weight of CO₂ released into the atmosphere. Everything has a carbon footprint, so it is important to think about how we can reduce it. The main things you can change are what you eat, the way you travel and the energy you use. The ocean absorbs, stores and releases greenhouse gases in many different ways, which helps to regulate the concentration of CO₂ in the atmosphere. In the past 200 years, the ocean has taken up about 30% of all CO₂ emissions from human activities!

And how might climate change affect us as sailors, is a question worth focusing on for discussion. More extreme weather events (e.g. storm surges and hurricanes) increase risk of damage to boats, marinas and sailors' lives. Rising sea levels might mean that sandbars or rocks that are marked on charts are now not visible creating hazards to sailors. Drought in lakes result in a drop of water below normal levels, meaning marinas and boating infrastructure is unusable. Flooding and coastal erosion causes an increase in silt and that can cause marinas to silt up and excessive silt is expensive to remove. Species that can only survive in certain water temperatures are spreading due to the warming of the ocean. Some species can cause damage to the hulls of boats and affect local biodiversity.

Sailors use lots of resources on our boats and in our sailing clubs and probably don't think about the impact this is having on the environment and climate. But as top sustainable sailors there are many ways that we can use resources more effectively, which will reduce our carbon footprint. This is going to have a positive impact on the environment and reduce the effects of climate change. Then the Sustainability Education Program materials made a pithy formula of 6-RE: Rethink, Refuse, Reduce, Reuse, Recycle and Reuse. When we learn to look at waste as a resource, rather than something we just throw away, the possibilities are endless! A circular economy is an alternative to a traditional linear economy (make, use, dispose) in which we keep resources in use for as long as possible, extract the maximum value from them whilst in use, then recover and regenerate products and materials

at the end of each service life. By following the circular economy model with sails, we can limit the use and waste of raw materials and non-renewable sources of energy.

4.2.3 Navigating Wildlife & Biodiversity

Marine mammals and the Plants under the sea which include whales, dolphins, porpoises, kelp, red algae and seagrass are divided into non-native and invasive. A plant or creature is called non-native when it has been introduced to a place it did not live previously. Invasive species are those that have been introduced to a new place and have a negative impact. This can be because they take all the food that another creature normally eats or they might be poisonous to the animals eating them. Invasive species change the balance of an ecosystem and this is not good for nature. The variety of different types of plants and animals is called biodiversity and it is important that this stay varied to keep nature healthy. Sailors can accidentally move small creatures or eggs, as well as plants, by letting them hitch a ride on boats or equipment. There are lots of examples where something has been growing on the bottom of a boat and once that boat moves to a new area, the plant is introduced to a new place it has not lived in before. This can be bad for the local environment as it might stop other plants from growing there and be harmful to animals living there.

It is very important that sailors clean their boats and equipment before travelling to a new place, like a big sailing event. It is best to always clean a boat after use, especially from saltwater. If you are sailing around in one place (like a lake) it isn't as important, but it is always good to keep boat clean. How we should navigate wildlife while we are sailing or in a support boat with an engine? Keep the speed down, mind the distance and collect the waste.

We think a lot about taking care with the animals we might see while out sailing, but sometimes we don't consider the plants too. Aquatic plants and algae provide food and shelter to fish and other marine life, but they are not just important to aquatic ecosystems; they provide about 70%-80% of the oxygen on Earth, making them extremely important in our everyday lives as well!

4.2.4 Reducing waste

Most of the waste that ends up in the sea is because it is not secure on the land. 80% of pollution to the marine environment comes from land-based pollution, like surface runoff and plastics. Plastic pollution causes the deaths of more than a million seabirds every year, as well as more than 100,000 marine mammals.

When waste ends up in the water, it doesn't disappear. It floats on the surface or sinks to the floor of a lake,

river or ocean and animals can eat it, mistaking it for food or become entangled in it. Plastic breaks down into smaller pieces of plastic, called micro-plastics. Micro-plastics will spread all over the ocean in currents and are found everywhere in the aquatic ecosystem. Being a top sustainable sailor not only means disposing of your waste responsibly, but thinking about waste as a resource too.

Plastic pollution is increasing, even if general awareness of the problem has been highlighted by many sailors. This is why World Sailing signed the UN Environment's Clean Seas initiative, joining the Olympics to unite sport in tackling plastic pollution and stop using single-use plastic. From 2019, World Sailing has not used single-use plastic at its events and will continue this commitment. Plastic is produced from petroleum products and using them contributes directly to carbon emissions and climate change.

The Plastic Bank was founded in 2013 to get people thinking of plastic as a resource, not as waste. It operates in Haiti, Indonesia and the Philippines, focusing on waste that is bound for the ocean. Communities are encouraged to appreciate that this plastic is too valuable to throw away, allowing them to exchange it for money. This plastic is then recycled as other products. World Sailing Competition bibs are made from recycled ocean plastic, 80% of the bib is made from plastic collected at the beach.

4.2.5 Oil & Fuel

Oil and fuel as it links to the sport of sailing, e.g. on larger keel boats with engines, which most clubs use for safety and coaching. A spill is a form of pollution that can happen on the land or in the water. Spills cause many devastating effects to plants, animals and people. Spilled oil and fuel sit on the surface of the water where birds, cetaceans, fish and other marine creatures may come into contact with the spill. Spills coat everything they touch, including rocks, sand and plant life in the ocean or near the shore. They can wash into reefs, coastal marshes, mangrove forests and wetlands, where the spill may be absorbed by the plants and grasses. Not only does this damage or kill them, it also makes the habitat unlivable for the creatures whose home it is.

World Sailing launched a challenge to boat builders to develop coach boats with electric engines. Electric engines are cheaper to run and don't need any petrol to run. Charging the batteries with renewable electricity will reduce the carbon footprint hugely compared to a coach boat with a petrol engine. The challenge is supported by the Paris 2024 Olympic organizers who are also hoping to use electric support boats. RS Electric Boats launched the first specially designed electric coach boat in January 2020. The batteries provide enough power to last a full

day on the water, and it has a top speed of 20 knots and a range of 35 miles, making it suitable for coaching a wide variety of classes.

4.2.6 Boat Cleaning & Maintenance

Keeping boat clean and maintained not only helps it to look good, run well and go faster, it is also part of being a top sustainable sailor. As environmental stewards, we want to take care that there are not polluting the water with chemicals and waste, adding to the spread of invasive species, or spilling oil and fuel. Many cleaning products are harmful to aquatic life and the water. It doesn't matter where you clean your boat - on the water or land - you need to choose products that are eco-friendly. World Sailing recommended a range of homemade alternative products to minimize environmental pollution.

5 Results

The Sustainability Education Program materials will ensure the next generation of sailors learn about wider environmental issues that can affect the sport as well as those areas where the sport can make a positive impact. The theme throughout is combining key sailing terminology with environmental issues whilst learning about some of the exciting events and boats in the sport that can inspire the next generation of sailors. Work with organizations that seek to educate and encourage greater sustainable practice among the boat owners and sailors as well as ensure best practice across events and equipment choice.

Deliver Sustainability through Technical Standards: World Sailing will accelerate development of more sustainable equipment and low carbon propulsion by modifying existing standards and regulations which they control, as well as creating new standards that can be adopted to promote sustainability in key related activities.

Deliver Sustainability through Events: World Sailing will drive sustainability through its events by specifying requirements of host venues and their operating plans. These requirements will start with World Sailing's Events, and they will also be promoted for adoption by MNAs for National events.

Deliver Sustainability through Training: World Sailing will drive sustainability through all of its training. This includes its executive office as well as international training programs that are delivered by its members.

Deliver Sustainability through Venues and Facilities: World Sailing will specify sustainability standards for the venues and infrastructure that it uses. This will cover sailing clubs, marinas, training centers and boatyards. It will also support and offer profile to sustainability standards and awards that are used by the sailing

community.

Deliver Sustainability through the Members: One of World Sailing's greatest assets is its members. Our members include 145 Member National Authorities and 115 Class Associations. Collectively the members have the greatest ability to create a more sustainable sport.

Deliver Sustainability through Participation: Fundamental to the overall sustainability of the sport is participation. World Sailing will work across its network to ensure that as well as supporting existing sailors, it will aim to introduce the sport to the next generation. World Sailing will welcome everyone to the sport of sailing and pay particular attention to underrepresented groups, working with partners to eliminate barriers to participation.

6 Discussion and conclusions

World Sailing Sustainability Agenda 2030 is a bold ambition for sailing's contribution to global sustainability. World Sailing's Sustainability Agenda 2030 supports both the International Olympic Committee's Sustainability Strategy and its commitment to contribute to the United Nations 2030 Agenda for Sustainable Development. The mission of World Sailing, already closely aligns with SDGs in the fields of clean water and sanitation (SDG #6), industry, innovation and infrastructure (SDG #9), responsible consumption and production (SDG #12) and life below water (SDG #14). By further embedding sustainability in sailing activities, World Sailing established a Sustainability Commission of leading experts from within and outside of the sport to advise on the development of the Sustainability Agenda 2030 and to both guide and monitor progress against the plan.

This research is a case study on "how sports promote sustainable development". World Sailing is just one of so many International Sports Federations (IFs) in the world, other IFs such as International Basketball Federation (FIBA), International Equestrian Federation (FEI), International Automobile Federation (FIA), they are also addressing climate change, animal protection and new energy development through their respective sports advantages. Future research should consider conducting a multiple case study to compare between different international sports federations in the

same field.

In sum, World Sailing and World Sailing Trust are committed to youth education, reduce plastic use, equipment recycling, and marine protection through educational projects, public welfare activities, international forums. They play an exemplary and leading role in the field of sustainable development. However, it is obvious that the appeal and action of international sport federation is limited, and it is difficult to form a wider group of participants. More is to arouse people's awareness of protecting the earth through sailing sport.

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