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SUSTAINABILITY OF THE YOUTH OLYMPIC GAMES

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SUMMARY

Anna Edes: Sustainability of the Youth Olympic Games
(Under the supervision of Konstantinos Georgiadis, Professor)

2020 marked the 10-year anniversary of the first ever Youth Olympic Games (YOG). On this occasion, the research overviews the 10 years of the YOG, focusing on the sustainability of the event with specific examples from the six editions held so far and from the concept itself. Sustainability is a significant issue at every major sports event; the long-term success is defined by the sustainability of the event concept and the specific sustainable solutions in social, environmental, and economic areas. Based on the available literature on the three summer and three winter editions held between 2010 and 2020, the study draws a detailed picture with several examples on the comprehensive sustainability in terms of social, environmental, and economic aspects, listing both the positive and negative findings. The research findings show that the YOG has a significant focus on sustainability. The sustainability elements are embedded in every step from the bidding phase through the planning all the way through the implementation. It is also highlighted by the International Olympic Committee (IOC) in the Candidature Procedure and Questionnaire, and the evaluation of the bidding cities is made with remarkable attention on the sustainability concept of the bid. The intention and efforts of the IOC and the host cities to organise the Games in a sustainable way and leave a positive legacy can be clearly seen. However, what is beyond the implementation of the YOG and what happens after the event is more unclear. The long-term effect on the young people's life and on the locals is not well researched yet. There are very positive feedbacks on the Learn & Share program, the sports program and on the whole event as well, but some research show negatives feedbacks too. As the YOG is still considered to be a "young" event, with having only six editions held, there is a lot of room for development and for further research on the topic to ensure a sustainable future for the YOG within the Olympic Movement.

Keywords: *Youth Olympic Games, sustainability, Olympic Movement*

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LIST OF ABBREVIATIONS

ARM	Athlete Role Model
AYOF	Australian Youth Olympic Festival
CEP	Culture and Education Programme
EYOF	European Youth Olympic Festival
IF	International Federation
IOA	International Olympic Academy
IOC	International Olympic Committee
NF	National Federation
NOA	National Olympic Academy
NOC	National Olympic Committee
OEP	Olympic Education Programme
OG	Olympic Games
SDGs	Sustainable Development Goals
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNOSDP	United Nations Office on Sport for Development and Peace
YCM	Young Change-Maker
YOG	Youth Olympic Games
YOGOC	Youth Olympic Games Organising Committee
YOV	Youth Olympic Village

CHAPTER I. INTRODUCTION

The Youth Olympic Games are the largest international multi-sport events for young athletes, that bring together thousands of young people between the age of 15 and 18 from all around the world every four years to compete on the highest level, as well as to learn about the values of Olympism and sport.¹ In 2020, we celebrated the 10 years anniversary of the YOG: the first summer YOG were held in 2010 in Singapore, followed by the first winter YOG in 2012 in Innsbruck. Since then, Nanjing hosted the summer Games in 2014 and Buenos Aires in 2018; while Lillehammer was the host to the winter YOG in 2016 and Lausanne to the most recent one in 2020.² The summer YOG 2022 was attributed to Dakar, however due to the challenges of the postponements of Tokyo 2020 and the COVID-19 pandemic, the event has been postponed to 2026.³ In 2024, Gangwon will be staging the next winter YOG.⁴

The YOG are unique sporting events gathering many youngsters from all over the world. Competing at the YOG is a great opportunity and a true inspiration for young athletes to be able to reach their goals in their sporting career. The atmosphere of such an event can be comparable to the Olympic Games (OG), however on a smaller scale. Living together with other nations in the Youth Olympic Village (YOV), training and competing in the highest standard sports facilities, attending in the monumental Opening- and Closing Ceremonies, celebrating victories on spectacular Medal Ceremonies, as well as competing in front of thousands of spectators against the best athletes in their age can give a similar experience to the young athletes as the athletes' experience on the OG. However, the YOG were not initiated as “mini-Olympics”⁵, they have their own identity called YOG DNA⁶, which represents the spirit of the games and distinguish them from the Olympic Games and other events⁷.

With the creation of the YOG, IOC shows its “commitment to the youth of today and tomorrow” as a new asset of the Olympic Movement. The goal of the YOG is to set an example

¹ International Olympic Committee (2020, September 15) What is YOG; International Olympic Committee: Youth Olympic Games.; IOC OSC 2015 Factsheet 1: 2

² IOC OSC 2015 Factsheet 1:2; Parent et al 2019: 9

³ Morgan, L (2020, July 15) Inside the Games: Dakar 2022 Youth Olympic Games postponed until 2026.

⁴ International Olympic Committee (2020, September 15) What is YOG; International Olympic Committee: Youth Olympic Games.

⁵ Torres 2010: 2; Krieger 2012: 712; IOC OSC 2015 Factsheet 1: 2

⁶ IOC 2011: 7

⁷ IOC 2011: 9; IOC OSC 2015 Factsheet 1: 1; Hanstad et al 2014: 38

in inspiring people to practice physical activity, to promote integration and reduce differences, to fight against obesity and sedentary lifestyle, and to overcome all forms of dependency.⁸ Besides being high-performance athletic events, the YOG blend sport, culture, and education to “inspire young people around the world to participate in sport and adopt and live by the Olympic values and become ambassadors of Olympism”⁹ which makes the YOG unique. The YOG’s mission is “to educate, engage and influence young athletes inspiring them to play an active role in their communities”¹⁰. To fulfil its mission, the Learn & Share program (previously called Culture and Education Program) has been in the core of the event besides the competition program from the very beginning. The sports program and the educational program are in balance, the educational program is not inferior to the sports competitions. The focus is to “deliver an experience on and off the field of play which provides skills to the athletes both for their sporting career and beyond sport”.¹¹ The YOG contributes to the development of young people, becoming “better human beings, true sportsmen or simply ambassadors”.¹²

Since the inauguration of the event, there has been many changes and improvements in the sports and educational program, as well as several discussions about the future of the YOG. One would think that it is a great concept and a wonderful initiative to educate young people and motivate them to achieve their goals while promoting physical activity and healthy lifestyle to them, however, there also several obstacles and challenges that the YOG must face. The number of different sports events have been growing more and more over the last decades, therefore it is important to analyse what benefits a new event can bring, and if it can be sustainable in the long term. The sustainability depends on several aspects which the current study aims to collect and analyse. Whether the YOG will be a success in 10 years depends strongly on these aspects.

By having a personal experience with the Youth Olympic Games, researching on the YOG always interested me. I have had the luck to be a volunteer at the first and the second edition of the Winter Youth Olympic Games at Innsbruck 2012 and Lillehammer 2016, and to be a visitor at the latest YOG at Lausanne 2020. In 2012 before the YOG in Innsbruck, I was

⁸ Youth Olympic Games 2010 Candidature Procedure and Questionnaire 2007: 6; Hanstad et al 2014: 42; IOC 2011: 3; Wong 2011: 1846

⁹ IOC 2008: 95, IOC OSC 2015 Factsheet 1: 1; IOC OSC 2015 Factsheet 3: 1; Krieger 2012: 712; Parry 2012: 90; Kristiansen 2013: 2-3

¹⁰ IOC 2008: 95; IOC OSC 2015 Factsheet 1:1; IOC OSC 2015 Factsheet 3: 1

¹¹ IOC OSC 2015 Factsheet 1: 1

¹² Youth Olympic Games 2010 Candidature Procedure and Questionnaire 2007: 6

also part of the Torch Relay as one of the torchbearers. Not only at the YOG, but I have also been part of the European Youth Olympic Festival (EYOF) in 2013 in Utrecht and in 2015 in Vorarlberg and Liechtenstein as a volunteer. In 2017, my hometown, Győr hosted the European Youth Olympic Summer Festival, which was a great opportunity to get involved, so it was my pleasure to be a member of the Organising Committee. My experiences at the YOGs and EYOFs inspired me to research on this topic and helped me to better understand and study the sustainability of the YOG by having a personal insight.

At every major event, sustainability plays a key role. Sustainability is observed in social, environmental, and economic aspects. All three areas are crucial for development and for a sustainable future. The purpose of the study is to determine the legacies and sustainability aspects of the YOGs and draw conclusion on whether the YOGs are in line with sustainable development and can be considered sustainable. The current situation of the YOG is examined in terms of sustainability with a review on the YOG concept, as well as on specific examples from the YOGs. The sustainability of the YOG can indicate whether the event can play an essential role in the Olympic Movement in the next decades as well.

The research is carried out through reviewing the literature related to the YOG, its concept, opportunities and challenges and sustainable solutions. The main sources for literature and information are the website of the IOC, the IOC documents on YOG, official reports, candidature procedures, magazines, journals, book on the YOG, and scientific articles related to the sustainability of the YOG. Previous research has been made in specific sustainability questions, such as volunteering, educational value of the event, infrastructure legacy, sports development, environmental protection, bidding; however, the aim of the study is to comprehend all these different areas and examine the sustainability of the YOG based on the six editions held until 2020. On the overall sustainability of the YOG, there is a scientific gap which this study aims to fill. After reviewing the researched documents, the results are presented, and conclusions are made on the sustainability of the YOG.

It is important to note, that there are limitations to the study, as it is difficult to examine what helps to achieve sustainability in the long term due to its complexity. The study is also limited by the previous studies, as not all aspects have been well-researched in the past. Some documents and papers show different results, sometimes even contradicting, depending on how the research was conducted.

CHAPTER II. LITERATURE REVIEW

1. OLYMPIC MOVEMENT AND THE YOUTH OLYMPIC GAMES

The Olympic Movement and the concept of Olympism was born in the end of the 19th century, as the IOC was established, and the first modern Olympic Games were organised following the efforts and vision of Pierre de Coubertin.¹³ The Olympic Movement is not only about the sports competitions but promotes the harmonious development of the body, mind, and spirit. According to the Olympic Charter, Olympism can be defined as follows:

“Olympism is a philosophy of life, exalting and combining in a balanced whole the qualities of body, will and mind. Blending sport with culture and education, Olympism seeks to create a way of life based on the joy of effort, the educational value of good example, social responsibility and respect for universal fundamental ethical principles.”¹⁴

Based on this definition, education should form a key part of the Olympic Movement, just as important as the sport achievements. The Olympic Games are lacking a well-structured education program that is aiming to educate the athletes, non-athlete participants, locals, and communities worldwide. Cultural programs are part of the OGs, but the focus is on the sports performance and these side programs have very low visibility and it is secondary to the sports competition.¹⁵ However, the YOGs are aiming to fulfil the fundamental principles of Olympism by placing education at the core of the event with the Learn & Share program, balancing the sport and education part of the event. The YOG seem to better represent the Olympic ideal than the OG, by having less pressure on “prestige and profit”.¹⁶

The idea to organise youth Olympic events have come up a couple of times in the decades before the launch of the YOG. The first proposal for Olympic Youth Games was made in 1969, but it was rejected by the IOC. Since the presidency of Juan Antonio Samaranch starting in 1980, there was a change in the support towards youth sport to a positive direction. Samaranch stated, “the idea of youth sports games to be the most significant step in the latest

¹³ Parry 2012: 141; Hanstad et al 2014: 55

¹⁴ IOC 2020: 11; IOC OSC 2015 Factsheet 1: 1; Hanstad et al 2014: 54; Torres 2010: 4; Torres & Parry 2017: 181

¹⁵ Torres 2010: 13

¹⁶ Hanstad et al 2014: 54, 63, 71

development of the Olympic Movement, a step with a perspective on the future”.¹⁷ After the staging of international youth multi-sport events in Moscow in the beginning of the 1990s, the IOC endorsed the organisation of the World Youth Games in Moscow in 1998 proposed by Russia and gave patronage to it. The Olympic symbols and flags were allowed to use in relation to the event, only the name “Olympic” was not supported by the IOC. At the World Youth Games 5200 young athletes between the age of 11 and 18 attended from 131 countries. These Games were considered very successful and served as a prototype event and “forerunner” for the YOG.¹⁸

Jacques Rogge, former President of the European Olympic Committees and the International Olympic Committee initiated the organisation of the YOG, on a similar model to the European Youth Olympic Festivals (EYOF), which were also founded on his initiative. The EYOFs are being held every two years since 1991, with the first winter edition held in 1993.¹⁹ A similar concept was adopted for the Australian Youth Olympic Festivals (AYOF), being organised six times between 2001 and 2013 as a legacy of the Sydney 2000 Olympic Games.²⁰ Before the inauguration of the YOG in Singapore, the city hosted the first Asian Youth Games in 2009, while the next edition in 2013 was held in Nanjing, one year before the Nanjing 2014 YOG.²¹ On the African continent the first African Youth Games were organised in 2010.²² High-level international sports competitions for youth have existed for some decades as we see from the above examples, however, the YOG can be considered as a pioneer, by presenting such an extensive cultural and educational program while bringing together thousands of young people from over 200 countries in the world in elite sports competition.

The reasons behind the creation of the YOG are diverse.²³ There are several issues regarding youth and sport around the world which the YOG might help to tackle to some extent, justifying the creation of the event concept by the IOC. Access to sport and sports facilities shows great inequality in different countries and societies. The decline of participating in sport has been observed over the decades, as well as in the number of sports audiences. Obesity and

¹⁷ Kofman 2012: 30

¹⁸ Kofman 2012: 30-32, 34, 37

¹⁹ Torres 2010: 5-6; Parry & Lucidarme 2011: 165; Parry 2012: 89; Parry 2012: 140; Lucidarme & Maes 2010: 224; Hutchison 2014: 17; Parent et al 2014: 306; Kristiansen 2013: 2; Wong 2011: 1833-1834

²⁰ Hutchison 2014: 17; Lucidarme & Maes 2010: 225; Hanstad et al 2014: 82; Wong 2011: 1834

²¹ Hanstad et al 2014: 310; Palmer, D (2020, November 17) Inside the Games: Olympic Education Programme to be part of 2021 Asian Youth Games.

²² Pavitt, M (2018, July 18) Inside the Games: Lesotho approved as hosts of 2022 African Youth Games.

²³ Hanstad et al 2014: 52

sedentary lifestyle have been increasing significantly around the world. Around the age of 14-16, the participation in sport has been dropping.²⁴ There are some other explanations that might explain the creation of the YOG. It might have been pressured by the National Olympic Committees (NOCs); however, it is rather unlikely. It is possible, that it was a strategical step to strengthen the relationship of the NOCs and the governments to the Olympic Movement. The YOG is a smaller scale event, therefore smaller cities can host the Games and due to its unique format and mixed competitions more countries can be successful in winning medals. Based on the medals in Singapore, 48% of the participating NOCs won at least one medal, which is higher compared to the Olympic Games where this number is between 37 – 41,5%. The difference between the number of NOCs winning at least one gold medal is even higher, 57% at the summer YOG in 2010 and 29% at the winter YOG 2012, and 26-28% at the Olympic Games.²⁵ The third possible reason is that the YOGs align with the sustainability and legacy building strategy of the IOC, by insisting on using only existing facilities, including the venues built for previous Olympic Games in some cases. The fourth possibility is that the IOC saw a niche market in youth multisport event, therefore the IOC launched the YOG to target the younger audiences with the Olympic brand to avoid losing the youth's interest in the Olympic Movement.²⁶ The interest of youth in the Olympic Movement seems to have dropped over the last years, with a growing average age of TV viewers during the Games. Therefore, it is important for the IOC to target youth.²⁷ Overall, the main reason for the creation of the YOG is considered as a long-time “personal project” and “brainchild” of Jacques Rogge as IOC President.²⁸

Targeting the youth as the catalyst for changes can bring visible outcomes for the future, therefore it is crucial to focus on youth sport. The IOC created the “Olympism and Youth”²⁹ programs, which can bring youth closer to the Olympic Movement, Olympism, and its values. As part of the program, the project of the YOG was approved by IOC members in 2007 at the 119th IOC Session in Guatemala³⁰, and the journey of the YOG officially began.

²⁴ IOC 2008: 94; Hanstad et al 2014: 129, 276

²⁵ Hanstad et al 2014: 39

²⁶ Hanstad et al 2014: 31-32, 220

²⁷ Wong 2011: 1844-1845

²⁸ Hanstad et al 2014: 31-32, 220

²⁹ IOC 2008: 94

³⁰ IOC 2008: 95; IOC OSC 2015 Factsheet 1:1; Parry & Lucidarme 2011: 165; Parry 2012: 89, Hutchison et al 2014: 17; Parry 2012: 140; Torres 2010: 6; Torres & Parry 2017: 171; Kristiansen 2013: 2; Lucidarme & Maes 2010: 224; Lesjo 2017: 129

The YOG can be defined as “a sporting event for the youth balancing sport, education and culture”³¹. Not only focusing on young athletes, but on young leaders as well.³² As a significant element of the modern Olympic Movement, the YOG are “a catalyst for sporting, educational and cultural initiatives for young people”³³. The objectives of the YOG were identified as follows according to the IOC:³⁴

- *“Bring together and celebrate the world’s best young athletes*
- *Propose a unique and powerful introduction to Olympism*
- *Innovate in educating and debating Olympic values and societal challenges*
- *Share and celebrate the cultures of the world in a festive atmosphere*
- *Reach youth communities throughout the world to promote Olympic values*
- *Raise sport awareness and participation among the youth*
- *Act as a platform for initiatives within the Olympic Movement*
- *Organise an event of the highest sport international standards”*

Athletes between 15 and 18 have been targeted as participants of the event, the exact criteria for participation have been set sport by sport. The initial goal was to ensure the participation of 3500 athletes and 875 Team Officials at the summer YOG, and 1000 athletes and 500 Team Officials at the winter YOG. Besides competing, the youth is also encouraged to participate in non-athlete roles, such as organiser, volunteer, official or reporter.³⁵ The YOG are considered as “the flagship of the IOC’s strategy for young people”.³⁶

According to the original concept, all athletes and officials stay for the whole event, unlike at the Olympic Games and other sports events usually. This way they can take part in the Learn & Share program besides competing. The Learn & Share programs present a lot of different opportunities for young people: learn about the Olympic Movement, Olympic Games, Olympism, sports, as well as about different cultures, and attend in forums, talks, interactive workshops, and artistic activities. The goal of the Learn & Share program is to create “ambassador sportspersons in society”.³⁷ The educational activities make the YOG unique and

³¹ IOC 2008: 95

³² Hanstad et al 2014: 130

³³ IOC 2008: 95

³⁴ IOC 2008: 95-96; IOC OSC 2015 Factsheet 1: 1; Hanstad et al 2014: 33-34; Torres 2010: 6-7; Parent et al 2014: 306-307; Peters & Schnitzer 2015: 119-120; Wong 2012: 141

³⁵ IOC 2008: 96; Hanstad et al 2014: 33

³⁶ Hanstad et al 2014: 276

³⁷ IOC 2008: 96

distinguish them from other sports events. The educational events focus on the protection of the athletes, improving their performance and provide support to the athletes in their life outside of sport.³⁸

Jacques Rogge described the athletes' role at the YOG in his Opening Ceremony speech at the first Winter YOG in Innsbruck as follows:

*“As the next generation of sports men and women, you are now the role models that represent our hopes for the future. You have a chance to be true champions, not only by winning medals, but by conducting yourself like Olympians. Strive for excellence but compete with friendship and respect for your opponents.”*³⁹

The sports program of the YOG is based on the Olympic Games, but with fewer events; however new sports, disciplines, events, and event formats have been introduced. Some disciplines are adapted for youth in rules and equipment as well.⁴⁰ 28 sports are featured on the summer event, and 7 sports on the winter edition.⁴¹ The mixed events are unique innovations of the YOG: athletes are competing in mixed gender and mixed NOC events too in some disciplines. To qualify for the YOG, the International Federations (IFs) define the qualification criteria and already existing competitions, and rankings are used, no additional qualification events should be organised.⁴² The YOG can be considered as a platform to present new events, add new sports on the agenda and have several new innovations on the sports program too.⁴³

Despite of the promising concept and innovations of the YOG, there are several concerns which have been drawn up before the inauguration of the YOG and since then as well. One of the main concerns is balancing between bringing the best young athletes together to compete on the highest standards, while fulfilling the educational goals of the event. Many stakeholders are involved; therefore, it is questionable to create an event that satisfies all stakeholders, mainly the athletes, NOCs, IFs, and the IOC. The balance between sports performance and education can be created to some extent, but it is still in question whether it can be maintained in the long term. Particularly in sports where the IF does not support the best

³⁸ International Olympic Committee (2020, September 15) What is YOG.

³⁹ Rogge 2012

⁴⁰ Lucidarme & Maes 2010: 226

⁴¹ International Olympic Committee: Youth Olympic Games.

⁴² IOC 2008: 102

⁴³ IOC 2008: 96; International Olympic Committee (2020, September 15) What is YOG.

athletes or teams to participate, so the quality of the competition is in question.⁴⁴ The interest of stakeholders also remains a question, whether the cities will be interested in hosting, the athletes and NOCs to participate, the IFs to contribute, the volunteers to join the program and so on.⁴⁵

Before the first YOG in Singapore, among other scholars, Kouvelos expressed his concerns and worries regarding the YOG. Several questions were pointed out around the event, mainly about the educational value and the high-performance sports competitions. One of the main concerns was about the young athletes, who are competing for medals and privileges, which they might want to reach at any price. Therefore, to shift the focus from the high-performance event to the social and educational value of the event, he questions whether it should be rather called “Festival” instead of “Games”. Besides the pressure on sporting performance, other psychological issues regarding the young athletes can appear at the YOG, such as the pressure of doping control for children at the age of 14-15.⁴⁶

He expressed scepticism about the concept and the sustainability of the YOG, especially from the social aspects. He pointed out his hope to create a new athlete model by the YOG, which will be more in line with the healthy athlete model and the Olympic ideal. Having no records documents at the YOG, he believes that this might support the event going into the right direction. Although he raises the question whether the athletes’ performances should not be announced either. Doping is a crucial and very dangerous issue for young athletes; therefore he recommends to the National Olympic Committees (NOC) and National Olympic Academies (NOA) to launch information campaign to young athletes and to play an active role in their preliminary Olympic education so that the YOG will have the right focus on Olympic education instead of being just another high-performance sports event. He is referring to Pierre de Coubertin’s ideal, that the participation is important, not the medals. With a new model of the athletes who are “true ambassadors of the Olympic values”, the NOAs can contribute to the revival of the Olympic Movement, bringing back the Olympic ideal, fair play and “virtue over money”.⁴⁷

⁴⁴ Hanstad et al 2014: 33-35

⁴⁵ Hanstad et al 2014: 71

⁴⁶ Kouvelos 2009: 53-54

⁴⁷ Kouvelos 2009: 53-54

2. SUSTAINABILITY WITHIN THE OLYMPIC MOVEMENT

Sustainability is a major issue nowadays. In every area of our lives, it is essential to strive to create conditions that have a positive long-term effect and support the long-term survival of the planet, the nature, and the humanity. Besides protecting the environment, the importance of sustainability is observed from the economic and social point of view as well. These aspects should not be overlooked, they are crucial as well. The question of sustainability started emerging around the 1970s and the 1980s and became a popular research topic in the last two decades.⁴⁸

There are different concepts to examine sustainability, not only through the social, economic, and environmental dimensions.⁴⁹ The United Nations (UN) developed an approach with more precise classification through the 17 Sustainable Development Goals (SDGs), which are a universal call to action to improve the lives of people all around the world. These SDGs that were adopted by all UN Member States in 2015,⁵⁰ are “the blueprint to achieve a better and more sustainable future for all” while addressing “the global challenges we face”.⁵¹

Sustainable Development is defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”⁵² The actions under the SDGs are focusing on building a future for the people and the planet that is sustainable, inclusive, and resilient.⁵³ To achieve the goals of Sustainable Development, the harmony of the three interconnected elements must be assured: “economic growth, social inclusion and environmental protection”. All three dimensions are key to the well-being of all societies.⁵⁴ The SDGs are part of the 2030 Agenda for Sustainable Development, which set the 17 goals to be achieved by 2030. Progress is being made, but there is still a lot of work to be done to reach these goals.⁵⁵

⁴⁸ Purvis et al 2019: 681-682

⁴⁹ Purvis et al 2019: 681-695

⁵⁰ United Nations: Sustainable Development

⁵¹ United Nations: Sustainable Development Goals

⁵² United Nations: The Sustainable Development Agenda

⁵³ United Nations: The Sustainable Development Agenda

⁵⁴ United Nations: The Sustainable Development Agenda

⁵⁵ United Nations: Sustainable Development Goals

SUSTAINABLE DEVELOPMENT GOALS



Figure 1: Sustainable Development Goals⁵⁶

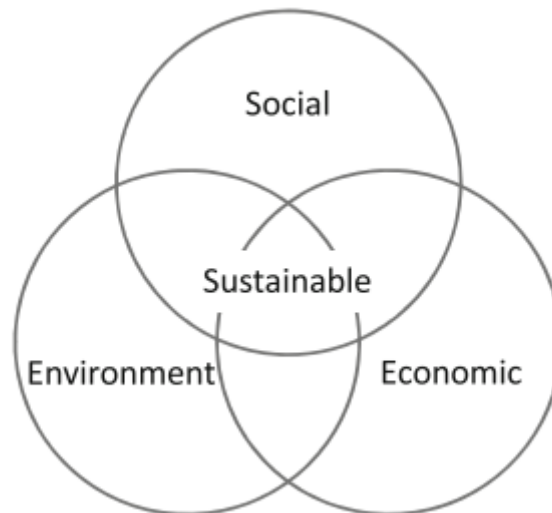
The Sustainable Development Goals are closely related to the major sports events, therefore all 17 goals must be taken into consideration and be observed at any sports events to be successful. The 2030 Agenda for Sustainable Development states the relevance of sport to reach sustainability: “Sport is also an important enabler of sustainable development. We recognize the growing contribution of sport to the realization of development and peace in its promotion of tolerance and respect and the contributions it makes to the empowerment of women and of young people, individuals and communities as well as to health, education and social inclusion objectives.”⁵⁷

Despite having several different ways to examine sustainability, the three-pillar paradigm - social, economic, and environmental - is a common way to research the sustainability aspects. The origin of this conception cannot be defined exactly, the differentiation of the three pillars have emerged gradually through different research in the field of sustainability and being commonly used in sustainability research.⁵⁸

⁵⁶ Source: Unites Nations: Sustainable Development Goals Communication Materials

⁵⁷ 2030 Agenda for Sustainable Development A/RES/70/1, paragraph 37

⁵⁸ Purvis et al 2019: 681



*Figure 2: Three pillars of sustainability*⁵⁹

Sports events have a significant role in shaping the future. As explained in the “Sport and the Sustainable Development Goals” document published by the United Nations Office on Sport for Development and Peace (UNOSDP), sport can contribute to the realisation of the SDGs in many ways.⁶⁰ Especially when it comes to major sports events, due to their high attendance and high visibility, as well as due to their size and effect on the local and international communities, the legacy of these events can foster remarkable changes in the world. However, these changes can be both negative and positive. The effect of the international major sports events can reach through borders and continents. Sports events can be considered successful if they have a positive long-term impact on the community and on the environment.⁶¹ The legacy of major sports event means “all that remains and may be considered as consequences of the event in its environment”,⁶² as well as “structures created for and by a sport event that remain longer than the event itself”.⁶³

Within the Olympic Movement concerns started to arise from the 1950s regarding sustainability, as the Olympic Games grew in size, popularity and complexity.⁶⁴ The scale of the event questioned the long-term sustainability of the Games, so the sustainability aspects and the legacies had to be taken into consideration.⁶⁵ The environmental protection issues at the

⁵⁹ Source: Purvis et al 2019: 682

⁶⁰ UNOSDP: Sport and the Sustainable Development Goals

⁶¹ Leopkey 2013: 67

⁶² Chappelet 2014: 113

⁶³ Girginov 2014: 32; Hanstad et al 2014: 330; Peters & Schnitzer 2015: 119

⁶⁴ Leopkey 2013: 63

⁶⁵ Girginov 2014: 34

Olympic Games started to emerge around the 1970s along with a general increase on ecological awareness, and the bidding cities started to include plans in their bids for the aftermath of the Games.⁶⁶ On a global scheme the sustainability questions and concerns became more fundamental from the end of the 1980s, which resulted in significant actions and steps towards sustainability. The global actions and events contributed to legacy building and sustainability focus of the Olympic Movement too. The main events that influenced the sustainability questions within the Olympic Movement were the followings: the sustainable development initiatives of the UN and the Human Development Index in 1987; the Earth Summit in Rio de Janeiro, where the sustainable development action plan Agenda 21 was adopted in 1992;⁶⁷ the Olympic Games in 1992 in Albertville causing environmental troubles and resulting in a protest, which made the IOC aware of the potential threat in the future of the OG if not acting towards sustainability; the moral crisis that emerged within the IOC, leading to development in the organisation's ethics and regulations in 1999; and the global phenomenon of focusing on urban growth.⁶⁸

After the successful organization of the 1994 Winter Olympic Games in Lillehammer with a remarkable emphasis on environmental sustainability through a collaboration with activists⁶⁹, environment was recognised as the “third pillar of Olympism” besides sport and culture in 1995.⁷⁰ In the same year, the IOC Sport and Environment Commission was established, while in 1996 a paragraph was added in the Olympic Charter regarding environmental protection and a close cooperation with the United Nations started to work towards sustainable development.⁷¹ The planned legacy concept started in the 1990s, when the social, environmental, as well as economic sustainability elements started to be observed and the event legacy received a remarkable attention in the bid, which forms a crucial element of the Olympic bids ever since then.⁷²

The candidature procedure document of the Youth Olympic Games highlighted the importance of sustainability from the very beginning, when the first document was published in 2007 to host the first YOG in 2010. IOC emphasized in the document its philosophy on

⁶⁶ Chappelet 2014: 120; Lesjo 2017: 130

⁶⁷ Karamichas 2012: 381; Gold et al. 2013: 3530; IOC 2012: 5, 39; Lesjo 2017: 131

⁶⁸ Girginov 2014: 31; Lesjo 2017: 131

⁶⁹ Lesjo 2017: 130-131

⁷⁰ Karamichas 2012: 381; Gold et al. 2013: 3530; IOC 2012: 9

⁷¹ Karamichas 2012: 381; Lesjo 2017: 131-132

⁷² Chappelet 2014: 112; Gold et al. 2013: 3529

sustainable development and how to incorporate sustainability in every area of the preparations and operations for a long-term positive legacy. The first theme of the bid questionnaire includes the tangible and intangible legacy plan of the bidding city.⁷³

UN and the IOC signed a Memorandum of Understanding in 2014, recognising the contribution of sport and the Olympic Movement to the promotion of peace and development, while sharing the same ideals such as sustainability, universality, solidarity, non-discrimination and equality for all.⁷⁴ The same year, the Olympic Agenda 2020 was approved at the IOC Session in Monaco, which includes a total of 40 recommendations to be followed in order to “protect the uniqueness of the Games and strengthen the Olympic values in society”.⁷⁵ The recommendations are addressing the topic of sustainability as well.

Agenda 2020 contains suggestions for the bidding procedure encouraging candidate cities to focus on a legacy concept which is in line with respect for the environment, feasibility, and sustainable development, while taking into consideration the unique features of the local region. Diversity is embraced within the Olympic Movement; therefore, the Olympic events should display the local specificities of the hosting region and should align with it.⁷⁶ In the evaluation of the Olympic bids, the sustainability aspects have a high priority.⁷⁷ Recommendation 4 and 5 highlight the inclusion of sustainability in all aspects of the Olympic events through sustainability strategies and legacy monitoring, as well as during the daily operations of the Olympic Movement by encouraging sustainable solutions within the IOC and other Olympic stakeholders as well.⁷⁸ According to the Olympic Charter, the role of the IOC is “to encourage and support a responsible concern for environmental issues, to promote sustainable development in sport and to require that Olympic Games are held accordingly” and “to promote a positive legacy from the Olympic Games to host cities and host countries”.⁷⁹

The legacy of the sports events can be tangible or intangible, hard or soft, physical or spiritual, territorial or personal, sport related or non-sport related, short/medium-term or long-

⁷³ Youth Olympic Games 2010 Candidature Procedure and Questionnaire 2007: 10, 38-42; IOC OSC 2015 Factsheet 1: 4

⁷⁴ IOC 2014: 6

⁷⁵ IOC 2014: 1

⁷⁶ IOC 2014: 3

⁷⁷ IOC 2014: 10

⁷⁸ IOC 2014: 12

⁷⁹ Youth Olympic Games 2010 Candidature Procedure and Questionnaire 2007: 10; Hanstad et al 2014: 333

term, planned or unplanned, local, regional, national or global, and positive or negative legacies.⁸⁰ To consider the legacies successful and have a long-term visible impact, the sustainability aspects must be well planned starting from the bidding phase.⁸¹ Not only the visible and tangible legacies are essential, but the intangible social, cultural and environmental impacts must be taken into consideration too, such as well-being, social cohesion, pride and sense of belonging within the communities.⁸² According to the Olympic Legacy brochure of the IOC, the legacies can be identified as “sporting, social, environmental, urban and economic” legacies.⁸³

Leaving a sustainable and long-lasting legacy have become a core element in the Olympic Movement in the last decades. The Olympic events can provide a great platform for development and boost positive changes in the world, but for that to happen, they must stay on the “human level” to avoid gigantism and actions must be taken to proceed towards sustainability to help to reach the Sustainable Development Goals.⁸⁴

Sustainability in sport and the sustainability of the Olympic Games is an often researched and a very broad area. However, with the birth of the YOG, a new event emerged within the Olympic Movement, which have not yet been extensively studied in terms of sustainability. The overall concept of sustainability and the event legacies can be similarly examined as on the Olympic Games, however adjusted to the YOG event specificities. In line with the Agenda 2020 recommendations, the study investigates on the YOG from sustainability perspectives. The long-term legacy of an event can be seen and examined 15-30 after the event, however, the impacts on participants and short-term influences of the YOG can be studied already.⁸⁵

⁸⁰ Chappelet 2014: 114-120; Hutchison et al 2014: 17

⁸¹ Chappelet 2014: 116; Girginov 2014: 29

⁸² Chappelet 2014: 122

⁸³ Hanstad et al 2014: 329

⁸⁴ International Olympic Committee: Lillehammer 1994 Legacy

⁸⁵ Parent et al 2019: 12

CHAPTER III. METHODOLOGY

In order to conduct the most suitable research on the sustainability aspects of the YOG, qualitative research method is used for the study. Content analysis from recorded materials such as official reports, candidature documents, journals, books, proceedings, articles, magazines, news, and different documents is conducted. The reason for choosing qualitative strategy is that many aspects of sustainability can be better researched with qualitative methods, especially in the social and environmental sustainability area. For a comprehensive sustainability study the existing studies, facts and figures and analysis of the concept can be used to reach the objectives of the study.

There is no hypothesis proposed, the outcomes are developed while the research is being carried out. The research is aimed to cover a gap on the literature on the topic of sustainability of the YOG. There has been no extensive research on the comprehensive sustainability of the YOG, only on specific aspects of the sustainability from the past YOGs, such as the stakeholder approach, the educational program, sports program, and volunteering. The YOGs in Singapore, Innsbruck, Nanjing, and Lillehammer between 2010 and 2016 are more often researched than the most recent summer and winter YOG in Buenos Aires and Lausanne.

Materials from the IOC website, news and documents contain a lot of fundamental information to the study; therefore, these are an extensive part of the research. Besides the IOC documents, the written materials and game reports on each YOG from the last 10 years are also examined. The official reports form a key part of the study. As many up-to-date news and analyses can be found on the Inside the Games website written by expert sports journalists on the YOG, some of these articles are examined as well.

The scientific articles and documents that are analysed in the research are found on online search engines, such as Google Scholar, Education Resources Information Center (ERIC), Academia, Researchgate, Scimedirect, Taylor & Francis Online and Springer. Databases for materials related to the Olympic Movement are also used, namely the Olympic World Library and the LA84 Foundation Library. Articles and books from university libraries are also part of the research. Many of the analysed articles are from different sports journals. Scientific articles are written on the YOG in the Proceedings of the International Sessions of the International Olympic Academy (IOA), which are also used for the study. For the general

overview on sustainability, the United Nations (UN) website is used as a source, besides the scientific articles.

On the YOG one book has been published in English in 2014 called *The Youth Olympic Games*, which includes crucial information to the study, therefore it is considered as a key resource for the research. In German language there are two further books written about the YOG, which are focusing on the opportunities and challenges (*Olympische Jugendspiele: Chance oder Gefahr?*), as well as the expectations and the reality of the YOG (*Die Youth Olympic Games zwischen Anspruch und Realität: eine empirische Untersuchung zu Einstellungen Tiroler Schüler im Zusammenhang mit den Youth Olympic Games 2012*). Due to the language of these published books, they are not used in the current research.

Studying the comprehensive sustainability of the YOG is challenging due to the complexity of the sustainability aspects, however with the large number of detailed resources I am confident that with the chosen qualitative strategy the research findings can draw reliable research findings and conclusion to the study.

CHAPTER IV. RESEARCH FINDINGS

1. SOCIAL SUSTAINABILITY

As the YOG's most unique innovations are the educational and cultural program empowering youth that makes the event a pioneer among other elite sporting events, the social dimensions can be evaluated the most extensively. The social aspect is also the most researched among all sustainability areas. However, some innovations, benefits and disadvantages affect more than just the social dimension. The social, economic, and environmental dimensions are intertwining in many cases and one affects the other. The study seeks to categorise the research findings on the most logical way for a well-structured analysis.

a. Learn & Share

Referring to the literature review on the birth and the concept of the YOG, the educational value of the Olympic events should be a key element in the Olympic Movement. Therefore, the **Learn & Share program** of the YOG, initially called the Culture and Education Program (CEP) is an essential part of the sustainability study. The Learn & Share program makes the YOG outstanding, having equal emphasis on the educational and sports program too.⁸⁶ The educational dimensions of the YOG should not only be limited to the Learn & Share program, but be embedded in the entire organisation and operations of the Games.⁸⁷

The activities of the program are built around the themes of Olympism, skills development, well-being and healthy lifestyle, social responsibility, and expression.⁸⁸ The educational and cultural events of the YOG can have a remarkable impact on the athletes' future by having the opportunity to interact with young people from all around the world for a better cultural understanding and by learning about relevant issues that can positively influence their career and personal life. This way, the young participants of the event can become the ambassadors of the Olympic Movement and the values of Olympism in the future. The principle of "learning by doing and sharing"⁸⁹ and the form of non-formal education helps to reach the young people and get them involved in interesting and fun activities.

⁸⁶ Torres 2010: 13; IOC OSC 2016 Factsheet 3: 1

⁸⁷ IOC OSC 2016 Factsheet 3: 1

⁸⁸ Torres 2010: 7; Parry 2012: 91; Hutchison 2014: 17-18; Masumoto 2012: 36; IOC OSC 2015 Factsheet 1: 3; IOC OSC 2015 Factsheet 3: 1

⁸⁹ Torres 2010: 9

The Learn & Share program is very diverse, and designed based on the following principles to achieve its objectives:⁹⁰

- *“Attractive to motivate participants to attend*
- *Participative: do things, act*
- *Interactive to connect participants and youth of the world*
- *Fun: learn with pleasure*
- *Innovative by bringing new approaches*
- *Flexible: shaped around sports competitions*
- *Adapted to the audiences”*

Originally, all athletes and officials stay for the whole event.⁹¹ This way all athletes can take part in the Learn & Share program too and in case it is necessary, train on the high-level venues after their competition is over⁹². However, a new concept was proposed by the IOC for Lausanne 2020: the introduction of the “two-wave” system. Due to this decision, the number of competition days was extended from 10 to 14, to guarantee enough days for the sports program and allow seamless transition between the two waves, particularly in the YOY.⁹³ The two-wave system means that athletes are not present for the whole event, they cannot interact with others from certain sports, not everyone can attend the Opening- and Closing Ceremony and other special side events, so it imposes some limitations to this concept.

The Learn & Share program is designed around the sports program to ensure the participation of all athletes.⁹⁴ Initially there were discussions about whether to make the participation of athletes in the program compulsory. Participation is on voluntary basis to offer the possibility for athletes for non-formal and informal learning based on their individual choices.⁹⁵ The themes of the Learn & Share program cover different areas that are relevant to the youth and related to the concept of the YOG. It presents the Olympic Movement, the Olympic Values, and the Olympism to the participants. The themes also include several topics that can support the athletes and the non-athlete participating youth in their future. This covers

⁹⁰ IOC 2008: 103

⁹¹ IOC OSC 2015 Factsheet 1: 2

⁹² Official Report Nanjing 2014: 29

⁹³ Lausanne 2020: Winter Youth Olympic Game Official Report.

⁹⁴ IOC 2008: 96

⁹⁵ Hanstad et al 2014: 212

topics related to the athletes' sports career, such as career management, media relations, as well as risk factors of sport, like doping and sports betting.⁹⁶ The involvement of Olympians and Champions as Athlete Role Models (ARM) is an important principle of the program to inspire the young athletes.⁹⁷ An overall promotion of healthy lifestyle is included in the program, and the inclusion of the youth in different ways as well (such as career possibilities in sport). New developments and initiations through digital media are also presented. The last theme of the Learn & Share is social responsibility, which includes topics such as environmental protection, humanitarian issues, and community assistance.⁹⁸ The program activities are organised in different forms, for example forums, talks, interactive workshops, and artistic activities.⁹⁹

The program is designed mainly for athletes and non-athlete young participants (volunteers, young leaders, officials, coaches), who are integral part of the YOG, however everyone is encouraged to attend in the innovative program and take away learning experiences through different activities, such as parents, sport educators, local youth and international youth.¹⁰⁰ Coaches and officials have the possibility to widen their horizon and learn new things, share coaching and athlete management philosophies, especially through the seminars organised for them on topics such as development of winning mentality and optimising coaches-athletes relationship.¹⁰¹ The goal is to reach a wide audience with the messages of the YOG.¹⁰² Participating in the program can contribute to building friendships across borders and cultures, taking part in social interactions and informal learning experiences, improving the language skills of young people, and developing partnerships and cooperation among coaches, officials, and NOCs. Since the cultural and educational program of the YOG is unique, it cannot be compared to any other programs, it must be examined on its own.¹⁰³

The program is comprised of two parts: the educational and the cultural activities. IOC is in charge of the educational program to guarantee the quality of the program, while the NOCs, IFs and the YOG Organising Committee (YOGOC) are also contributing to the content of it. The cultural program is designed by the YOGOC and approved by the IOC. The YOGOC is

⁹⁶ IOC 2008: 96, 105

⁹⁷ IOC 2008: 107; IOC OSC 2015 Factsheet 1:3; IOC 2011: 33

⁹⁸ IOC 2008: 105

⁹⁹ IOC 2008: 96

¹⁰⁰ IOC 2008: 107; International Olympic Committee (2020, September 15) What is YOG.; Hanstad et al 2014: 200

¹⁰¹ IOC OSC 2016 Factsheet 3: 3

¹⁰² IOC 2011: 33

¹⁰³ Hanstad et al 2014: 200

responsible for the implementation of both the educational and the cultural parts of the program.¹⁰⁴

The timeline of the Learn & Share project starts before the YOG, by raising the awareness of the audiences and engaging the stakeholders, such as athletes, National Federations (NF), sports clubs, and authorities, mainly through the NOCs. During the YOG, the Learn & Share program is delivered. The program is based on the 4 pillars of education, that are defined by a UNESCO report: “learning to know, learning to do, learning to be and learning to live together and with one’s emotions”.¹⁰⁵ The activities in the first three group build the educational part of the Learn & Share, while the “learning to live together” activities form the cultural program.¹⁰⁶ Wide range of events are organised around each pillar:

Learning to know	<p style="text-align: center;">Educational Sessions</p> <p>Experts, Role Models, and representatives of the Olympic Movement talk about crucial topics in sports (healthy lifestyle, nutrition, risks in sports, anti-doping, social responsibility, fair play)</p>		
Learning to do	<p style="text-align: center;">Educational Activities</p> <p>Activities organised for youth in different areas, ensuring the opportunity for all athletes, non-athlete young participants and local youth to be actively involved through different initiatives: volunteer program, IOC Young Reporters Programme, IOC Young Ambassadors Programme, young Technical Officials, young YOGOC members, Team Officials, Team Liaison Officers or Hosts</p>		
Learning to be	<p style="text-align: center;">Educational Forums</p> <p>Providing a platform for participants to discuss and debate topics related to the Olympic Movement, the Olympic Values, the future of the YOG and sustainability of the Olympic Movement Topics based on the Olympic Charter and Agenda 21)</p>		
Learning to live together and with one’s emotions	<p style="text-align: center;">Artistic Activities and Events</p> <p>Art performances, exhibitions, workshops</p>	<p style="text-align: center;">Celebration of Cultures and Traditions</p> <p>Local and international cultural and traditional events</p>	<p style="text-align: center;">Celebration of the Games</p> <p>Among participants, together with the locals and visitors</p>

Table 1: Learn & Share activities and projects built around the four pillars of education¹⁰⁷

¹⁰⁴ IOC 2008: 105

¹⁰⁵ IOC 2008: 106

¹⁰⁶ Youth Olympic Games 2010 Candidature Procedure and Questionnaire 2007: 75

¹⁰⁷ Sources: IOC 2008: 106; Youth Olympic Games 2010 Candidature Procedure and Questionnaire 2007: 75

The preparations of the Learn & Share program are conducted in an interactive way, ensuring the involvement of several experts.¹⁰⁸ The majority of the activities take place in and around the YOY, which makes them easily available for the participants.¹⁰⁹ On some occasions, the activities can be open to public too, to involve the locals and visitors in the innovative learning experiences.¹¹⁰ The athletes are encouraged to participate in the activities with different gifts given to those who join more or all of the activities.¹¹¹

During Singapore 2010, the CEP activities were organised in seven formats: Chat with Champions, Discovery Activity, World Culture Village, Arts and Culture, Community Project, Exploration Journey, and Island Adventure.¹¹² Exhibitions took place such as the Olympic Gallery, Career Corridor and Health Zone, and workshops in Networking and Digital Media for example.¹¹³ Over 50 activities took place in the themes of Olympism, Skills Development, Well-being and Healthy Lifestyle, Social Responsibility and Expression. One of the highlights of the program was educating youth about green activities and environmental issues.¹¹⁴ During the IOC Youth Session athletes from all NOCs met the IOC President and had the opportunity to raise questions, concerns to him and receive feedback.¹¹⁵ International organisations offered activities and learning experiences, such as the Joint United Nations Programme on HIV/AIDS (UNAIDS), United Nations Environment Programme (UNEP), United Nations Children's Emergency Fund (UNICEF), International Federation of Red Cross and Red Crescent Societies (IFRC), World Anti-Doping Agency (WADA), International Olympic Academy (IOA) and the International Fair Play Committee (CIFP).¹¹⁶

Despite the initial concerns about the CEP, Jacques Rogge stated that the event proved itself, the Culture and Education Programme was a huge success. The first YOG set high standards by implementing such a diverse CEP and most feedback showed satisfaction. The interactive activities on global topics were more popular than the classroom type educational events.¹¹⁷ All athletes took part in the program, about 2000 athletes completed all activity

¹⁰⁸ Hanstad et al 2014: 200

¹⁰⁹ IOC 2011: 41

¹¹⁰ IOC 2011: 33

¹¹¹ Masumoto 2012: 36

¹¹² Official Report Singapore 2010: 24, 56; Torres 2010: 8, Wong 2012: 141

¹¹³ Hanstad et al 2014: 202

¹¹⁴ Official Report Singapore 2010: 56

¹¹⁵ Hanstad et al 2014: 203

¹¹⁶ Hanstad et al 2014: 202; Wong 2012: 141

¹¹⁷ Hanstad et al 2014: 203; Doll-Tepper 2011: 1, 7; Torres 2010: 9

formats and 80% rated their experience as “awesome” according to the official report.¹¹⁸ –based on a research among Japanese athletes, over 56% of them participated in all CEP activities. Their CEP experience was rated with 4.8 out of 5, highlighting their excitement about the meeting and exchanging with other athletes from all around the world.¹¹⁹ On the other hand, based on another research carried out after the event, the athletes showed some level of dissatisfaction towards the Culture and Education Program and had the feeling that the program was not appropriately targeted to their age.¹²⁰ Some athletes perceived it as distraction from the competition,¹²¹ while some of them did not have enough time to attend due to the busy sports schedule and other responsibilities (school assignments, media appearances).¹²² In some cases, the athletes did not first recognise what they learned at the event, but their questionnaire answers showed important non-formal learnings as a result.¹²³ After Singapore 2010, the research shows that the athletes rated the international atmosphere and the informal interactions as the best experience. The research also indicated that the athletes’ experience depends on their country of origin in some cases and on their previous experiences with sports events.¹²⁴

The inaugural YOG in 2010 was perceived as a successful event overall by the media, the government, and the IOC as well, and created high benchmark for future YOGs. The Games “exceeded the highest expectations” of Jacques Rogge, however finding the right balance between the high-level sports competition and fulfilling the educational aims of the YOG at the same time remained questionable to many.¹²⁵ The research conducted by Wong after Singapore indicates that the IOC’s goals with the YOG are very ambitious, however one event will not change the trends. Despite that, it still brings advantages, especially for the host city of Singapore.¹²⁶

Many of the elements from of the CEP in 2010 became part of the program in 2012 as well.¹²⁷ One remarkable difference can be identified compared to 2010 is that most of the CEP activities were accessible to the public, not only to accredited people.¹²⁸ The Welcome to YOG

¹¹⁸ Official Report Singapore 2010: 153

¹¹⁹ Masumoto 2012: 36

¹²⁰ Hanstad et al 2014: 176; Krieger 2012: 714

¹²¹ Hanstad et al 2014: 315

¹²² Krieger 2012: 714; Parent et al 2014: 304

¹²³ Doll-Tepper 2011: 9-10

¹²⁴ Hanstad et al 2014: 177-178

¹²⁵ Hanstad et al 2014: 303-304; Wong 2012: 138

¹²⁶ Wong 2012: 150

¹²⁷ Hanstad et al 2014: 204

¹²⁸ Hanstad et al 2014: 205

Innsbruck 2012 Event took place in Congress Innsbruck aiming the athletes and team officials; with live music, dance performances, YOG videos, introduction of the Young Ambassadors and the ARMs to present the YOG to the participants and create excitement among the athletes.¹²⁹ The CEP consisted of several different activities, many of them taking place in Congress Innsbruck.¹³⁰ The Youth Olympic Games Media Lab offered the opportunity to participants to get useful tips and practice media appearances, as well as the responsible use of social media platforms. Through the YOG World Mile project, the different cultures of the participating countries were demonstrated by school children from 60 local and 20 international schools. Not only the nations were presented, but international organisations held workshops and exhibitions on global topics. The Sustainability Project educated the young athletes on environmental and sustainability issues through workshops. The Green YOY poster campaign was also part of the project, informing the participants about separating the waste correctly and reducing water and electricity consumption. The Mountain Awareness workshops gave an insight in the risks of off-piste mountain activities. The Mountain Snow and Fun, Climbing and Ice Stock Sport were outdoor activities where participants could join.¹³¹

Athletes had the opportunity to attend in Art Projects and try themselves in dance, music, and modern art activities. The Competence Project focused on preparing the athletes for their professional career by workshops on dual career, sport nutrition, time management, as well as a cookery course. The Meet the Role Model Sessions were part of this project too, providing a platform to athletes to listen to Olympic Champions' stories and interact with them. Not only with the champions but interact with coaches too through Meet the Coaches event.¹³² The Olympic Youth Festival 2012 comprised of fun programs and team-building activities. The CEP activities were visited around 17 000 times in total by athletes, school children and visitors.¹³³

According to a research carried out after Innsbruck 2012, the athletes, parents, and team officials all focused on the competition in the first place. However, the athletes were inspired by the Olympic values and international exchanges, and team officials were interested in the learning experiences. They were surprised by the non-formal learning opportunities, they

¹²⁹ Official Report Innsbruck 2012: 87

¹³⁰ Hanstad et al 2014: 204

¹³¹ Hanstad et al 2014: 204

¹³² Hanstad et al 2014: 207

¹³³ Official Report Innsbruck 2012: 88-92

expected to have more formal learning program. Due to the different perceptions about formal, non-formal and informal education, some perceived it less serious by not having formal education (mainly coaches), while athletes saw it as a positive thing as it was more exciting for them and not “boring” like classroom lessons.¹³⁴ Young Ambassadors and ARMs were seen as motivators to be part of the CEP. The Opening Ceremony was also rated as a platform for “social networking and communication”. The participants described their YOG experience as “great”, “wonderful”, “overwhelming”, “stunning”, “lively”, “fun” and “local but global”.¹³⁵

Athletes, team officials and stakeholders had a positive feedback on the CEP overall, although some athletes had not enough time to participate due to the busy sports schedule.¹³⁶ Some athletes reported that they had no time to attend the CEP due to their “hectic competitive program” (curling), some of them had “balanced competitive program” so they could attend the CEP activities and had sufficient free time (biathlon), while other athletes complained about too much free time and not having enough competition for them due to their “limited competitive program” (luge). Balancing the different sports schedules with the educational and cultural program schedules is necessary to be revised and further improved.¹³⁷ The feedback from the Canadian and Norwegian athletes show that they were satisfied with the event, highlighting the YOY environment, sport venues, travel, security, ceremonies, medical services, the international atmosphere, meeting new people and informal CEP activities. Among them, there were many, who did not attend, due to the sport schedule (hockey, curling) or supporting other athletes during their competition. The CEP was more seen as entertainment for them, whenever they found the time for it.¹³⁸

In Nanjing, the CEP activities were organised mainly in the central areas of the YOY. Activities included the World Culture Village, Environmental Protection Booth, Learn & Share Tent, Healthy Cooking Workshop, Music for Stress Relief, Sports Initiation and Chat with Champions.¹³⁹ Five other venues were involved in the CEP activities, which were organised in the framework of the Youth Festival, Boost Your Skills, World Culture Village, Discover Nanjing, Sports Initiation and Sports Lab. The whole city was mobilised and involved in the

¹³⁴ Hanstad et al 2014: 180, 208-209

¹³⁵ Peters & Schnitzer 2015: 127-130

¹³⁶ Hanstad et al 2014: 180, 208-209

¹³⁷ Hanstad et al 2014: 338; Peters & Schnitzer 2015: 127, 135; Kristiansen 2013: 1, 9-17

¹³⁸ Parent et al 2014: 309, 314, 320

¹³⁹ Official Report Nanjing 2014: 41, 44

YOG through different activities and events, showcasing the Chinese culture and traditions to the world.¹⁴⁰ Tours were offered to visit the Nanjing Olympic Museum as well.¹⁴¹ The CEP was opened with the “Let’s Get Together” Welcome Session in the YOY. The Learn & Share Tent was managed by the IOC, offering several interactive activities and workshops in Safe Sport, Injury Prevention, Play Fair, Athlete Career Programme, Inter-ACT, Play True Generation Outreach Programme, and the ARM Lounge. International organisations like in 2010 and 2012 were also represented and offered activities to educate youth. The 1498 CEP activities were visited by a total of 1.23 million people including the athletes, team officials, non-athlete participants and the local youth of Nanjing.¹⁴² The athletes themselves visited the CEP activities 114 231 times. The Yogger was a popular platform to exchange information and interact with other YOG participants. In Nanjing 4524 athletes and team officials used the platform to make new friends with a total number of 882 361 Yogger interactions.¹⁴³

The Lillehammer 2016 Learn & Share program was diverse and well organised, including several interesting workshops, forums, and excursions. The athletes’ awareness and interest towards the educational and cultural activities increased in 2016 compared to the previous YOG editions, which could also be explained by the accessibility of these activities.¹⁴⁴. Over 16 000 visits were registered in total. 33 different learning activities were organised to the participants on the topics of Olympism, social responsibility, career planning, training, and nutrition. These activities were organised in the framework of Keep YOG Green, Clean Sport, Injury Prevention, Performance Clinic, Play Fair, Safe Sport, Lead the Game, Your impACT, Photo Finish, Dignity in Sport, Eat Smart Workshop, Media Training and Olympic Solidarity sessions. The coaches had the opportunity to learn and interact through the Coaches’ Hour. A new concept was initiated by the YOGOC, which was the Education Day. It meant that on that day all trainings and competition ended in the early afternoon, so all the athletes could attend special educational activities the rest of the day.¹⁴⁵ As part of the Learn & Share program, free seminars were organised on youth sport in cooperation with the Lillehammer University College. The events included the 7th International Sports Business Symposium and seminars in

¹⁴⁰ Official Report Nanjing 2014: 53

¹⁴¹ Official Report Nanjing 2014: 54

¹⁴² Official Report Nanjing 2014: 47-49

¹⁴³ Official Report Nanjing 2014: 52, 130

¹⁴⁴ Nordhagen & Krieger 2019: 67

¹⁴⁵ Official Report Lillehammer 2016: 157-158; Lillehammer 2016 Youth Olympic Games: Your Guide: 11

Health and Youth Sports, Youth Sports and Olympic Values, Technology and Sports Consumption, Top Level Performance in Sport, Research and Culture.¹⁴⁶

A research conducted after Lillehammer 2016 indicated that the focus of the athletes was the sport competition, but they were happy to take part in the Learn & Share activities and the interactions were valuable to their YOG experience. The level of satisfaction with the educational program increased compared to 2012.¹⁴⁷ Athletes enjoyed their experience at the YOG, particularly the atmosphere of the event, meeting people and the cultural and educational activities, assessing it as a “life experience”. After their YOG participation, athletes believed that they can be role models to other young people, and they are inspired to pursue sporting career and aim to reach the Olympic Games. Some of the respondents recommended creating more opportunities for interaction between participants, such as dance programs, more meetings with athletes from the same sport, more obligatory programs for athletes where they can meet each other informally, fun events like snowball fight or snowman contest. This shows that participants see the Learn & Share program like a “team-building” program. Interactions were mainly observed within athletes from the same nation, therefore creating opportunities for more cross-national interactions would be encouraged by the participants. Athletes appreciated the work of Young Ambassadors, who encouraged them to join the Learn & Share program. Overall, the YOG was perceived as an “opportunity for athletic development, a learning environment and a social environment”. Nevertheless, the long-term efficiency of some learning activities is questionable. Most athletes were not able to recall the three Olympic values shortly after participating in the YOG and some athletes could not fully enjoy the educational program until they finished their competition. Therefore, a revision on improving the Learn & Share activities is necessary for the long-term positive impact to reach the mission of the YOG. Most athletes in the survey did not consider themselves as “Young Olympians”, but they felt they could be role models and pursue a professional career in sport.¹⁴⁸

In Buenos Aires athletes gave a positive feedback on the atmosphere and on their YOV experience, as the YOV was the central place for meeting with other athletes and taking part in Learn & Share activities. Based on the research on YOG 2018, this experience motivated the athletes to continue their sporting career, become professional athletes and Olympians. Meeting

¹⁴⁶ Lillehammer 2016 Youth Olympic Games: Your Guide: 10

¹⁴⁷ Nordhagen & Krieger 2019: 72

¹⁴⁸ Parent et al 2016: 4-5, 22, 36-39; Parent et al 2019: 15

other athletes and the ARMs helped them to improve their performance and knowledge, and to have an impact on their community. The athletes’ experience shows that their participation was a social learning process. Compared to the research results from previous YOGs, there was an increase in the satisfaction of the athletes, as well as in learning and inspiration. This indicates the development and improvement of the YOG, as in order to be a success and meet its objectives, the feedbacks and satisfaction of the participants is essential.¹⁴⁹

Lausanne 2020 aimed to implement the event within the framework of the Olympic Agenda 2020 recommendations. The Athlete 365 Education Programme was implemented by several academic institutions. The education program needed adjustments in the duration of the activities, as the athletes had less time to participate because of staying for a shorter period of 6-7 days due to the “two-wave” system. Their programs during their stay were strictly scheduled, there was much less time for educational and cultural activities and exchanges, as well as visiting other competitions. Their schedule was packed with “Train, Compete, Learn, Eat, Sleep, Repeat”. The Athlete 365 Education Programme comprised of five activities and two events: Awareness, Media Lab/Game Changers Hub, Health for Performance, Chat with Champions and IF Focus Day.¹⁵⁰

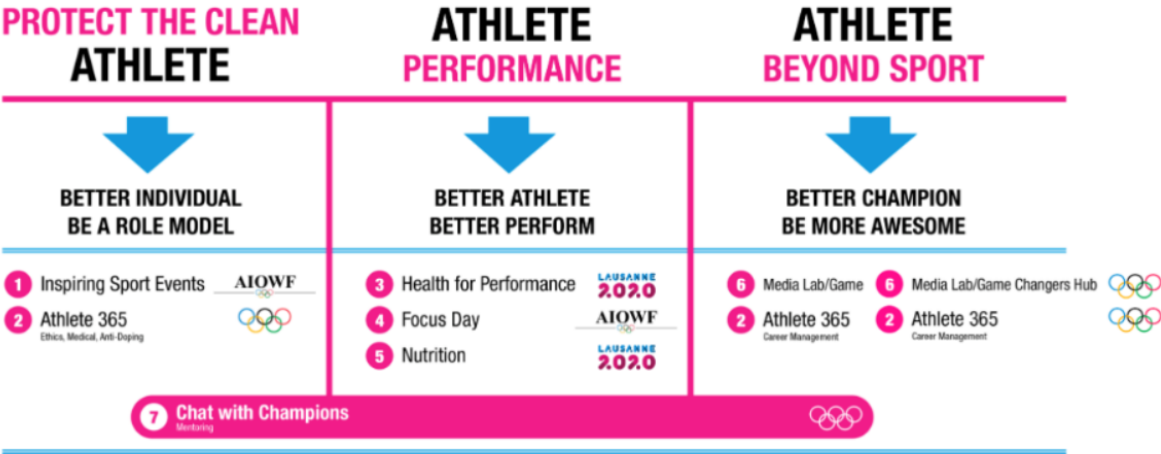


Figure 3: Athlete Education Programme at Lausanne 2020¹⁵¹

As part of the Awareness activities, the athletes were educated about the risks of sports (abuse, corruption, doping), career management and Olympic Solidarity. In the Media Lab

¹⁴⁹ Parent et al 2019: 5-6
¹⁵⁰ Lausanne 2020: Winter Youth Olympic Games Official Report
¹⁵¹ Source: Lausanne 2020: Winter Youth Olympic Games Official Report

activity, the athletes had the chance to use a camera and film their experiences and edit a video. The Health for Performance module consisted of tests for athletes' performance: posture and mobility, muscular tension, and movement analysis to create a "sports and health" profile for their individualised training program. Besides that, athletes could use virtual reality to help to detect concussion and get advice on stress management, healthy sleeping, and sports nutrition. The Chat with Champions provided an opportunity to athletes to interact with the ARMs, which was very popular among athletes. The IF Focus Day created a platform to all IFs to develop their own educational activities with the aim of intercultural exchanges, development of skills and gain knowledge.¹⁵²

The Learn & Share program of the YOG is aimed to be sustainable and assure continuity with the network and learning gained while the program is being delivered during the YOG.¹⁵³ Athletes receive a farewell kit with educational material, as well as access to an internal networking platform with all other athletes. For the NOCs and IFs, the best practices publication on the Learn & Share and the kit with educational material is made available after the event. To assure the success of the future Learn & Share programs, knowledge transfer is ensured between YOGOCs.¹⁵⁴ The dissemination of the project is implemented through different platforms to reach communities around the world. Throughout the whole project, the digital platforms are mainly used, however during Games-time TV and radio broadcasting is also available.¹⁵⁵

The Learn & Share program has its challenges too as already mentioned in this chapter. Besides those challenges, the program involves a large audience from very diverse communities from different countries and cultures. The language barrier can cause difficulties for non-English speaking athletes that the IOC must handle when designing the program.¹⁵⁶ Therefore, interpreters are helping the athletes in participating Learn & Share activities at every YOG, and the Young Ambassadors/Change-Makers of the NOCs also help the athletes in joining activities. In Innsbruck, some sessions were organised in other languages too, such as German and Russian.¹⁵⁷

¹⁵² Lausanne 2020: Winter Youth Olympic Games Official Report

¹⁵³ IOC 2008: 106, 107

¹⁵⁴ IOC 2008: 107

¹⁵⁵ IOC 2008: 108

¹⁵⁶ IOC 2008: 104

¹⁵⁷ Hanstad et al 2014: 206-207

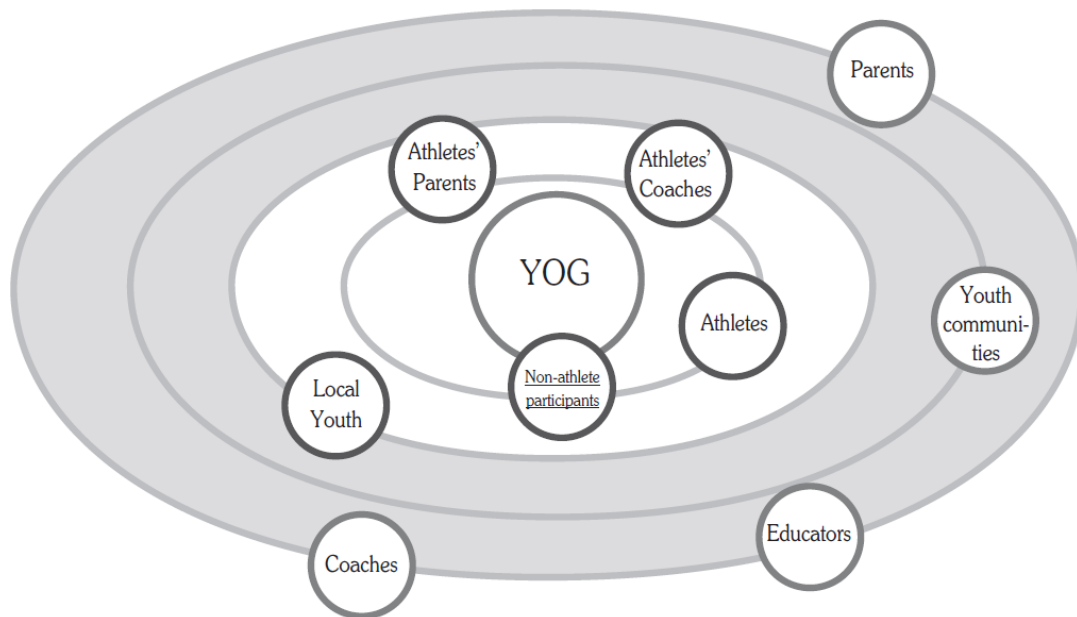


Figure 4: YOG Learn & Share audiences¹⁵⁸

Each segment of the audiences must be taken into consideration when designing the Learn & Share program, to make the program successful. The main audience is the athletes, for whom a program must be motivating, flexible and high quality so that they learn from it and enjoy it the same time. The educational and cultural aims of the program are not only important for the athletes, but for the non-athlete young participants as well. The parents and coaches of the athletes must be convinced to support the YOG and the Learn & Share concept. Involving the local youth and giving them a chance to be part of program ensures a lifetime experience for them. Besides the direct audiences of the YOG, there are communities worldwide that are indirectly involved, such as young people around the world and their parents, coaches, and educators. The locals and the visitors should also be involved in some part of the cultural and educational program, ensuring the high reach of audiences.¹⁵⁹ Studies show overall satisfaction on the Learn & Share; however, the success is difficult to measure. Since informal learning processes are “neither planned nor standardised”, the assessment of the learnings is challenging, as even the participants cannot clearly state what they learned in the program in many cases.¹⁶⁰

¹⁵⁸ Source: IOC 2008: 104

¹⁵⁹ IOC 2008: 104; Youth Olympic Games 2010 Candidature Procedure and Questionnaire 2007: 74

¹⁶⁰ Doll-Tepper 2011: 8-9

b. Empowering Youth

The mottos formulated the vision of each YOG in a short sentence, reflecting the goal of the YOG and referring to the impact on the future of the youth.

2010 Singapore: “*Blazing the Trail*” – Singapore was a pioneer in making serious investments in youth and sports, and in showcasing the model of the first YOG to the world with the spirit of innovation and entrepreneurship.¹⁶¹ At the same time connecting the youth of the world and inspire them to dream big¹⁶², and breaking the new ground for the Olympic Movement and for others to follow.¹⁶³

2012 Innsbruck: “*Be part of it*” – strong message to everyone to do their parts to contribute to the YOG and be part of it either as a spectator, volunteer, athlete, student, organiser, partner, sponsor, federation and so on. The success of the event depended on the campaign through ambassadors who created enthusiasms around the event and invited everyone to join.¹⁶⁴

2014 Nanjing: “*Share the Games, share our dreams*” – “solemn pledge” from Nanjing to the YOG and a “heartfelt aspiration of the youth of different skin colours, ethnic and cultural background”, providing an exceptional learning and sharing experience combining the “Olympic spirit, Chinese culture and elements of Nanjing”.¹⁶⁵ Share the Games by building friendships and share our dreams by creating a better world.¹⁶⁶

2016 Lillehammer: “*Go Beyond. Create Tomorrow.*” – shows the “unbelievable togetherness” as a “clear guidance” on what is needed to create something for the future. The vision of being “Awesome and Humble. Playful and Determined” is what brings people to becoming the leaders of tomorrow.¹⁶⁷

2018 Buenos Aires: “*Feel the future*” – referring to the “union in diversity” of the thousands of athletes from all over the world inspiring the youth to incorporate sport in their life.¹⁶⁸

¹⁶¹ Official Report Singapore 2010: 16-17

¹⁶² Official Report Singapore 2010: 3-5

¹⁶³ Official Report Singapore 2010: 167

¹⁶⁴ Official Report Innsbruck 2012: 102

¹⁶⁵ Official Report Nanjing 2014: 5

¹⁶⁶ Official Report Nanjing 2014: 7

¹⁶⁷ Official Report Lillehammer 2016: 27

¹⁶⁸ Official Report Buenos Aires 2018: 83

2020 Lausanne: “*Start Now*” – a call to action for youth locally and around the world to express themselves and take their chance to be entrepreneurial and be the catalyst for changes. It aims to “inspire young people to make a difference in the world”.¹⁶⁹

The YOG is **for youth by youth**: organisers, managers, officials, leaders, volunteers, ambassadors, change-makers, and reporters are also encouraged to be young people besides the young athletes.¹⁷⁰ Involving young talents in the YOG beyond sport is a great opportunity to empower youth and improve their employability. The IOC is running different programs to involve youth, such as the Young Change-Maker Programme (formerly Young Ambassadors Programme) or the Young Reporters Programme. **Young Change-Makers** (YCMs, formerly known as **Young Ambassadors**) are nominated by the NOCs with the aim to support the athletes in participating in the Learn & Share program, as well as to promote Olympism and the YOG spirit during the event and within their community as well. The position is on a voluntary basis and is not limited to the YOG duration, the YCMs are expected to take up an active voluntary role beyond the YOG. Change-Makers can be active athletes (Olympian, YOG alumni), coaches, students, or sports professionals. They can also provide language support to the athletes during the cultural and educational activities. Young Change-Makers stated that being part of the program helped them in their professional career in different areas of sport, such as coaching, events or media. Many of the YCMs stayed involved in the Olympic Movement after the YOG, either as volunteers or professionals in NOCs, sports organisations, organising committees of sports events and even taking up roles in the next YOGs.¹⁷¹

Besides the YCM program, the IOC launched the Young Leaders program (formerly called YCM+ program) in 2016 with the support of Panasonic. Among the Young Change-Makers who are supporting the athletes during the YOG, there are many who joined the Young Leaders program as well. Young Leaders can apply for a grant to develop projects for youth in their community and contribute to a positive change. Over 100 projects have been delivered by Young Leaders reaching more than 30.000 people. Young Change-Makers have a perspective to become future sport leaders. Several Young Leaders program participants became members of IOC commissions since the launch of the program, having currently 17 of them as IOC

¹⁶⁹ Lausanne 2020: Winter Youth Olympic Games Official Report;

¹⁷⁰ IOC 2008: 96; IOC 2011: 33; IOC OSC 2015 Factsheet 1: 4

¹⁷¹ Hanstad et al 2014: 207; IOC OSC 2015 Factsheet 2015: 1:4; IOC OSC 2016 Factsheet 3: 3; IOC (2017, December 21) Inspirational Young Change-Makers announced for Youth Olympic Games Buenos Aires 2018.

Commission Members.¹⁷² From 2021, IOC redesigned its Young Leaders Programme, selecting 25 young people for a four-year cycle (instead of the previous one-year program) to train them in leadership to become social entrepreneurs and make a positive change through their own projects.¹⁷³ The Young Leaders Programme is part of the IOC's "long-term commitment to support young people" through enabling them to make a difference in their communities.¹⁷⁴ In 2010, 29 Young Ambassadors were part of the YOG, while in 2012 33 young people joined the program. In Nanjing 2014 the record number of 104 Young Change-Makers assisted the NOCs, followed by 39 YCM in Lillehammer 2016.¹⁷⁵ In 2018, 81 Change-Makers were present in Buenos Aires.¹⁷⁶ In Lausanne, 11 Young Leaders volunteered on site to assist in the educational program.¹⁷⁷

Young Reporters are selected students or recent graduates in the field of journalism between the age of 18 and 24, nominated by the NOCs.¹⁷⁸ By being part of the Sport Journalism Training Program, they can get valuable training during the YOG and improve their skills with the support of supervisors in photography, writing, social media, broadcasting, radio, blogging and printed media. The best 15 Young Reporters from the summer YOG are invited to the next winter YOG to use their new skills and knowledge in the field, ensuring a continuity in the program and the long-term involvement of talented young journalists.¹⁷⁹ In 2010, 29 young reporters were part of the first YOG, with 15 of them being invited to Innsbruck in 2012. In 2014, 35 young journalists were selected by the IOC to attend the YOG in Nanjing and the best 15 best were later able to join the program in Lillehammer in 2016 as well.¹⁸⁰ For the summer YOG in 2018 in Buenos Aires, 35 young reporters were invited, out of whom 16 could join the YOG in Lausanne in 2020 – 8 male and 8 female journalists to ensure gender equality.¹⁸¹

¹⁷² IOC (2017, December 21) Inspirational Young Change-Makers announced for Youth Olympic Games Buenos Aires 2018; IOC: Young Leaders Programme

¹⁷³ Rowbottom, M (2021, February 4) Inside the Games: IOC announces 25 names for new four-year Young Leaders programme

¹⁷⁴ IOC (2020, October 28) Open to everyone: Apply to join the revamped IOC Young Leaders Programme

¹⁷⁵ IOC OSC 2015 Factsheet 1: 4; IOC OSC 2015 Factsheet 4: 2-4

¹⁷⁶ IOC (2017, December 21) Inspirational Young Change-Makers announced for Youth Olympic Games Buenos Aires 2018.

¹⁷⁷ IOC (2020, April 3) IOC Young Leaders helping spread the Olympic message

¹⁷⁸ Parry 2012: 93

¹⁷⁹ IOC 2011: 33; IOC OSC 2016 Factsheet 3: 3; Hanstad et al 2014: 38; IOC Factsheet 2015 1: 4

¹⁸⁰ IOC OSC 2015 Factsheet 1: 4; IOC OSC 2015 Factsheet 4: 2-4

¹⁸¹ IOC (2019, May 22) IOC Young Reporters announced for Lausanne 2020

The **Athlete Role Model** (ARM) programme is endorsed by the IOC, inviting Olympians to the YOG through the IFs to inspire the young athletes, share their experiences with them to help their career and provide to platform for them to interact with their role models.¹⁸² Besides the ARMs, the YOGOC appoints **YOG Ambassadors** for each YOG, who are currently active or recently retired athletes, voluntarily promoting the event and the Olympic values, while sharing their story as well. They have a significant global reach to attract a lot of people and spread the messages of the YOG.¹⁸³

Based on previous research, the leaders within YOGOCs are young, educated, talented and resourceful people, with event and leadership experiences, however no or little experience with multi-sport and long-lasting events.¹⁸⁴ The young leaders tend to be more solution-oriented and flexible, and understand the youth culture better, and they are aware of their competences to complete the tasks well, but they needed to negotiate to use their competences and ideas.¹⁸⁵ The negotiation was due to the structure defined by the IOC, which created both opportunities and challenges to the young leaders.¹⁸⁶ To take advantage of the new ideas and entrepreneurship of young leaders, the IOC should “disassociate itself from some of the institutional elements that have their origin in the Olympic Games” to become a “laboratory” for innovations. The legal and administrative elements should be downscaled and adapted to the commercial and digital world.¹⁸⁷ The research result shows that most of these young leaders at the YOG “feel stuck in the Olympic Movement”.¹⁸⁸

In Singapore 2010, the youth involvement was targeted from the very beginning. Students organised the launch of the event logo called “Spirit of Youth”.¹⁸⁹ Prior to the event, the 2010 Friendship Camp was held in Singapore with more than 400 participating young athletes from all over the world representing 130 NOCs, who had the chance to learn about Olympism and the YOG. A one-year education program run leading up to the Games, planned by youth for youth called CAN! – “Create. Action. Now!” with 143 000 participants, spreading the Olympic values and the spirit of Olympism through four festivals.¹⁹⁰ Not only the CAN!

¹⁸² Official Report Innsbruck 2012: 90; IOC OSC 2016 Factsheet 3: 3; Parry 2012: 92-93

¹⁸³ Lausanne 2020: Winter Youth Olympic Games Official Report; IOC OSC 2016 Factsheet 3: 3

¹⁸⁴ Hanstad et al 2014: 134

¹⁸⁵ Hanstad et al 2014: 137, 145; Bodemar & Skille 2016: 953-954

¹⁸⁶ Hanstad et al 2014: 145-147

¹⁸⁷ Bodemar & Skille 2016: 954

¹⁸⁸ Hanstad et al 2014: 134-135

¹⁸⁹ Official Report Singapore 2010: 23

¹⁹⁰ Official Report Singapore 2010: 56, 202

project was organised, but Olympic Education Programme (OEP) was implemented in schools in Singapore through the OEP Resource Packs.¹⁹¹ As part of the pre-Games initiatives, 669 160 people visited the YOG Learning Centre within the span of less than two years.¹⁹² The high-tech and youth-centred Opening Ceremony involved 5000 Singapore school children performing.¹⁹³ Several activities were organised connected to the YOG, such as the “Noise Singapore” house filled with art, design, photography and music created by youth. An environmental exhibition and several other exhibitions were also set up in the city, performances were organised and the One-Community Walk with 84 000 attendees from the city supporting the YOG.¹⁹⁴ In the framework of the “World Culture Village”, the local school children presented the culture of the participating NOCs within the YOY.¹⁹⁵ The Singapore youth sports scholarship has been funded by Singapore businessman Peter Lim in 2010, when Singapore hosted the YOG. Over the 10 years of the scholarship, 2930 young athletes received the scholarship in 54 sports to support their sporting dreams financially and to be able to excel in their sports.¹⁹⁶

Innsbruck 2012 YOGOC considered itself as a “training ground” for youth.¹⁹⁷ Talented young people from universities, including 50 interns were part of the planning phase and the management of the event. During the Games 94 people were employed in the YOGOC coming from 11 nations, plus 15 interns working with them. The average age of the YOGOC members was 31.¹⁹⁸ For language services, YOGOC worked with 80 Youth Interpreters, who were young contracted and volunteer interpreters from 14 different countries.¹⁹⁹ The event involved 2600 young locals in the YOG World Mile project and another 3000 children in the School Sports Challenge.²⁰⁰ The young Sport Presenters provided the information and entertainment service to the participants and spectators at the sports venues. The young Sport Presenters hosted the highly popular Meet & Greet Sessions with the ARMs, as well as the School Sports Challenge for pupils.²⁰¹ The official song of YOG 2012 was written and performed by a young talent called EMA. During the Opening Ceremony, 70 young people from the region performed on

¹⁹¹ Official Report Singapore 2010: 154

¹⁹² Official Report Singapore 2010: 201

¹⁹³ Official Report Singapore 2010: 75

¹⁹⁴ Official Report Singapore 2010: 159

¹⁹⁵ Hanstad et al 2014: 201

¹⁹⁶ Houston, M (2020, March 18) Inside the Games: Singapore youth sports scholarship reaches 10th year.

¹⁹⁷ Official Report Innsbruck 2012: 34

¹⁹⁸ Official Report Innsbruck 2012: 34, 36; Hanstad et al 2014: 134-135

¹⁹⁹ Official Report Innsbruck 2012: 155-157

²⁰⁰ Official Report Innsbruck 2012: 8

²⁰¹ Official Report Innsbruck 2012: 51

the stage in the framework of the YOG Dance project.²⁰² The medal trays and podiums were designed by local students from the region.²⁰³ The Music Festival taking place during the YOG also involved performances from youth.²⁰⁴ A research on the local youth was conducted after the YOG in Innsbruck, which highlighted important findings. Through involving local youth, the interest in the Olympic Movement and Olympic events can grow, however it does not have a significant impact on the perception of the Olympic Values, as it depends on the “socio-demographic background, general interest in sports events, social capital and the extent of following YOG in media”. The higher the commitment was during the YOG, the more the interest increased. To achieve the aims of the program, it should not be “single, obligatory and isolated”.²⁰⁵ Another research showed that the local youth had positive associations with the YOG and had a positive opinion about the event, however the YOG only effected their lives to a small extent.²⁰⁶

The core values of Nanjing 2014 were based on youth around the pillars of “Excellence, Friendship and Respect” to make an impact on youth, on their parents and the generation after them. It means that they targeted “three generations” by influencing the young participants’ lives.²⁰⁷ One of the clusters for the venues was the University Town Cluster, where 200 000 students and teacher from 15 universities had the opportunity to visit the competitions and be part of the event.²⁰⁸ 106 schools became part of the NOC Twinning Programme to pair up with NOCs to boost the cooperation and exchanges in culture, education, and sports. In the World Culture Village project these 106 schools participated, presenting the culture of the 204 participating nations.²⁰⁹ Schools were also involved in the Sports Initiation project, where YOGOC worked together with 21 IFs and 50 schools to develop the program.²¹⁰ Besides the Sports Initiation Project, the “Sunshine Sports” and the “Sports in the Sunshine for Millions of Students” campaigns were organised to promote physical activity among young people and an intervention program was initiated to prevent youth obesity. The “YOG Health Legacy Programme – Health Class” was launched as a legacy of the YOG, to educate young people about importance of health. Before the YOG 154 schools received the “Sports in the Sunshine

²⁰² Official Report Innsbruck 2012: 71

²⁰³ Official Report Innsbruck 2012: 74

²⁰⁴ Official Report Innsbruck 2012: 78

²⁰⁵ Schnitzer et al 2018: 722, 729

²⁰⁶ Seidl et al 2019: 1, 17

²⁰⁷ Official Report Nanjing 2014: 6

²⁰⁸ Official Report Nanjing 2014: 36

²⁰⁹ Official Report Nanjing 2014: 44, 104

²¹⁰ Official Report Nanjing 2014: 50

Schools” title, which developed one or two specific sports for the children. Thanks to the YOG, the number of youth sport clubs and sport specific schools increased in Nanjing, and 550 schools implemented the National Standards for Fitness and Health of Students.²¹¹ The CEP activities were also popular among local youth, having 80 000 local students visiting these activities.²¹² Young talents were also involved in language services, represented by 400 young interpreters in the program during the Games helping the YOG clients with translation.²¹³

In Lillehammer 2016 besides the participants of the YOG, young people from the region were also involved in the YOG in several different ways, as the YOGOC set the directions from the beginning to “create legacy built by and for youth”.²¹⁴ The event extensively targeted youth in every way, as the YOG was part of the “youth campaign” of Norway.²¹⁵ 2 years before the opening ceremony, 2400 young people were part of the celebration event, when the 18-year-old singer, Emma Speight performed the theme song of the Games called “Go Beyond. Create Tomorrow”.²¹⁶ 400 students were involved in the “Learn and Freeze” art project. Health promotion programs were run in the region for junior high school students with many different activities in the 3-year period leading up to the Games. The “Active Body. Active Mind” project was a successful program by providing practical training for youth in their future career.²¹⁷ 1700 school children participated in the School Olympics program before the Games.²¹⁸ The YOGOC cooperated with the Norwegian Youth Festivals of Art and involved 100 youngsters in the 375 events of the Culture Program in music, culture and production.²¹⁹ The Sjoggfest was organised as the cultural event of the YOG, which turned out to be the largest cultural youth festival ever held in Norway. The activities in Sjog Park attracted over 35 000 visitors during the Games. Altogether 351 concerts, lectures, courses, film screenings, exhibitions, cultural performances, and other activities were organised in the framework of the Sjoggfest. The focus of the Sjoggfest was youth, involving students between 14 and 21 in the planning process of the activities and inviting exclusively young talents to perform. The festival had overall 100 000 visitors.²²⁰ Around 20 000 children from the region of Lillehammer had the opportunity to be

²¹¹ Official Report Nanjing 2014: 104

²¹² Official Report Nanjing 2014: 130

²¹³ Official Report Nanjing 2014: 132

²¹⁴ Official Report Lillehammer 2016: 11

²¹⁵ Hanstad et al 2014: 84

²¹⁶ Official Report Lillehammer 2016: 37

²¹⁷ Official Report Lillehammer 2016: 61

²¹⁸ Official Report Lillehammer 2016: 200

²¹⁹ Official Report Lillehammer 2016: 8, 56

²²⁰ Official Report Lillehammer 2016: 65-66

part of the cultural program and visit the sports events through the Dream Day project.²²¹ School children also took part in the Games through the “Hello World” project, presenting the participating nations.²²²

Students in the field of design from local universities prepared the logo and the visual profile. The four young female students whose design was chosen to be used for the event created the official Lillehammer 2016 stamp for the Norwegian Postal Service as well.²²³ The pictograms and the mascot, Sjogg were designed by young talents too. The design of the medal was made by a young designer from Romania through the international call of the IOC.²²⁴ Many leadership positions were undertaken by young professionals within the YOGOC, making the average age of the YOGOC employees 34.²²⁵ A total of 200 students between the age of 15-20 were trained as sport leaders to support the event and gain valuable knowledge and skills. The local sport clubs were strongly involved in hosting the sports competitions, giving opportunity to young sports managers to be in responsible positions and manage the specific sports at the YOG with the support of experienced mentors. Youngsters also performed in the role of stadium announcers.²²⁶ As part of the sustainability strategy, local school kids “produced” the energy that was used for the Opening Ceremony by physical activity.²²⁷ Trainings were held to health care professionals on sports medicine and injury prevention prior to the YOG. Through the cooperation with the hospital, 220 people contributed to the health services of the Games, developing expertise, and gaining valuable experiences that the city and the region can benefit from in the long term. Through the Chaperone Program students from health and social services could get experiences in the field of anti-doping. After the event concluded, the “expertise remains” in the region.²²⁸

Gerhard Heiberg, Head of the Lillehammer 2016 YOGOC and IOC Member believes the event was a success showing a direction to the future of the YOG having a remarkable emphasis on investing in youth:

²²¹ Official Report Lillehammer 2016: 8, 191

²²² Official Report Lillehammer 2016: 158

²²³ Official Report Lillehammer 2016: 33-35, 38

²²⁴ Official Report Lillehammer 2016: 152

²²⁵ Official Report Lillehammer 2016: 233

²²⁶ Official Report Lillehammer 2016: 38, 41-46, 48

²²⁷ Hendriks, G: Green Sports Alliance: Lillehammer 2016, Smart Games; Lesjo 2017: 135

²²⁸ Official Report Lillehammer 2016: 31

“Some IOC members came to Lillehammer with a sceptical attitude towards the Youth Olympics but travelled home with renewed belief in the concept. Discussions changed direction quickly from debating if the Youth Olympics should continue to planning about just how future Games should be staged. Lillehammer 2016 set new standards, showing sport and culture thriving side by side. This took the Olympic experience to a unique new level. The Summer and Winter Olympics is a money machine; it is here that income is created. On the other hand, the Youth Olympics is a pure investment in the young generation. This can never be wrong. The youth are our future, and it is them that we must listen to.”²²⁹

The YOG in Buenos Aires had a significant impact on the local youth. More than 1000 activities were held during the Games for schools. Before the event, nearly 1 million students joined the activities of the cultural and sports program. A musical comedy and workshops were held in 343 schools on gender and sports, reaching 86 000 students. 80 murals of tile pieces in the topic of sport were unveiled before the start of the YOG, made by more than 7000 school kids. The Olympic medal was designed by a youngster from Indonesia, who won the IOC medal design contest. The official song of Buenos Aires 2018 was performed by young talents. The “One world, many worlds” program involved 206 local schools that made research on the participating NOCs and with the help of their research, an interactive video game was produced. In the creation of the pictograms hundreds of primary school students were involved. Using their drawings, graphic designers created the pictograms. A short film contest was organised for young people between 14 and 18, creating videos on the topics of citizenship, gender, and sport, showcasing the winning short films during the Games. Approximately 200 000 children were part of the YOG through the “The school goes to the Games” program, visiting the competitions and taking part in the cultural and entertainment programs. The goal of the program was to “recover the relationship between young people and sports”.²³⁰ Together with the Argentine University Sports Federation, the YOGOC selected 50 young people who were promoting the Olympic values, creating a network of young people who were aiming to initiate positive changes in the communities.²³¹ Activities held in the Green Park were focusing on healthy lifestyle, outdoor activities, body care, environmental protection, and sustainability. In the Youth Olympic Park, the focus was on the cultural exchanges between young people from

²²⁹ Official Report Lillehammer 2016: 241

²³⁰ IOC (2020, November 9) BA2018 Revisited: Host city reaping long-term benefits of YOG; Official Report Buenos Aires 2018: 5, 69-71, 82-83, 122-123

²³¹ Official Report Buenos Aires 2018: 123

all around the world and locals celebrating diversity through art, music, dance, theatre, science, and games. Tecnópolis Park was centred around innovations and new technologies. The Urban Park was filled with urban art, design workshops, mapping and shows.²³² The YOG in Buenos Aires was turned into a huge festivity by using the concept of “Buenos Aires 2018 Celebrates”, with several activities, cultural programs, music performances, shows, workshops and artistic events being organised in and around the sports venues attracting thousands of people every day.²³³

The latest YOG, Lausanne 2020 targeted five commitments from the legacy aspects from the very beginning: the youth as the heart of the project, easier access to sport, promotion of the Olympic ideal, YOG as a laboratory for innovations and generating new synergies through partnerships. From the social point of view, Lausanne 2020 identified three types of legacies: involving the community through schools, promotion of volunteering and fostering sports activities among youth.²³⁴ The aim of the YOGOC was to create opportunities to involve youth in every area and “be a laboratory for innovation and incubator of ideas for youth, built by youth, to contribute to the Olympic Movement for future generations”.²³⁵ The youth was targeted as the central focus of the event, not only as participants but from every perspective of the operations. Nearly 130 000 students were part of the preparations.²³⁶

Empowerment and training of young people in the three cantons that were involved in the Games in Switzerland was an important goal, to create a long-term non-material legacy.²³⁷ Collaboration methods were tested between schools and Lausanne 2020 with the support of public authorities, which is a remarkable legacy and a useful learning for future event organisers. Several school projects were organised: broadcasting radio programs about the YOG, language exchange programs between the cantons of Switzerland, “art for athletes” project for pupils, production of educational materials, designing the mascot, the brand identity, the pictograms, the Olympic cauldron, the medal trays, the podiums, the website and composing the theme song of the YOG. The medals were designed by a young painter, who is also an athlete himself. The building of the Olympic cauldron and the podiums were also completed by

²³² Official Report Buenos Aires 2018: 106

²³³ Official Report Buenos Aires 2018: 105

²³⁴ Lausanne 2020: Winter Youth Olympic Games Official Report

²³⁵ Lausanne 2020: Winter Youth Olympic Games Official Report

²³⁶ Lausanne 2020: Winter Youth Olympic Games Official Report

²³⁷ Lausanne 2020: Winter Youth Olympic Games Official Report

students: 40 apprentices in different fields such as cabinetmakers, carpenters, painters, poly-mechanics, automation engineers, industrial equipment manufacturers were hired for the project. 50 students from high schools and universities were selected and trained in production techniques, such as scriptwriting, show-calling, on-site production, and video production by Van Wagner Academy, to deliver the sports presentation of Lausanne 2020.²³⁸

Around 20 students of Marketing and Communication or Sport Management created and implemented the digital event communication of the YOG. 40 international students of master's degree in Sports Management volunteered and worked at Lausanne 2020 and completed group projects researching on the YOG. The sports system in the Olympic capital benefited from the cooperation with the academic institutions. During the YOG, the Lausanne En Jeux! Festival took place, consisting of nearly 300 events, including concerts, workshops, shows, exhibitions, and sport activities with the participations of 80 000 school children. The empowerment of youth was key to the popular success of Lausanne 2020. The youth engagement processes have been evaluated after the Games and the experiences and lessons learned in this field will be used for future events in the region.²³⁹

Besides educating and empowering youth through different programs, the **IOC Observer Programme** and the **IOC Visual Transfer of Knowledge Programme** are organised during the YOG to ensure a platform to share the knowledge with future event organisers and potential hosts. For Nanjing 2014 the Transfer of Knowledge was well planned and run in five stages to ensure a long-term benefit of the knowledge gained from staging the YOG and the future utilisation of the knowledge legacy. 71 people attended the Observer Programme in Nanjing from 10 different countries.²⁴⁰

c. Volunteering

Sports events could not be organised without the support of enthusiastic volunteers. Therefore, the **Volunteer Programme** is an essential part of each YOG, engaging thousands of committed volunteers, who are supporting the preparations and the operations of the Games. Both locals and international volunteers can be part of the program, working in different Functional Areas depending on their experiences, skills, and interests. Through the volunteer

²³⁸ Lausanne 2020: Winter Youth Olympic Games Official Report

²³⁹ Lausanne 2020: Winter Youth Olympic Games Official Report

²⁴⁰ Official Report Nanjing 2014: 105

training prior to the event, the volunteers have the chance to improve their social and language skills, as well as to gain professional experience that can contribute to their future career. It also helps to endorse social cohesion and promote volunteering locally and on the broader scale too. The Volunteer Programme fosters inclusion by giving the opportunity to anyone regardless of age, gender, nationality, or religion. The inclusion of students with intellectual disabilities in Lillehammer Volunteer Programme showed a high social value and an important experience for them, by promoting cooperation among each other, being an equal member of a community, acquiring new skills, learning to interact with others and “assist instead of being assisted”.²⁴¹

Being part of the Volunteer Programme is a once in a lifetime experience. It builds a strong volunteer community, not only locally but on the international level as well. For instance, after the YOG in Innsbruck, a volunteer community called Volunteer Team Tirol was established in Innsbruck as the legacy of the YOG and engaged the former YOG 2012 volunteers to join future sports events in the region, such as the 2016 International Children’s Winter Games, the 2020 Winter World Masters Games and world championships in cycling, climbing and different winter sports.²⁴² Keeping the database and engaging the volunteers in future activities is a great way to build an active and committed team and ensure the sustainability of the project.

Based on my experience as a volunteer in Innsbruck and in Lillehammer, attending the YOG has a remarkable impact on volunteers, from whom many became so committed that they have attended the next YOGs (Nanjing, Lillehammer, Buenos Aires, Lausanne) and other sports events (for example the EYOF in Győr) after their YOG volunteering experience. It gives a special identity, great sense of belonging to the volunteers and the feeling of contributing to the success of the event, therefore many volunteers stay active in the future as well as part of this international community. They are called the “travelling volunteers”. In Innsbruck, there were 437 volunteers who travelled from other countries to help in the organisation of the YOG and be part of the event.²⁴³ The YOGOC implemented the Pioneer Volunteer Programme as well, training 40 long-term young volunteers, starting their training in team building, communication, and motivation more than a year before the YOG.²⁴⁴ The YOGOC recognised the potential in

²⁴¹ Undlien 2019: 41-42

²⁴² Olympiaworld Volunteer Team Tirol: Events.

²⁴³ Hanstad et al 2014: 158

²⁴⁴ Official Report Innsbruck 2012: 59

learning from different generations. By involving 150 senior volunteers, the “Grey Eagles” in different positions, the young volunteers could learn from the experiences of the senior volunteers, while senior volunteers could benefit from the skills and knowledge of the young volunteers. This cross-generational approach created a win-win situation for all volunteers and the YOGOC and contributed to the success of the Games.²⁴⁵ One of the greatest examples of volunteer commitment comes from the YOG 2012. Five volunteers from the 1964 and 1976 Winter Olympic Games in Innsbruck became proud members of the Innsbruck 2012 Volunteer Community as well and helped the successful delivery of the YOG with their unique experiences and enthusiasm.²⁴⁶

Wearing the volunteer uniform creates a special bond among volunteers and gives them a proud feeling of belonging to an exceptional community.²⁴⁷ Jacques Rogge, the IOC President during the YOG in Innsbruck in 2012, was wearing the volunteer uniform during the Opening Ceremony and expressed his gratitude in his speech for the outstanding work of the volunteers and his pride to wear the uniform, which was a special appreciation to the volunteers.²⁴⁸

Volunteers showed very high interest in contributing to the Games in Nanjing. Throughout the application period a total number of 103 000 applications were received by YOGOC for the 20 000 positions, out of which 95% were submitted by college students.²⁴⁹ However, not only the younger generation showed interest in being part of it. The eldest volunteer joined the volunteer program with his grandson at the age of 82.²⁵⁰ Besides the official YOG volunteer programme, hundreds of thousands of city volunteers helped in the city to make the event successful.²⁵¹

High number of international volunteers were interested in joining the Games in Lillehammer. During the initial phase of application, 50% of the applicants were foreigners. However, due to the low accommodation capacity of the region a limited number of international volunteers could attend. Thanks to the extended recruitment process locally and the activation of locals, the final number of local applicants highly exceeded the expectations,

²⁴⁵ Official Report Innsbruck 2012: 60

²⁴⁶ Official Report Innsbruck 2012: 60

²⁴⁷ Hanstad et al 2014: 158

²⁴⁸ Rogge 2012

²⁴⁹ Official Report Nanjing 2014: 63

²⁵⁰ Official Report Nanjing 2014: 66

²⁵¹ Official Report Nanjing 2014: 106

having 7636 volunteer applicants in total.²⁵² The Volunteer Program had some special members: Ministers of Norway, as well as the Norwegian Prime Minister became volunteers at the YOG to help in different areas and be part of the event.²⁵³

Buenos Aires 2018 had thousands of volunteers and 120 staff members trained in strategic planning, logistics, marketing, and sustainability in the framework of a collaboration with the Inter-American Development Bank, which enabled them to acquire knowledge and skills to host future events in the region. In addition to that, 432 technical officials were part of the training program of the IFs, which contributes to the sports development of the country.²⁵⁴ The Volunteer Program of Buenos Aires 2018 was the biggest volunteer program ever organised in Argentina. The interest in becoming a volunteer was very high, having over 36 000 applications submitted throughout the recruitment period.²⁵⁵ In total around 30 000 people were part of the organisation of the YOG in Buenos Aires.²⁵⁶

Some host countries, like Switzerland have a culture of volunteering. Involving thousands of volunteers helped to revitalise volunteering in the region and improve the already existing expertise in the field. There was a significant interest in volunteering at Lausanne 2020: out of over 8000 applicants 4172 volunteers were selected to be part of the event. Some of the volunteers were involved in long-term positions, some even starting volunteering 3 years prior to the event. Without the commitment and spirit of the volunteers, it would have been impossible to deliver such a successful event. The key was to involve them from the early stage of the organisation and keep them engaged. The volunteers had a special mission prior to the Games: 850 volunteers helped to furnish the YOY before the arrival of the delegations. Taking part in the YOG made it possible for the volunteers to acquire knowledge and experience that the future event organisers in Switzerland will benefit from.²⁵⁷

²⁵² Official Report Lillehammer 2016: 59

²⁵³ Official Report Lillehammer 2016: 211

²⁵⁴ IOC (2020, November 9) BA2018 Revisited: Host city reaping long-term benefits of YOG

²⁵⁵ Official Report Buenos Aires 2018: 112

²⁵⁶ Official Report Buenos Aires 2018: 4-5

²⁵⁷ Lausanne 2020: Winter Youth Olympic Games Official Report

YOG	Total Number of Volunteers	International Volunteers	Gender	Age
2010 Singapore ²⁵⁸	20 000	400		
2012 Innsbruck ²⁵⁹	1357	705 from 59 nations (52%)	57% female, 43% male	Between 18 and 83; 80% between 18 and 29
2014 Nanjing ²⁶⁰	18 551	200 from 25 nations	40 % female, 60% male	Between 18 and 82; 95% between 18-29
2016 Lillehammer ²⁶¹	3278	517 from 81 nations	51% female, 49% male	Over 50% under 30; oldest volunteer 84
2018 Buenos Aires ²⁶²	8000		56% female, 44% male	Most between 18 and 25
2020 Lausanne ²⁶³	4172	1199 from 88 nations	53% female, 47% male	Between 16 and 89, average age 45

Table 2: Statistics of YOG Volunteers

Regarding the characteristics of the volunteers, a few tendencies can be drawn up based on the statistics available. Due to the size of the event and number of participants, the summer YOGs have a lot more volunteers (between 8000 and 20 000), compared to the winter YOGs (between 1357 and 4172). Most of the volunteers at the YOG are locals, however on each YOG there are many international volunteers, between 200 and 1200, representing different countries from all over the world. The rate of international volunteers appears to be significantly higher on the winter YOGs. The percentage of women taking part in the volunteer program is slightly higher than the percentage of men, except in Nanjing. Based on the data available, not only young people take up volunteer roles at the YOG, but anyone can join regardless of age, even above 80. However, most of the volunteers are from the younger generation under 30.

²⁵⁸ Official Report Singapore 2010: 107, 145; IOC OSC 2015 Factsheet 4: 2; Torres 2010: 1

²⁵⁹ Olympiadworld Volunteer Team Tirol: Events; Official Report Innsbruck 2012: 9, 57, 62; Hanstad et al 2014: 153

²⁶⁰ Official Report Nanjing 2014: 63, 126

²⁶¹ Official Report Lillehammer 2016: 9, 11, 238

²⁶² Official Report Buenos Aires 2018: 112

²⁶³ Lausanne 2020: Winter Youth Olympic Games Official Report

Despite having successful volunteer programs with huge interest, especially from the youth, it is arguable whether the volunteers stay active on the local level after the event or is it just the major sports event that is attractive for them to contribute for different reasons. Previous research from 2000 and 2006 show that the enthusiasm of volunteers drops drastically after major sports events.²⁶⁴ This can be explained by understanding the different motives of volunteers. The “traditional volunteerism” means stronger ties to the organisation and more long term, while “modern volunteerism” is limited to time and place, not having special bonds to the organisation, it has more individualistic motives. Sports event volunteers are mainly volunteering for the event itself, and not for the organisation. The tendency shows that volunteers are doing volunteer work more for personal development and see it as an opportunity to express themselves, learn new things and improve skills and competencies, and gain work experiences in their field, which is particularly true for young volunteers. Many volunteers at the YOG are “travelling volunteers” as well, as mentioned earlier, who travel to the host country just for the event and will not stay involved in volunteering in the host city in the long term. However, both types of volunteers are part of a major sports events.²⁶⁵ Among the Innsbruck 2012 volunteers, the most common response on the motivation was networking, learning and once in a lifetime experience according to a research.²⁶⁶ While it is difficult to assess the increase of volunteerism on the international level due to the travelling volunteers, the volunteering increased from 16.9% to 23.3% in Singapore on the local level immediately after the Games.²⁶⁷

d. Social Cohesion, Participation, Inclusion and Equality

The YOG, as a “global celebration of sport and Olympic values”²⁶⁸, is not only about the sports performance. It also about the **friendships** that are formed during the YOG, learning from each other and the forever lasting memories.²⁶⁹ According to the research conducted by Parent, most athletes stated that the YOG had large or very large effect on their lives.²⁷⁰ Satisfaction, enjoyment and learning of the participants defines the success of the YOG,

²⁶⁴ Hanstad et al 2014: 37

²⁶⁵ Hanstad et al 2014: 152-155, 158-162

²⁶⁶ Hanstad et al 2014: 157

²⁶⁷ Hanstad et al 2014: 316

²⁶⁸ Rogge 2012

²⁶⁹ Rogge 2012

²⁷⁰ Parent et al 2019: 13-14

whether it fulfils its objectives.²⁷¹ Several studies have shown that interactions and building friendships is the biggest advantage of the YOG based on the athletes' experience.²⁷² Staying in the YOY is compulsory for the whole duration of the event, which creates a lot of opportunities to meet others and a great atmosphere, which contributes to the positive experience and the social learning process of the athletes.²⁷³ Interacting with other competitors and getting to know each other helps to break down barriers, respect the differences and foster friendship instead of seeing the others as rivals.²⁷⁴ Political differences however cannot avoid the YOG, and can cause a barrier in building friendships and in creating an inclusive environment. Due to the political issues between Iran and Israel – Iran not recognising the state of Israel – Iran declared that their athletes would not compete against Israeli athletes in Singapore. An Iranian athlete stepped back from the final of the taekwondo competition due to an injury, where the athlete would have faced an Israeli, which created concerns whether politics played a role in not competing in the final. Contest refusal based on political views and political acts exploiting and discriminating athletes have no place in sport, including the YOG.²⁷⁵

For the **universality** of the YOG, the IOC decided to set rules that help to boost equality, diversity, inclusion, transnationalism, and wider participation. Each NOC is provided 4 “universality places”.²⁷⁶ In each team sports on the program, 6 teams are to compete against each other, where each continent must be represented with one team. The maximum number of athletes competing in individual sports was also set for each NOC, limiting the number to maximum 70 athletes per delegation and only one team in team sports. The number of athletes per NOC per sport was also limited.²⁷⁷ To prove the universality of the YOG, in Singapore 98 nations earned at least one medal out of the participating 205 NOCs.²⁷⁸

²⁷¹ Parent et al 2019: 42

²⁷² Nordhagen & Krieger 2019: 69

²⁷³ Krieger 2012: 716; Parent et al 2014: 307; Krieger 2016: 249

²⁷⁴ Official Report Innsbruck 2012: 6

²⁷⁵ Hanstad et al 2014: 37; Parry 2012: 149-150; Krieger 2016: 248

²⁷⁶ IOC OSC 2015 Factsheet 2: 1; Parry 2012: 142; Lucidarme & Maes 2010: 226; Krieger 2016: 249-250

²⁷⁷ IOC 2008: 102; Masumoto 2012: 37; Parry 2012: 142

²⁷⁸ Official Report Singapore 2010: 135

YOG	Participating Countries	Number of athletes	Number of events
2010 Singapore ²⁷⁹	204	3524	201
2012 Innsbruck ²⁸⁰	69	1022	63
2014 Nanjing ²⁸¹	203	3579	222
2016 Lillehammer ²⁸²	71	1067	70
2018 Buenos Aires ²⁸³	206	4000	239
2020 Lausanne ²⁸⁴	79	1872	81

Table 3: Number of participating countries and athletes, and number of events at the YOGs

There is an increase shown in terms of participation and events as seen in the table. The number of participating nations increased from 204 to 206 in the summer YOG, while in the winter edition it increased from 69 to 79. The first summer YOG saw a participation of 3524 athletes, which grew to 4000 in 2018. The increase is even more visible at the winter YOG, from 1022 to 1872 participants between 2012 and 2020. In summer Games, the number of events increased from 201 to 239, while in the winter YOG from 63 to 81.

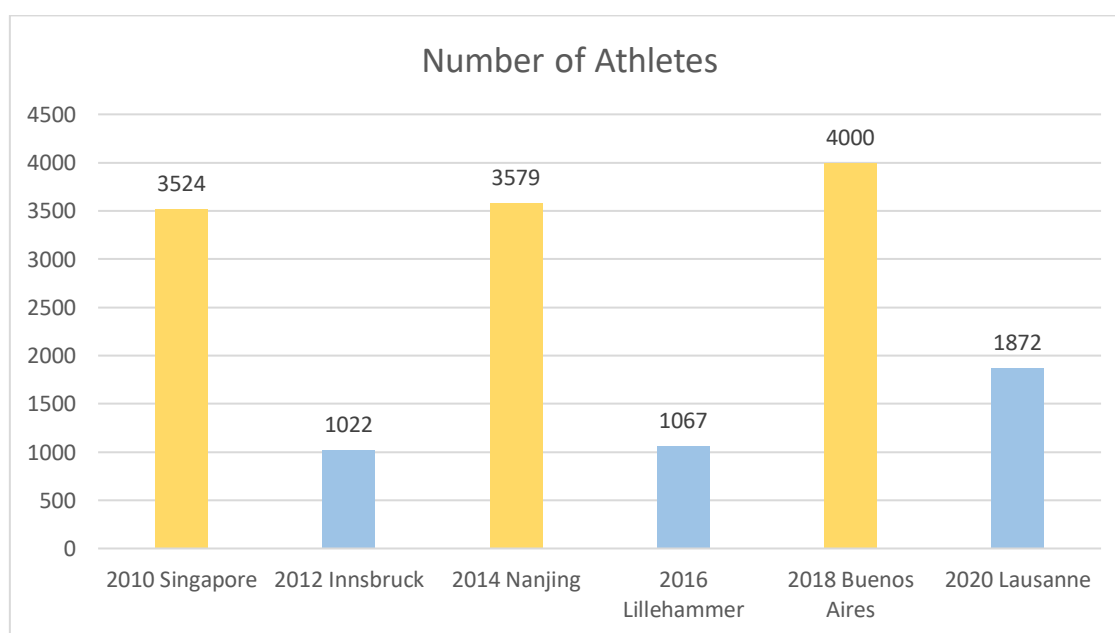


Figure 5: Number of participating athletes at the YOGs

²⁷⁹ IOC OSC 2015 Factsheet 4: 1; International Olympic Committee: Singapore 2010

²⁸⁰ IOC OSC 2015 Factsheet 4: 2; International Olympic Committee: Innsbruck 2012

²⁸¹ IOC OSC 2015 Factsheet 4: 3; International Olympic Committee: Nanjing 2014

²⁸² International Olympic Committee: Lillehammer 2016

²⁸³ International Olympic Committee: Buenos Aires 2018

²⁸⁴ International Olympic Committee: Lausanne 2020

Ensuring the overall gender equity at the YOG is aimed by the IOC.²⁸⁵ In Singapore, the first female athlete participated from Saudi Arabia in Olympic event.²⁸⁶ The first time in the history of the Olympic Movement, **gender equality** was reached in 2018 in Buenos Aires which is a great step towards inclusion of women in sports by ensuring equal opportunities for them. One of the big focus of the cultural program was gender equality too, with several activities organised on this topic. The mixed gender sports events of the YOG are also good example of embracing gender equality. In Buenos Aires, a total of 19 mixed gender events were held.²⁸⁷ Gender balance was also achieved in 2020 in Lausanne at the winter YOG.²⁸⁸

The “**beyond sports**” experiences of the YOG are powerful, enriching the lives of the athletes who can have impact on others too. The YOG participants come from all around the world from different backgrounds, many of them not having the possibility to interact with others from other nations before. For many this is an opportunity of a lifetime, not only from the sport perspective, but to be part of an event where they can interact with other youngsters across borders, learn from each other and inspire each other.²⁸⁹ For example, Singapore 2010 meant the “window of hope” for the football team of Haiti, half year after the country was shaken by a deadly earthquake, killing over 300 000 citizens. The hockey team of Pakistan was another example, whose country was affected by serious floodwaters before the YOG, and the country was just recovering from the natural disaster when the athletes were able to participate at the YOG.²⁹⁰

The engagement of the communities and creating **enthusiasm and pride** is a very important process, especially during the leading up to the Games. To generate excitement and involve the locals to build social cohesion, there are several ways that the YOGOC can contribute to this. The interest around the first-ever YOG in 2010 was growing significantly as getting closer to the event. Already on the One Year Countdown event more than 7000 people attended, followed by other pre-Games events such as the 99-Day Celebration.²⁹¹ The excitement and commitment of locals have several advantages. For example, locals offering to

²⁸⁵ IOC 2008: 102

²⁸⁶ Hanstad et al 2014: 42

²⁸⁷ International Olympic Committee (2020, September 15) What is YOG.; IOC (2020, November 9) BA2018 Revisited: Host city raping long-term benefits of YOG; Official Report Buenos Aires 2018: 4, 74-75; IOC OSC 2015 Factsheet 4: 5

²⁸⁸ International Olympic Committee: Lausanne 2020

²⁸⁹ Doll-Tepper 2012: 5-6

²⁹⁰ Official Report Singapore 2010: 87

²⁹¹ Official Report Singapore 2010: 26

host overseas volunteers in their home.²⁹² The research conducted by Deloitte after the Games showed that the YOG was a platform to promote “national cohesion, bonding and harmony” by giving the opportunity to the locals to unite for a cause.²⁹³ Another study indicated a remarkable growth of national pride after the event, especially among those who were not involved in the Games. Those who visited the YOG events and followed the YOG there was no significant increase in national pride, however, they had higher level of pride initially, which can explain the lower increase in this group.²⁹⁴

Innsbruck 2012 had an integrated approach to allow different generations to be part of the exceptional atmosphere that the Games created in the region. A high level of pride was created in the region and on the national level as well, which contributed to the identification of locals with the YOG spirit.²⁹⁵ The main objective of the communication and marketing activities prior to the Games was to “engage, excite and inform the local population and the world”²⁹⁶. The YOGOC also focused on reviving the Olympic legacy of Innsbruck and building a bridge between the Winter Olympic Games 1964, 1976 and the YOG in 2012.²⁹⁷ The communication channels also ensured visibility to the sustainability initiatives of the YOG.²⁹⁸

During the 2014 YOG, cultural and educational events were held around the city, to mobilise the residents of the region too. At Nanjing Wanda Square, which was named the City Celebration Site during Nanjing 2014, events in sports, culture and education were organised for youth to bring the YOG experience closer to the locals.²⁹⁹ Not only the youth was targeted, the YOGOC set the goal to organise “One Games to Inspire Three Generations”.³⁰⁰ Lausanne 2020 YOGOC focused on involving the locals in the whole region to generate enthusiasm and allowing the locals to be part of it. They made a lot of effort in finding the way to connect everyone to the Games and ensure a popular success. It was especially important for Lausanne as the Olympic capital. In smaller locations, such as Champéry, the whole community got involved in the event in different roles.³⁰¹

²⁹² Official Report Singapore 2010: 128

²⁹³ Hanstad et al 2014: 316

²⁹⁴ Leng et al 2015: 21, 27

²⁹⁵ Official Report Innsbruck 2012: 16

²⁹⁶ Official Report Innsbruck 2012: 97

²⁹⁷ Official Report Innsbruck 2012: 97

²⁹⁸ Official Report Innsbruck 2012: 100

²⁹⁹ Official Report Nanjing 2014: 54

³⁰⁰ Official Report Nanjing 2014: 77

³⁰¹ Lausanne 2020: Winter Youth Olympic Games Official Report

For the engagement of the citizens of the country and the region and for the promotion of the Olympic Movement and the YOG, the **Torch Tour** is organised in every host country. The Olympic Flame for the YOG is traditionally lit in Greece and then carried to the host country to complete its journey around the venues and light the Olympic Cauldron at the Opening Ceremony of the YOG. The Torch Tour is a great way to build up the excitement and involve the communities before the start of the YOG. For the first YOG in Singapore, the Torch Tour started with an around-the-world journey travelling through 30 000 km and having a stop at five continents after being lit in Ancient Olympia. After the 15-day journey around the world, the Flame was welcomed by over 3000 people in Singapore and the tour continued in Singapore with 2400 torchbearers.³⁰² The goal of the around-the-world tour was to engage the world's youth for the inaugural YOG.³⁰³ The YOG Torch Relay in 2012 involved 2012 torchbearers throughout Austria.³⁰⁴ By being one of the lucky torchbearers, it was a very exciting moment for me to be part of such a memorable event. I had the chance to run with the torch among locals in Bad Waltersdorf, a small municipality in Austria after a successful application.

Nanjing 2014 targeted a new and innovative approach to the Torch Relay by combining live torch relay with virtual torch relay, which resulted in outstandingly high participation and wide reach of audiences. The Virtual Torch Relay was a worldwide initiative where everyone could join the main online torchbearer, the Mascot of Nanjing 2014 by downloading the app. The virtual torchbearers had the opportunity to experience the culture of the countries where the relay was passing through. The Torch Relay started with a physical relay, followed by the virtual relay for the main part and finished with the live relay in the end. The app incorporated several options for young people to get involved, such as play games or take pictures. This initiative encouraged the youth to be part of social interactions and sports activities, follow the YOG in Nanjing and support the athletes. This outstanding initiative was very well welcomed and received positive feedback from the IOC, NOCs, and the youth as well. The number of visits of the Virtual Torch Relay was over 112 million.³⁰⁵ The physical part of the relay included 104 torchbearers, while during the Virtual Torch Relay 115 694 torchbearers were part of it. The Virtual Torch Relay app was downloaded 171 362 times.³⁰⁶

³⁰² Official Report Singapore 2010: 12, 45, 48

³⁰³ Official Report Singapore 2010: 35

³⁰⁴ Official Report Innsbruck 2012: 9, 76

³⁰⁵ Official Report Nanjing 2014: 8-11

³⁰⁶ Official Report Nanjing 2014: 128

The Torch Relay in Lillehammer was followed by 29 070 spectators live and by 1 102 000 visitors on Facebook. 147 torchbearers run with the torch throughout the 30-day event.³⁰⁷ The Olympic Flame travelled through Argentina in 2018, covering 20 000 kms and reaching tens of thousands of young people to be inspired by the Olympic values before arriving back to Buenos Aires. The start of the Torch Tour attracted tens of thousands of people in Buenos Aires too, followed by a virtual social media campaign called #UnitedByTheFlame. 181 torchbearers were part of the relay.³⁰⁸

In Lausanne 2020, the Torch Tour involved thousands of school children, as well as several Olympians. It passed through the YOG venues, iconic places of Switzerland, the Olympic Museum, the Headquarters of the UN and crossed through the Swiss and French border too as the first binational YOG, having competition venues across the border in France. The popularity of the YOG was clearly seen from the excitement around the Torch Tour, with lots of people attending the events and following the tour.³⁰⁹ After the Torch Tour, another important event takes place, the Opening Ceremony. The Opening Ceremony is a highlight event of the YOG, involving the locals, the visitors, school children and of course, the participants. It is a celebration of the Olympic Movement, the youth, and the competing athletes.

e. Sports Innovations

As described in the literature review chapter, besides the educational program of the YOG, the other main innovation of the YOG is the sports program. The host city is not obliged to include all sports from the Olympic Games. If there is no existing facility for certain sports, the sports program can be presented with fewer sports in the bid. New venues should only be built in exceptional cases when the need for the venue already exists and the YOG would only help to accelerate the construction. This means that the sports program is decided based on the existing facilities of the host city and in some cases temporary venues or new venues being built with proved long term legacy.³¹⁰ IFs are given the platform to introduce new formats and events

³⁰⁷ Official Report Lillehammer 2016: 9

³⁰⁸ Official Report Buenos Aires 2018: 9-15

³⁰⁹ Lausanne 2020: Winter Youth Olympic Games Official Report

³¹⁰ Youth Olympic Games 2010 Candidature Procedure and Questionnaire 2007: 58; Hanstad et al 2014: 225, 229; IOC OSC 2015 Factsheet 1: 2-3; IOC OSC 2015 Factsheet 2: 1

and use the opportunity to develop their sport through the innovations.³¹¹ Some disciplines are adjusted; some are added newly to the program. To reduce the expenses, no qualification events are organised additionally, the qualification is decided through already existing competitions and rankings.³¹² The sports program innovations are primarily put into effect by “pull factors”, which mean that they are stimulated by their main target group, the youth, as well as by media and sponsors.³¹³

In the case of modern pentathlon, the five disciplines are too demanding for athletes in this age, so only four disciplines are on the sports schedule of the YOG.³¹⁴ The basketball tournament was switched to three-on-three basketball, due to being **less demanding and more suitable for youth**.³¹⁵ The maximum weight of the javelin was reduced, and the longest athletic race was limited to 10 000 m walk to customize the Olympic events for young athletes.³¹⁶ The difficulty of the vault in gymnastics was also reduced, to avoid that the young athletes are forced to push over their limits to perform more and more difficult routines.³¹⁷

Besides the high demand and challenging event format, the financial implications of the sports disciplines have been taken into consideration when designing the YOG competition program. In shooting, the laser technology is used instead of the traditional pellet-firing air pistols, due to **safety reasons, lower costs and due to being more appealing to youth and fostering gender equality** by lighter guns.³¹⁸ To ensure equal chances for the athletes and eliminate the differences in financial background, the horses for equestrian events and the boats for canoe and kayak competitions are provided by the YOGOC.³¹⁹ The horses are assigned based on a draw, which can impose risks and challenges to the athletes, however it creates equality and reduces the cost.³²⁰ Additionally, only two events are on the program in sailing, which are being organised with the least expensive equipment.³²¹

³¹¹ IOC OSC 2015 Factsheet 2: 1

³¹² IOC OSC 2015 Factsheet 2: 1

³¹³ Hanstad et al 2014: 242

³¹⁴ Parry 2012: 141

³¹⁵ Torres 2010: 11; Parry & Lucidarme 2011: 167; Parry 2012: 141; IOC 2011: 28; IOC OSC 2015 Factsheet 2: 2

³¹⁶ Torres 2010: 11

³¹⁷ Hanstad et al 2014: 63; Parry & Lucidarme 2011: 167; Parry 2012: 141

³¹⁸ Parry & Lucidarme 2011: 166-168; Official Report Singapore 2010: 54; Parry 2012: 143

³¹⁹ Torres 2010: 12, 18; Parry & Lucidarme 2011: 166; Hanstad et al 2014: 66

³²⁰ Parry & Lucidarme 2011: 168; Parry 2012: 143

³²¹ Parry 2012: 143-144

All round skills are placed more in the centre of the competition, by creating different formats. For instance, all cyclists had to be part of the BMX, cross-country and road racing competition. Just as in fencing, where every athlete had to compete with all weapons.³²²

Despite of adjustments of some sports to be more appropriate for youth, there are still questions remaining. Boxing can be considered unsuitable for youth due to the violent nature of the sport. Therefore, Torres and Parry argue that boxing should be eliminated from the sports program. The health issues that can be caused by boxing is one of the main concerns, such as “debilitating and devastating injuries, and even death”. Facial, neck and head injuries are common in boxing, and the most dangerous are the brain injuries, which can lead to the death of the athletes. Due to the vulnerability of young athletes’ brain, the risk of concussion causes a significant exposure to serious damages in the athletes’ health. Including boxing on the program of the YOG does not align with IOC’s intention to choose the sports “carefully” in order to “protect the health of young athletes”. There is also an incompatibility between boxing and Olympism, due to the intentional harm caused to the opponent and its contradiction with peace as an important element of Olympism.³²³

Shooting events in a youth competition can raise ethical issues too. Weightlifting and triathlon are extremely demanding, which could generate discussions about scrap these sports from the YOG program. Modern pentathlon has five disciplines in what athletes must excel, which is unrealistic to expect from young athletes. The question could be asked whether the modified format with only four disciplines the right solution is, or it should be cancelled from the sports program. It is also questionable whether the high-level elite competitions are suitable for youth, since it can cause harm due to immaturity, overtraining, risk of injury, and high pressure.³²⁴ YOG can increase the risk of “early talent identification and early specialisation” for those pursuing a sporting career, which can be a threat to the young athletes’ life, while distributing “elite sport into the child population”. It can also increase the chances of dropout.³²⁵ This raises the risk of exploitation of young athletes by pressuring them to push over their limit and to be part of some dishonest acts in sport (doping, cheating).³²⁶ Examples from Singapore

³²² Hanstad et al 2014: 66; Torres 2010: 11

³²³ Torres & Parry 2017: 170, 173-175, 183

³²⁴ Parry & Lucidarme 2011: 166-167; Hutchison et al 2014: 18; Parry 2012: 141, 145

³²⁵ Hanstad et al 2014: 42-43; Parry & Lucidarme 2011: 168-169; Parent et al 2019: 12; Hutchison et al 2014: 18; Parry 2012: 145

³²⁶ Hanstad et al 2014: 42-43; Parry & Lucidarme 2011: 168-169; Parry 2012: 145

show that this is an issue at the YOG as well: the gold winning football team of Bolivia allegedly had at least five over-age players in the team. As there was no investigation by FIFA, there is no evidence whether this allegation was true or not. Besides that, one Uzbekistani and one Ecuadorian wrestler was tested positive for furosemide at doping control.³²⁷

A unique innovation of the YOG is to organise **mixed gender, mixed NOC** or mixed gender and NOC events in some of the sports and disciplines promoting equality and cooperation, for example in archery, athletics, cycling, equestrian, fencing, judo, modern pentathlon, swimming, table tennis, tennis, triathlon, biathlon, alpine skiing, cross-country skiing, ski jumping, curling, luge, short track, ski mountaineering and 3-on-3 ice hockey.³²⁸ Mixed gender competitions help to reinforce gender equality by providing a platform to male and female athletes to compete together and against each other, not only in separate competitions.³²⁹ By adding events where mixed NOC teams are competing, the transnational spirit of the event is fostered and the team spirit is strengthened, facilitating more interactions and cooperation among athletes from different countries with different backgrounds and building friendship and respect among each other.³³⁰ It can also contribute to reducing the nationalism and inter-national rivalries.³³¹ This brings the YOG closer to the original roots of the Olympic Movement, where Coubertin's vision was to organise games between individual athletes and not nations.³³² At the end of the YOG, medal tables are not published and records are not registered.³³³ The mixed events enjoy high popularity among athletes and spectators.³³⁴ In Innsbruck the interviewed Chef de Missions and athletes gave a very positive feedback on the mixed events.³³⁵ In Nanjing, a total of 680 athletes were part of the mixed team competitions.³³⁶ While the innovative events and mixed competitions seem like a good concept, it is not identified positively by all athletes, some feel unprepared or untrained for it, and also feel uncomfortable about not being able to communicate with other athletes in the mixed NOC

³²⁷ Hanstad et al 2014: 37, 315; Hutchison et al 2014: 19; Parry 2012: 146-147

³²⁸ Parry 2012: 141-142; Torres 2010: 11, 16-17; Parry & Lucidarme 2011: 168; Masumoto 2012: 37; IOC OSC 2015 Factsheet 2: 2; Lausanne 2020: Winter Youth Olympic Games Official Report

³²⁹ Torres 2010: 16-17

³³⁰ Torres 2010: 17; Masumoto 2012: 37; Parry 2012: 94; Krieger 2016: 248-249

³³¹ Parry & Lucidarme 2011: 168; Torres 2010: 17

³³² Hanstad et al 2014: 68; Parry 2012: 144; Torres 2010: 17

³³³ Masumoto 2012: 37; Official Report Nanjing 2014: 23

³³⁴ Official Report Singapore 2010: 54

³³⁵ Peters & Schnitzer 2015: 126

³³⁶ Official Report Nanjing 2014: 26

teams due to language barrier. The opinion on the mixed NOC competitions was both positive and negative, some of the athletes were excited about the international exchanges.³³⁷

New events appeared on the schedule of each YOG. These new events should meet several criteria, such as interest of the young athletes and the audience as well, to create and “engaging atmosphere”.³³⁸ Most of the new sports and disciplines can be considered successful and exciting for spectators and athletes too, for example the skills challenge in basketball and in ice hockey, or the 3-on-3 basketball.³³⁹ Although based on a research from Innsbruck 2012, the ice hockey skills challenge did not reach as high popularity by media and spectators as other innovative events. The cross-country skiing/biathlon mixed team relay was highly popular on the other hand.³⁴⁰ The innovations and new event formats are still being tested and improved, this can be seen from the changes in the ice hockey events: the innovative skills challenge was switched to mixed NOC 3-on-3 ice hockey in Lausanne. The mission was bringing together athletes from different backgrounds and cultures in one team and create exciting and spectacular festive sporting competition among the teams.³⁴¹

In Buenos Aires, sports were added to the program that are popular among youth, such as breaking, sport climbing, karate, and roller speed skating. Besides that, some of the traditional sports were adapted to a more youthful format. Futsal replaced football and beach handball replaced handball, while kitesurf was added in sailing, BMX freestyle in cycling and cross-country racing in athletics.³⁴² Some events that were introduced at the YOG have already made a successful debut at the Olympic Games too or being considered as an addition, however the number of sports and the number of participants at the Olympic Games are limited and the sports must meet strict criteria to be eligible for the Olympic program. Therefore, it is difficult to add new events as it also means the cancellation of already existing events. There are a lot of discussions about the future of the sports program at the Olympic Games, as some new sports would better embody the Olympic values than other sports already on the schedule. The YOG can serve as a “testing ground” for the IFs to consider innovations for the Olympic Games.³⁴³

³³⁷ Hanstad et al 2014: 179; Parent et al 2019: 11

³³⁸ Hanstad et al 2014: 233

³³⁹ Masumoto 2012: 37; IOC 2011: 28; IOC OSC 2015 Factsheet 2: 2; Hanstad et al 2014: 313; Parry & Lucidarme 2011: 167

³⁴⁰ Hanstad et al 2014: 243

³⁴¹ Lausanne 2020: Winter Youth Olympic Games Official Report

³⁴² Official Report Buenos Aires 2018: 81

³⁴³ Parry 2012: 141; Hanstad et al 2014: 43

At the winter events, the women’s ski jumping, snowboard slopestyle and freestyle skiing halfpipe events were introduced at the winter YOG in 2012 the first time in Olympic history and two years later, in Sochi they made their debut at the Winter Olympic Games too.³⁴⁴ Another innovative event was added to the sports program in Sochi, on the example of the YOG mixed gender relay events were held in biathlon and luge, and mixed NOC events in figure skating.³⁴⁵ Among summer sports, golf and rugby 7s were first on the schedule at the summer YOG in Nanjing, which was followed by the Olympic Games in Rio de Janeiro in 2016 adding these sports on the program too.³⁴⁶ Regarding the big air competitions, the debut happened the other way round: first time in 2018 in PyeongChang big air events were organised on the Olympic Games, while in 2020 in Lausanne it was introduced at the YOG as well.³⁴⁷

Some of the new event formats are being questioned whether it is appropriate or it should be adjusted. One example is taking part in BMX and road races in cycling, despite of later specialisation. Other concern was raised in Alpine skiing, about female athletes competing on the same course as male athletes due to physical differences.³⁴⁸

YOG	New events
2010 Singapore	Basketball 3-on-3, Mixed Team Triathlon and Swimming events ³⁴⁹
2012 Innsbruck	Women’s Ski Jumping, Snowboard Slopestyle, Freestyle Skiing Halfpipe, Speed Skating Mass Start, Ice Hockey Skills Challenge, Mixed Gender Biathlon Team Relay, Mixed Gender Curling Team Competition, Mixed Gender Alpine Skiing Parallel Team Event, Mixed Gender Nordic Combined Team, Mixed NOC Curling Doubles, Mixed NOC Short Track Speed Skating Relay, Mixed NOC Luge Relay ³⁵⁰
2014 Nanjing	Golf, Rugby 7s, Women’s Boxing, Hockey 5s, Beach Volleyball, Cycling Relay Events and Mixed Team Events, Basketball Skills Challenge with Men’s Dunk Contest and Women’s Shoot-out Contest, Archery Mixed NOC Team Event, Mixed NOC Athletics Relay, Mixed Badminton Doubles, Mixed NOC Cycling Team Relay in Road Race and Cross-Country Olympic, Mixed NOC Diving, Equestrian Jumping Continental Team, Mixed

³⁴⁴ Parry & Lucidarme 2011: 170; Masumoto 2012: 37; IOC 2011: 28; IOC OSC 2015 Factsheet 2: 2

³⁴⁵ Masumoto 2012: 37

³⁴⁶ IOC OSC 2015 Factsheet 2: 2

³⁴⁷ International Olympic Committee: Lausanne 2020

³⁴⁸ Hanstad et al 2014: 41

³⁴⁹ Official Report Singapore 2010: 135

³⁵⁰ Official Report Innsbruck 2012: 48

	Continental Fencing Team Event, Mixed Golf Team Event, Mixed NOC Modern Pentathlon Team Relay, Mixed Continental Team Judo Event, Mixed NOC Shooting Team Events, Mixed Swimming Medley and Freestyle Relays, Mixed NOC Table Tennis Team Event, Tennis Mixed Doubles, Triathlon Mixed Continental Team Relay, Canoe Sprint ³⁵¹
2016 Lillehammer	Team Ski-Snowboard Cross, Speed Skating Mass Start, Cross Country Cross Event, Monobob, Ski Slopestyle, Nordic Mixed Team ³⁵²
2018 Buenos Aires	Sport Climbing, Break Dance Sport, Futsal, Beach Handball, Roller Speed Skating, Kiteboarding, Karate, BMX freestyle, Cross-Country Racing ³⁵³
2020 Lausanne	Ski Mountaineering, Mixed NOC 3-on-3 Ice Hockey, Freeski and Snowboard Big Air, Women’s Doubles Luge, Women’s Nordic Combined ³⁵⁴

Table 4: New events on the YOG sports program

According to the IOC, “the YOG competition standards, across all sports, shall be equivalent to average junior international level competitions”.³⁵⁵ However, criticism arose about the quality of the sports competitions from the beginning, as in some sports not the best athletes were sent to the YOG. In some case, it is because of the YOG policy itself, namely that in team events each continent must be represented by one team.³⁵⁶ Another example was the football event in Singapore, which was a low-level tournament due to the policy of FIFA, basically excluding the good teams from attending. FIFA clearly does not want to have any events conflicting with its own events. For the European quota the four lowest ranked teams were competing for the YOG qualification based on UEFA’s decision. Therefore, the value of excellence was not taken seriously in the football tournament.³⁵⁷ USA and Canada swimming teams did not attend in Singapore, as it was seen more of a “world youth peace and educational programme than a high-level competition”.³⁵⁸ This opinion is also reflected in the survey which shows that German athletes did not consider Singapore 2010 as the “pinnacle of their sporting calendar”.³⁵⁹ Jacques Rogge stated that he received assurances that the teams would be stronger

³⁵¹ Official Report Nanjing 2014: 24-27; IOC OSC 2015 Factsheet 2: 2

³⁵² Official Report Lillehammer 2016: 187, 205, 230; IOC OSC 2015 Factsheet 2: 2

³⁵³ Official Report Buenos Aires 2018: 52, 56, 62, 76, 81; IOC OSC 2015 Factsheet 2: 2

³⁵⁴ International Olympic Committee: Lausanne 2020

³⁵⁵ Hanstad et al 2014: 225

³⁵⁶ Parry 2012: 95

³⁵⁷ Parry 2012: 95; Parry 2012: 148-149

³⁵⁸ Hanstad et al 2014: 35, 315

³⁵⁹ Krieger 2012: 712

in Nanjing 2014, which underlines the efforts of the IOC to have high level sports competitions at the YOG.³⁶⁰

On the other hand, research examining the athletes' experience at Innsbruck 2012 and another research at Lillehammer 2016 both show that the YOG was the highlight of the competition season for most athletes, comparable in quality to a world championship and organised in high quality.³⁶¹ The YOG in Innsbruck inspired the athletes to become high-level professional athletes.³⁶² The parents' saw the participation of their children in the YOG as a "reward for their hard work".³⁶³ The majority of the athletes in Innsbruck perceived the competition formats and the atmosphere of the events "excellent" or "good", however, the new event formats were not rated as high.³⁶⁴ The mixed events received less positive response in Buenos Aires too, mainly because the athletes were randomly paired and some of them felt like that the athlete they were paired with is not on the same level.³⁶⁵ In Buenos Aires, 66% of the athletes rated the YOG as an important event in their sporting calendar.³⁶⁶ The role of the athletes, whether the main focus should be on the competition or on the educational events still stays debatable.

Many athletes who participate in the YOG are inspired to pursue a sporting career, which is proved by the number of YOG athletes attending the Olympic Games. In London 2012, 193 athletes competed who were part of the Singapore 2010 YOG previously. Four years later in Rio 2016, nearly 500 YOG athlete participated who attended the Singapore 2010 or the Nanjing 2014 summer YOGs, and even one athlete who competed at Innsbruck 2012.³⁶⁷ These athletes did not only qualify for the OG, but many competed successfully. In Rio YOG alumni athletes won 80 medals, while in Pyeongchang 2018 this number was 28.³⁶⁸

The quadrennial model also raises questions, as it does not allow all young athletes to participate. The birth year of the athletes is limited to one or two years, which means that 50-

³⁶⁰ Hanstad et al 2014: 35

³⁶¹ Parent et al 2016: 4; Parent et al 2019: 14; Peters & Schnitzer 2015: 125

³⁶² Peters & Schnitzer 2015: 130

³⁶³ Parent et al 2013: 16

³⁶⁴ Hanstad et al 2014: 237

³⁶⁵ Parent et al 2019: 29

³⁶⁶ Parent et al 2019: 29

³⁶⁷ International Olympic Committee: YOG legacy at Rio 2016 as nearly 500 alumni set to compete in the Games!

³⁶⁸ Morgan, L (2018, October 7) Inside the Games: Do the Youth Olympic Games have a future?

75% of the best young athletes will never have the chance to attend the YOG due to their birth year. This a complex problem to solve, as it is reasonable to have age restriction due to the difference of physical maturity between a 15- and 18-year-old, so from one side it is fair to have a limit of one or two birth years to make the competition more equalised. However, early maturer athletes can have an advantage in this case as well.³⁶⁹ The low number of quotas available for some disciplines also received criticism.³⁷⁰

The first time in Lausanne, the YOG was organised in two waves instead of all participants staying for the whole event. According to the recommendations of the IOC, the time was reduced that athletes spend at the event, and with this decision the number of athletes could be boosted, more sports and more events could be included in the program. This new system caused challenges in developing the sports and education program, increasing the number of sports, adjusting the event formats, quotas, qualification systems. In terms interest the event proved to be attractive for visitors. The ski mountaineering and the 3-on-3 ice hockey is considered as a big success in Lausanne. At the 3-on-3 ice hockey, 40 000 spectators were cheering for the athletes. The women's Nordic combined is a very new event, it was recognised internationally only in 2016, but in the last years it has been growing significantly, particularly in the Northern hemisphere countries which saw 40% increase in the last two years.³⁷¹

f. Sporting Legacy and Promotion of Sports

Sporting legacy on the region is essential among the sports event impacts. By the development of the sports infrastructure, engagement of the locals in the event, introducing the sports event to a wider audience, raising awareness on physical activity, giving the opportunity to the public to try new sports, organising side events and sports programs for youth, and bringing the YOG closer to the people, the YOG can contribute to the increase of sports participation and access to sport. The sports initiation programs offer a lot of potential to attract more people to practice sport.³⁷² Singapore 2010 left a significant sporting legacy on the city, strengthening the sporting culture by growing spectatorship, community involvement and

³⁶⁹ Hanstad et al 2014: 36-37; Parry & Lucidarme 2011: 166; Parry 2012: 145; Lucidarme & Maes 2010: 229-230

³⁷⁰ Hanstad et al 2014: 226

³⁷¹ Lausanne 2020: Winter Youth Olympic Games Official Report

³⁷² IOC OSC 2016 Factsheet 3: 2-3

engagement of volunteers, as well as increasing the sports industry overall.³⁷³ The Singapore Olympic Foundation was established before the YOG, to promote sports and nurture the legacy of Singapore 2010.³⁷⁴ The Games were part of Singapore's 10-year plan for sport, and already during the bidding process the education in the field of sport strengthened through new sport courses and schools engaging in Olympic education and sport.³⁷⁵ After the Games, the number of sporting activities for youth grew in the city, both for leisure and competitive sports and more funds were available in this field as well.³⁷⁶ The number of young people participating in sport also increased, with 37% of the survey respondents admitting that they were "inspired by the Games".³⁷⁷ With the growing interest in sport and increasing number of sports events, the sports industry contributed with more than 3 billion USD to the GDP, which exceeded the expectations.³⁷⁸ One of the most remarkable examples for the sporting legacy is the Singapore Games, that were created as a result of the enthusiasm and success of the YOG. The Singapore Games are organised every two years since 2012, including athletes from all ages, as well as the annual Community Games which are the qualifiers for the Singapore Games. The Singapore Youth Olympic Festival is also a legacy of the YOG, a biannual event organised the first time in 2011 with over 1200 participants.³⁷⁹ Locals also benefit from the upgraded infrastructure for leisure and competitive sports, thanks to the international standard venues.³⁸⁰

Providing the opportunity for locals to try the sports of the YOG or other sports that are not on the YOG program is a great way to involve them and increase sports participation in the region. During the Innsbruck YOG 2012, visitors had the possibility to try new sports, including climbing and ice stock sports.³⁸¹ Not only the visitors, but pupils had the chance to get familiar with winter sports, as well as to compete against each other. Through the School Sports Challenge, 3000 children from 85 schools were trained by experts before the YOG and during the YOG took part in the competitions, which were organised on the YOG 2012 sports facilities, in different times. During the project, the teachers could attend special courses to practice winter

³⁷³ Official Report Singapore 2010: 163

³⁷⁴ Hanstad et al 2014: 322

³⁷⁵ Hanstad et al 2014: 308-310

³⁷⁶ Hanstad et al 2014: 315

³⁷⁷ Hanstad et al 2014: 316

³⁷⁸ Hanstad et al 2014: 319

³⁷⁹ Hanstad et al 2014: 322

³⁸⁰ Official Report Singapore 2010: 163; Hanstad et al 2014: 321

³⁸¹ Official Report Innsbruck 2012: 90

sports too. Events were held in ski jumping, biathlon, ice hockey, figure skating, speed skating, luge, skeleton, curling and skiing.³⁸²

Nanjing 2014 introduced the Sports Lab project, promoting sports and involving locals in visiting exhibitions.³⁸³ Non-Olympic sports were demonstrated as part of the project, including wushu, sports climbing, roller sports and skateboarding.³⁸⁴ The Sports Lab comprised of two parts: demonstration of the sports by top athletes and Sports Initiation inviting local youth to take part. The events of the Sports Lab attracted thousands of spectators every day, reaching 30 000 visitors in total.³⁸⁵

In Lillehammer, the “Try the Sport” initiative was visited 21 143 times, proving to be a popular project. In the Lillehammer Active program visitors could try telemark, ice climbing, bandy, parkour and icestock sports.³⁸⁶ Traditional Sami sports were also demonstrated, reindeer herding, reindeer racing and lasso throwing, while visitors could learn about the Sami culture too.³⁸⁷ With the projects run by the YOGOC before and during the Games, the YOG contributed to the 10-year plan for the development of the Norwegian sport.³⁸⁸

In Buenos Aires in 2018, more than one million children were part of the 308 sports initiatives, Olympic education programs and summer camps which were organised around the YOG. As part of the sports initiation program, school sport days were held with 584 activities and 87 647 participants. The sports initiation program consisted during the YOG of 38 sports, including sports that were not on the schedule of the YOG competitions, such as skateboarding, parkour, frontball and skate hockey. The program had around 250 000 young people involved.³⁸⁹ Polo and squash were presented in Buenos Aires as showcasing sports through an exhibition event.³⁹⁰ A lot of the sports equipment that was used during the YOG (785 indoor footballs, 400 hockey balls and 600 beach volleyballs) were donated to local sports federations after the event to support the sports organisations in the region. Besides that, the YOG helped to accelerate the program called Ciudad Activa promoting healthy lifestyle, improving sports

³⁸² Official Report Innsbruck 2012: 91

³⁸³ Official Report Nanjing 2014: 24

³⁸⁴ Official Report Nanjing 2014: 37

³⁸⁵ Official Report Nanjing 2014: 51, 124

³⁸⁶ IOC OSC 2015 Factsheet 2: 1

³⁸⁷ Official Report Lillehammer 2016: 8, 208

³⁸⁸ Official Report Lillehammer 2016: 246

³⁸⁹ Official Report Buenos Aires 2018: 105

³⁹⁰ Official Report Buenos Aires 2018: 109

facilities, and running physical activity projects for the citizens. Through this program, Buenos Aires became certified as a Global Active City, being among one of the first cities to be awarded with this recognition. As part of this international initiative, the goal of Buenos Aires was to become a city that “contributes to the quality of life and welfare” of its citizens.³⁹¹ The YOG brought sport to the people by organising the sports events and activities in the frequented areas of the city, including four parks.³⁹²

Lausanne 2020 YOGOC aimed to build a sport legacy that the region and the country will benefit from. Swiss Olympic and the NFs built their sports programs around Lausanne 2020, and the City of Lausanne initiated the “Sport Passion” project promoting winter sports to children who have no or very little access to winter sports. The upgrading of the sports facilities makes it possible to host high-level sports competitions in the future. An association was established in the Jura region with 15 ski clubs and 500 volunteers to coordinate the future international Nordic ski events which contributes to the development of the sport in the region. As part of the En Jeux! Festival, locals and visitors had the chance to take part in several sports activities in different locations and try sports, such as toboggan run, curling, biathlon, ski jumping, ski mountaineering, snowshoeing, Alpine skiing, snowboarding, speed skating pumptrack, parkour, trampoline, climbing, skateboard, slackline and so on. The decentralised approach of the organisation of the YOG made the local clubs and host venues deeply involved. This means not only upgraded facilities, but valuable expertise was gained locally, and fruitful partnerships built which will be beneficial for the future of the host sites and the next generations of athletes.³⁹³

However, despite the sports initiations, there is a lack of evidence to show whether the participation in sport has grown after the event and whether the obesity decreased, mainly because the event targets young people who are already in the sport system.³⁹⁴ Based on studies that were examining the effects of previous major sports events, it is suggested that sports events do not have a significant direct impact on increasing sports participation.³⁹⁵

³⁹¹ Official Report Buenos Aires 2018: 122

³⁹² IOC (2020, November 9) BA2018 Revisited: Host city raping long-term benefits of YOG; Official Report Buenos Aires 2018: 5, 51, 70

³⁹³ Lausanne 2020: Winter Youth Olympic Games Official Report

³⁹⁴ Krieger 2012: 712

³⁹⁵ Hanstad et al 2014: 42-43; Parry & Lucidarme 2011: 168-169

2. ENVIRONMENTAL SUSTAINABILITY

Environmental sustainability plays a key role, especially when it comes to major events. The environmental aspects must be taken into consideration during the planning phase to ensure that the event meets the environmental requirements and responsible event is being delivered. In every area of the event organisation the environmental sustainability aspects must be observed.

g. Awareness Raising and Collaborations for Environmental Protection

The **advocacy for environmental protection** and collaborations with environmental organisations can help to reach sustainability goals from the environmental aspect. Innsbruck 2012 integrated a Functional Area for Sustainability in the YOGOC which was responsible for raising awareness on sustainability and implementing sustainability projects. The YOGOC cooperated with the Austrian Institute for Ecology as part of Green Events Austria, which was a project initiated by the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management. The principles of the project aimed long-term legacy, eco-efficient operations, waste minimisation, minimal travel, as well as local recruitment, cooperation with local companies, accessible venues and services and team commitment.³⁹⁶

The YOGOC in Nanjing set up an accredited environment management system based on the IOS14001 standard, incorporating low-carbon emission, energy saving, low consumption, low pollution and sustainable development in the preparations and operations of the YOG. Environmental management manuals and procedures were also prepared through the system. The Nanjing 2014 Environment Management System became an essential part of the city's environment management system after the conclusion of the YOG. Not only the city itself, but future major sports event hosts can benefit from the system that was used by the YOGOC.³⁹⁷ Inside the YOY an environmental protection booth was installed for participants with the theme of “Let Green Be Sportive and Sport Be Green” to **educate about environmental protection** and to give a platform to share environmental culture through activities and exhibition. The booth was showcasing “Nature, Environmental Protection,

³⁹⁶ Official Report Innsbruck 2012: 163

³⁹⁷ Official Report Nanjing 2014: 87, 107

Ecology Beauty and Low-carbon”. The residents of Nanjing learned about sustainable development through the Games.³⁹⁸

The 1994 Winter Olympic Games in Lillehammer set a new standards in environmental protection in the history of the Olympic Movement. Following the footsteps of the Olympic Games in 1994, the YOGOC of Lillehammer 2016 put a remarkable effort in integrating sustainability in the organisation of the event. The YOG in Lillehammer received the ISO certification as a sustainable sport event first time in Norway. In a cooperation with the Norwegian University of Science and Technology, students run research and prepared recommendations to the YOGOC on how to achieve a sustainable sports event. Environmental protection steps were included at all venues, in all plans and operations.³⁹⁹

Buenos Aires 2018 was also awarded with the ISO 20121 certificate, a recognition to the YOG as a sustainable event. Together with the National Technological University Buenos Aires Regional Faculty and supported by the United Nations Information Centre for Argentina, the United Nations Development Programme, the United Nations Office for Project Services and General Secretariat to the Government of the City of Buenos Aires, a management tool was created to help in the sustainable management of major events.⁴⁰⁰ For Lausanne 2020, the Council of Innovations was formed as part of the organising structure. Innovation and sustainability experts were part of the council to ensure the sustainable innovations of the Games.⁴⁰¹

h. Environmental Considerations for Venues

For the YOG only **existing venues** and facilities should be used, the concept declares that new facilities should not be built just for the event.⁴⁰² This does not only help to avoid the construction of unnecessary venues that cannot be used sustainably in the future and the financial implications caused by this, but also to avoid the destruction of the nature and the environment in the region. However, as part of the long-term development strategy of the region

³⁹⁸ Official Report Nanjing 2014: 87

³⁹⁹ Official Report Lillehammer 2016: 71; Lesjo 2017: 134

⁴⁰⁰ Official Report Buenos Aires 2018: 123

⁴⁰¹ Lausanne 2020: Winter Youth Olympic Games Official Report

⁴⁰² IOC 2008: 97

there might be new infrastructure built if it is proved to be needed and necessary for the region and there is legacy benefit for the locals.⁴⁰³

It is important to keep sustainability in mind when conducting these developments, both from the environmental and economic point of view. Temporary venues are also encouraged to be used. In Nanjing 2014, the YOGOC covered the dirt roads of the Fangshan Sports Training Base (used for shooting and archery competition) with grass and plants to make it more green for visitors and participants and more environmentally friendly too.⁴⁰⁴ Besides that, it was important to fit the infrastructure to the environment. For the sailing venue, the sport command centre building was set up in the shape of a sailboat to fit in the scenic environment of the venue. The mountain bike course was set up in the Laoshan National Forest Park, a green area of Nanjing 80% covered in forest giving a natural environment to the event.⁴⁰⁵ In the operations of the YOV in Nanjing sustainability played an important role too. For the lighting in the outdoor areas small light panels were used, helping to lower the carbon emission. The Energy Centre of the YOV was able to conserve energy and convert residual heat and steam from regional co-generation power plants to cold and heat air for air conditioning. Green areas were planted on the top of the YOV buildings. For watering the green areas of the YOV a rainwater reuse system and a landscape water treatment system were built. Additional environmentally friendly technologies were used, for example exterior insulation and external shading system to reduce the energy consumption.⁴⁰⁶

During Lausanne 2020, the cross-country skiing venue in the protected area of Vallée de Joux had to undergo development. After negotiations between the municipality and the environmental associations in the canton an agreement was reached about the restoration of the venue after the YOG. Besides that, major earthworks had to be implemented, to complete the development of the sports venue in Leysin. Thanks to the cooperation of local authorities with nature conservationists the development project received support from the environmental organisations too by involving the environmental parties in building the future of the region. One of the most spectacular and innovative sustainable solutions was the use of the frozen lake of St. Moritz as a competition venue for speed skating, instead of constructing an additional

⁴⁰³ IOC OSC 2015 Factsheet 1: 2-3; IOC OSC 2015 Factsheet 2: 1

⁴⁰⁴ Official Report Nanjing 2014: 36

⁴⁰⁵ Official Report Nanjing 2014: 37

⁴⁰⁶ Official Report Nanjing 2014: 42

unnecessary ice rink for speed skating. Using the upgraded facilities close to each other, such as the Tuffes stadium in France helped to avoid the long travels of participants and reducing the transportation costs the same time.⁴⁰⁷

i. Environmentally Friendly Solutions in Operations

According to the YOG concept, **transportation** should be organised as a common shuttle service for accredited persons to **reduce the carbon emission** and environmental footprint.⁴⁰⁸ Additional road and railway infrastructure should not be constructed.⁴⁰⁹ The transportation system for YOG 2012 in Innsbruck was well organised, ensuring that public transportation is available to all venues by using environmentally friendly vehicles, therefore spectators could also use public transport to attend the competitions.⁴¹⁰ The accreditation cards entitled all accredited persons to use public transportation in the city and on the five YOG Common Shuttle Service lines for free of charge. The tickets to the YOG events could be used for public transportation in the city, as well as for the buses and trains in the direction of the venues outside of the city on the day of the competition.⁴¹¹ Following the success of the environmentally friendly transportation system organised for the YOG, the YOGOC was awarded by the Republic of Austria in recognition of its “efforts towards environmental protection”.⁴¹²

The principle of the Nanjing 2014 transport system was based on “Green YOG, Economical YOG and Sharing” by using the Common Shuttle Service, Public Transport, Pre-Planned Service and for specific cases Pool-Vehicle System, transporting over 100 000 clients during the Games. All YOG clients were able to use the public transport system free of charge, while ticket holders had free access to public transport on the day of the competition too.⁴¹³ The innovative Virtual Torch Relay in Nanjing 2014 with only a short physical Torch Relay on the Ming Dynasty City Wall and along the Yangtze River made it possible to organise a green and

⁴⁰⁷ Lausanne 2020: Winter Youth Olympic Games Official Report

⁴⁰⁸ IOC 2008: 97

⁴⁰⁹ IOC OSC 2015 Factsheet 1:4

⁴¹⁰ Official Report Innsbruck 2012: 9, 166

⁴¹¹ Official Report Innsbruck 2012: 146

⁴¹² Official Report Innsbruck 2012: 166

⁴¹³ Official Report Nanjing 2014: 81

low-carbon emission Torch Relay.⁴¹⁴ According to the official report, the **air quality** of Nanjing was a good national standard Class II during the YOG and the water used for the event was on the standard of the international competitions.⁴¹⁵ There has been concerns about the air pollution in Nanjing prior to the YOG, therefore the municipal government of Nanjing imposed serious pollution control measures in the city and in the surroundings to ensure good air quality and reduce health risks related to pollution. According to the research conducted about the air quality indicators, the control measures were successful, and the air quality was “significantly improved” in Nanjing and in the cities around. However, most of measures were only temporary before and during the Games, by halting constructions, reducing manufacturing of heavy-industry factories, ban on driving high-emission vehicles during the period, closing open space barbecue restaurant and high pollution industries.⁴¹⁶

The cooperation with the Worldwide Olympic Partner Toyota, Buenos Aires 2018 created a legacy in mobility for the city, by creating a car rental platform for the official Toyota vehicles that were used during the Games.⁴¹⁷ Lausanne 2020 followed the recommendations, based on the Agenda 2020, and the first time in the YOG history offered only public transportation to the NOCs without any other private transportation service. A transportation app called “Guide me Yodli” was developed for the event to be used by participants and spectators as well. An innovative feature was incorporated in the app: by indicating the carbon impact of each trip the users could see their carbon footprint by different means of transport, motivating them to use public transport. Over 80% of the participants, the staff members, volunteers, media, the spectators and 75 000 schoolchildren who were visiting the sports competitions, were commuting exclusively with public transportation throughout the event. The traffic on the m2 metro was increased with 30% during the Games.⁴¹⁸

Major events produce a high amount of waste in all sectors; therefore, organising sustainable **waste management** is crucial for the environment. Innsbruck 2012 YOGOC managed the cleaning, waste, and snow removal in an environmentally friendly way, using the existing facilities and systems.⁴¹⁹ The Green YOY campaign informed the participants about

⁴¹⁴ Official Report Nanjing 2014: 12

⁴¹⁵ Official Report Nanjing 2014: 87

⁴¹⁶ Zhao et al 2017: 1, 10

⁴¹⁷ IOC (2020, November 9) BA2018 Revisited: Host city reaping long-term benefits of YOG

⁴¹⁸ Lausanne 2020: Winter Youth Olympic Games Official Report

⁴¹⁹ Official Report Innsbruck 2012: 142

how to separate the waste correctly.⁴²⁰ Out of the 61 940 kg of waste in total that was produced during the YOG, 3120 kg was separated as paper waste and 800 kg biodegradable waste.⁴²¹ Recycling played a key role at the event, with all products and waste that there produced in the YOGOC offices being recycled, as well as the Look of the Games materials.⁴²² On the initiatives with local schools, 13 000 m² of fleece materials and 6500 m² of PVC banners were recycled as different products (bags, mobile phone cases, pencil cases, purses and keyrings) with the help of three local non-profit organisations that train people in long-term unemployment.⁴²³ A total of 1140 bags were made from the branding material.⁴²⁴ As a result of a local initiative, recyclable crockery and cutlery was used during the event as well. Following a successful service at the YOG, the service was expanded in the whole region to make it available for other event organisers. The produced waste can be reduced by up 90% with this solution.⁴²⁵

Nanjing 2014 set up strict “Green YOG” concept in terms of waste management too, by encouraging the people to sort the waste, preparing a waste collection and bio-safety disposal code of conduct, and using scientific waste disposal solutions. Over 1266 tons of waste was produced, with over 324 tons of recyclable materials. Athletes, team officials and workforce consumed over 5,5 million bottled beverages.⁴²⁶ The YOGOC in Lausanne arranged recycling sorting centres at all YOG venues, to make sure that the waste is properly recycled every occasion. The sustainable strategy of the Games also focused on reducing waste in every sector, especially in catering by limitation of food waste and avoid using disposable dishes, unless they are biodegradable.⁴²⁷

For the Singapore 2010 YOG, several environmental initiatives were implemented to promote environmentally friendly Games. Nearly 11 000 **energy- and water-saving** devices were installed at the venues, which had a visible effect: the electricity saved through these devices was enough to power 350 four-room apartments for a month, while the water saved

⁴²⁰ Official Report Innsbruck 2012: 89

⁴²¹ Official Report Innsbruck 2012: 150

⁴²² Official Report Innsbruck 2012: 166

⁴²³ Official Report Innsbruck 2012: 166

⁴²⁴ Official Report Innsbruck 2012: 168

⁴²⁵ Official Report Innsbruck 2012: 166

⁴²⁶ Official Report Nanjing 2014: 88, 136, 137

⁴²⁷ Lausanne 2020: Winter Youth Olympic Games Official Report

was almost enough to fill two Olympic-sized pools. Almost 2500 people attended in the environmental programs organised by YOGOC.⁴²⁸

Innsbruck 2012 YOGOC encouraged the participants to reduce the water and electricity consumption through the Green YOY campaign.⁴²⁹ The newly built YOY buildings were constructed with low energy consumption solutions. Proving the outstanding energy efficiency of the building, only 8 kWh/m² energy is needed for heating, due to the modern solutions, such as the 30 cm insulation and triple-glazed windows. Solar panels were built on the roof to support the warm water supply, while the floorboard heating is powered by burned pellets. Residents are encouraged to use bicycles; therefore, a bike storage was also built on the ground floor.⁴³⁰ One of the main venues, the Olympiaworld Innsbruck used environmental management systems too, such as the heating system that uses the energy produced by the ice cooling machines to heat the rooms and areas next to the ice rink. With this system, one million kWh energy was saved within one season in 2009-2010.⁴³¹

At Lausanne 2020, the first time in the Olympic history **environmentally friendly fuel** was used in the Olympic cauldron. It was powered by Swiss wood pellets, a great innovation that was born as a result of the collaboration of several organisations. Not only the fuel was environmentally friendly, but the transportation of the Olympic Flame was also more sustainable by being carried from Greece to Switzerland on a commercial flight instead of a private jet, first time in the Olympic history.⁴³²

⁴²⁸ Official Report Singapore 2010: 197

⁴²⁹ Official Report Innsbruck 2012: 89

⁴³⁰ Official Report Innsbruck 2012: 129, 164

⁴³¹ Official Report Innsbruck 2012: 165

⁴³² Lausanne 2020: Winter Youth Olympic Games Official Report

3. ECONOMIC SUSTAINABILITY

The economic sustainability aspects are strongly related to the previous chapters, the social and the environmental sustainability. If social and environmental sustainability is observed, it can have a positive effect financially and boost the economy too. However, there are a few additional sustainability aspects to point out in this chapter.

j. Exposure of the Host City and Growth of Tourism

As an international major sport event, the YOG has the power to attract thousands of local spectators and foreign visitors. The growth of **tourism** can be examined from different aspects. First, through the marketing campaign, side events and sports event itself, the host city and region receive a significant **exposure before and during the Games**. Thanks to the new media platforms, the host country can have a remarkable visibility through the YOG. The YOG provides a great opportunity to the host cities to position themselves on the international level and build the brand equity of the city.⁴³³

The first YOG in Singapore reached a big audience through media coverage: 1768 journalists reported from the Games, 45 000 articles were written, broadcast was available in 160 territories, 6 million people watched the videos of YOG online and 4 million people visited the YOG Facebook site.⁴³⁴ At some point, the Singapore 2010 YouTube Channel was the third most viewed channel with over 6.3 million viewers. The Games were watched by over 247 million viewers on TV in 160 territories. This level of exposure meant for Singapore to stay on the “international community’s radar screens”. The event gave the opportunity to Singapore to market itself as a fun and attractive city internationally.⁴³⁵ The overall reach of Singapore 2010 is estimated around 266 million, with 56.7 million USD marketing value.⁴³⁶

Two years later, Innsbruck and the region of Tyrol was in the spotlight. Over 900 media representatives, including 700 internationals reported about the Games and published 15 000

⁴³³ Hanstad et al 2014: 312

⁴³⁴ Official Report Singapore 2010: 119; IOC OSC 2015 Factsheet 4: 1

⁴³⁵ Official Report Singapore 2010: 163; IOC 2011: 9

⁴³⁶ Hanstad et al 2014: 323

articles. The events were broadcast in 70 countries. The YouTube Channel of Innsbruck had 1.2 million views and 4.7 visits on the official website.⁴³⁷ The Innsbruck YOGOC developed the Youth Information Service together with the IOC to provide content to the media around the world related to the YOG.⁴³⁸ The media coverage of Innsbruck 2012 was relatively low, therefore the messages of the YOG could not be disseminated widely to inspire young people.⁴³⁹

The Opening Ceremony of Nanjing 2014 reached a very high number of audiences, with over 200 million spectators in China. 206 countries and territories were covered by TV broadcasting and over 1700 hours of live broadcast of the events was produced. The number of TV viewers reached 769 million. Due to the extensive media coverage of the Opening Ceremony, 30% of the global population got familiarised with Nanjing 2014 according to the calculations of the Xinhua News Agency. Just on the first day of the YOG, 450 million people visited the Nanjing 2014 news on the Chinese microblogging site called Weibo.⁴⁴⁰ 1832 international press representatives and broadcasters were present to share information about the event, the overall media presence was 3160.⁴⁴¹ Nanjing 2014 YOGOC used the opportunity to involve the volunteers in creating more exposure and sharing information online, as most volunteers were college students and active on social media. The interactive social media platforms reached over 100 000 followers during the event thanks to the activity of the volunteers on the sharing platforms of the official micro-blog, radio station and WeChat.⁴⁴² On all social media channels the event had 1 265 000 followers.⁴⁴³ The official website was visited 39 million times and the total number of views on the articles related to Nanjing 2014 reached 3 billion during the event.⁴⁴⁴

The website of Lillehammer 2016 was viewed by 500 000 visitors, while the TV broadcast had a total number of 3 072 000 viewers on the national NRK TV channel. 600 000 people watched the Opening Ceremony on TV. 653 journalists were present in Lillehammer to cover news about the YOG. The Lillehammer 2016 social media channels (Instagram, Facebook, Snapchat and Twitter) had 75 400 followers in total.⁴⁴⁵ The research on Lillehammer

⁴³⁷ Official Report Innsbruck 2012: 9, 106

⁴³⁸ Official Report Innsbruck 2012: 100

⁴³⁹ Hanstad et al 2014: 336

⁴⁴⁰ Official Report Nanjing 2014: 22, 92, 132, 108

⁴⁴¹ Official Report Nanjing 2014: 132; IOC OSC 2015 Factsheet 4:3

⁴⁴² Official Report Nanjing 2014: 64

⁴⁴³ Official Report Nanjing 2014: 132

⁴⁴⁴ Official Report Nanjing 2014: 132

⁴⁴⁵ Official Report Lillehammer 2016: 9, 14

2016 athletes' experiences shows that almost all athletes used social media, mainly Instagram, Facebook and Snapchat to share their experience during the YOG, which creates a high reach of young audiences around the world, besides the official communication.⁴⁴⁶

For Buenos Aires 2018, the IOC and the YOGOC built a common strategy and integration for the first time for a digital plan. The official website was visited by 22.6 million users, while the app was downloaded 193 000 times. The trivia games that were developed to promote sports and Olympism were completed by 146 000 users. 220 territories were reached by the broadcast images around the world through over 100 TV channels. 1613 media professionals were present, 42% of them coming from other regions and countries. The social media channels of Buenos Aires 2018 were followed by 414 000 people. On Instagram, 1.4 million followers interacted, and the stories were viewed 13.6 million times.⁴⁴⁷ The official website was visited 35.8 million times, while the total reach of the social media channels during the Games was 370 million.⁴⁴⁸ Among the winter YOGs, Lausanne 2020 was the most successful in terms of media coverage. During the Games, 13 million visitors searched on the media platforms of the YOG.⁴⁴⁹

Secondly, lots of **spectators travel from other regions and other countries** to support the athletes and experience a unique event. In Singapore, the total number of spectators was 283 788, out of those 45 725 were international spectators.⁴⁵⁰ The gross expenditure of the international visitors during the YOG was estimated to exceed 68 million USD.⁴⁵¹ Due to the high exposure of the city before and during the YOG, Singapore was recognised as the Top International Meeting City 2012, as well as Asia's Top Convention City in 2012. The city became an attractive destination for "meetings, incentive travel, conventions and exhibitions (MICE)".⁴⁵² The number of visitors increased significantly in Singapore in the leading up to the games, from less than 8 million visitors in 2008 to more than 13 million visitors in 2011. The tourism receipts increased from 14.8 billion USD to 24 billion USD after the YOG.⁴⁵³

⁴⁴⁶ Parent et al 2016: 4

⁴⁴⁷ Official Report Buenos Aires 2018: 86-88

⁴⁴⁸ Official Report Buenos Aires 2018: 139

⁴⁴⁹ Lausanne 2020: Winter Youth Olympic Games Official Report

⁴⁵⁰ Official Report Singapore 2010: 186

⁴⁵¹ Hanstad et al 2014: 314

⁴⁵² Hanstad et al 2014: 318

⁴⁵³ Hanstad et al 2014: 319

The first winter YOG in Innsbruck had over 110 000 spectators, including the 15 000 spectators attending on the Opening Ceremony. Tyrol was already a popular holiday destination for nature and sport enthusiasts before 2012, however the YOG helped to reach new markets and strengthen its position in winter sports tourism. During the YOG, the number of guests increased with 30% in Innsbruck, generating 40 000 overnight stays.⁴⁵⁴ 85% of the guests were very satisfied with their stay in Innsbruck, 80% saw the YOG as “something special” and 74% considered the event a “great success”.⁴⁵⁵ Interesting fact, that the turnover created by the YOG was higher than it was during the 2008 UEFA EURO in Innsbruck.⁴⁵⁶ First time in the Olympic history, Innsbruck 2012 provided tickets to spectators free of charge, only charging a handling fee of 3.50 € for each ticket.⁴⁵⁷

In Nanjing, on the Opening Ceremony 39 381 tickets were sold for the 40 000 seats including 11 836 overseas spectators. Similar interest was shown for the Closing Ceremony, having 39 852 spectators present including 8617 overseas visitors.⁴⁵⁸ The YOGOC made special campaigns and packages to attract a lot of spectators, mainly students, friends, and families of the young athletes. For the 255 competitions held in Nanjing 650 000 tickets were available, out of which 519 483 tickets were sold in total.⁴⁵⁹ The total number of guest overnights ended in 41 432 nights calculating with all accredited client groups of the YOG.⁴⁶⁰

Lillehammer 2016 registered 212 604 spectators on the events overall, with 13 000 visiting the sold-out Opening Ceremony.⁴⁶¹ Based on the interview respondents of the Lillehammer 2016 survey, over half of the young athletes’ family and friends were present in Lillehammer, mainly in a group of 3 to 5 people.⁴⁶²

Buenos Aires 2018 had an innovative approach in organising the Opening Ceremony, as the event was held in the centre of the city instead of a stadium. This way, over 215 000 people were part of the Opening Ceremony for free of charge. The first competition was visited by 90 000 spectators. The tickets were available for free, giving the opportunity to everyone to

⁴⁵⁴ Official Report Innsbruck 2012: 9

⁴⁵⁵ Hanstad et al 2014: 340

⁴⁵⁶ Official Report Innsbruck 2012: 9

⁴⁵⁷ Official Report Innsbruck 2012: 79

⁴⁵⁸ Official Report Nanjing 2014: 79

⁴⁵⁹ Official Report Nanjing 2014: 78, 127

⁴⁶⁰ Official Report Nanjing 2014: 82, 136

⁴⁶¹ Official Report Lillehammer 2016: 8, 13

⁴⁶² Parent et al 2016: 25

attend. The total number of spectators of the YOG in Buenos Aires reached over 1 million. The huge interest of spectators created a challenge for the YOGOC. All 241 competitions were sold-out.⁴⁶³

In Lausanne, a total of 640 000 spectators attended the sports events and cultural events, out of those 350 000 people visited the sports competitions. Just on the Alpine skiing races, 13 000 spectators cheered for the athletes in one day, but the figure skating events, and the mixed NOC 3-on-3 ice hockey events were also visited by 10 000 spectators a day. The number of spectators for the other new sport, ski mountaineering grew during the Games, reaching 5000 spectators in a day.⁴⁶⁴

Both the summer and winter YOGs have shown remarkable growth in the number of spectators, as seen on the chart below. The YOG can be a **catalyst to boost tourism in the future** as well. Not only by increasing the popularity of the destination for leisure tourists, but also by future sports events that are organised in the region due to the upgraded sports infrastructure and the organisational experience of the host city.

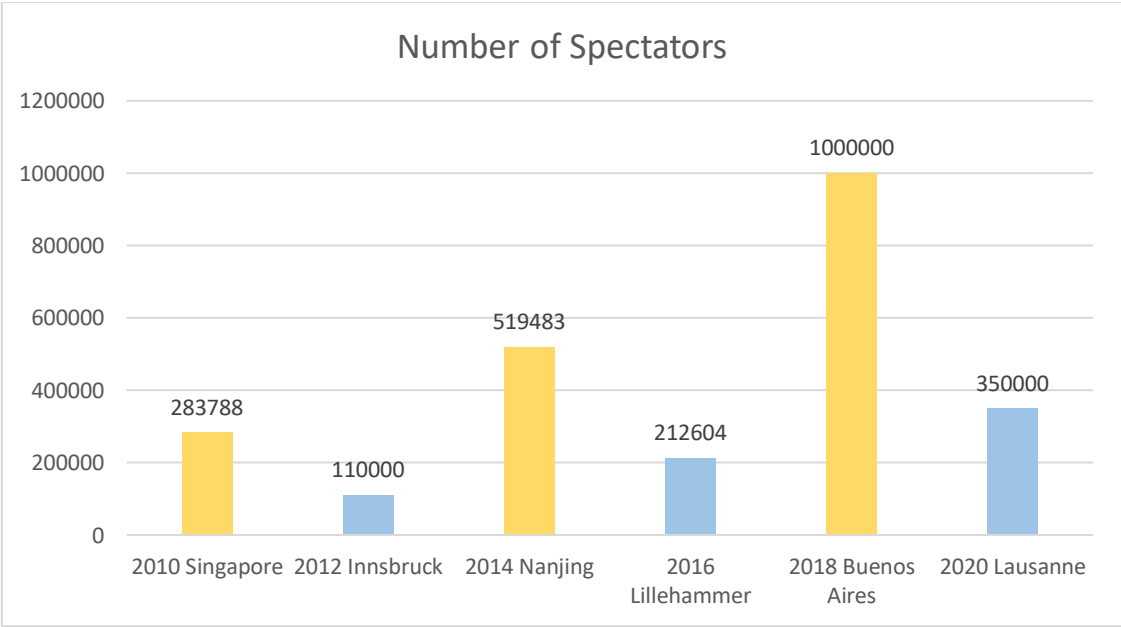


Figure 6: Number of spectators at the YOGs

⁴⁶³ Official Report Buenos Aires 2018: 4, 51, 93, 128-129

⁴⁶⁴ Lausanne 2020: Winter Youth Olympic Games Official Report

k. Use of Existing Venues

An important element of the YOG is that existing **facilities** should be used to avoid unnecessary investments in venues that will not be profitable in the future and might become abandoned. For Singapore 2010, 11 existing venues were used for competition, while one new venue was built, and six temporary venues were constructed. The upgrading of public and school venues costed 13.2 million USD.⁴⁶⁵ The YOY took place in the premises of the Nanyang Technological University, whose students benefited from the upgrading of infrastructure.⁴⁶⁶ To commemorate the YOG legacy, the YOG Gallery was opened at the Singapore Sports Museum, and the Youth Olympic Park, as well as Olympic Walk were created.⁴⁶⁷ Providing high-level venues while keeping the costs low was a very crucial focus of the YOGOC.⁴⁶⁸

At the first winter YOG in Innsbruck, the existing infrastructure was adapted and upgraded, only the YOY was built newly. For the YOY thirteen new residential buildings were constructed with passive-house technology and extremely low energy consumption. As a legacy of the event, the 444 modern apartments were handed over to the new owners or tenants after the YOG, who will benefit from it in the long-term.⁴⁶⁹ In Seefeld, two new ski jumping hills were constructed (HS 75 and HS 109) in the local Nordic Training Centre with a judges' tower. For the biathlon competition a new shooting range was built with floodlights and a direct connection to the cross-country ski trails in the region stretching over 279 km.⁴⁷⁰ The ski slopes were also upgraded in Patscherkofel, meeting the FIS World Cup criteria, and enabling the venue to host World Cup events in the future.⁴⁷¹ The newly developed freestyle centre in Kühtai including a permanent halfpipe, slopestyle course and ski-cross course made the resort one of the top freestyle training and competition venues in Europe.⁴⁷²

Nanjing adopted the approach of “renovation over construction, repair over replacement, rental over purchase, and borrowing over rental”. 35 venues were used in total, and out of these venues only one permanent venue was built newly, the Nanjing Youth Olympic

⁴⁶⁵ Hanstad et al 2014: 321

⁴⁶⁶ Hanstad et al 2014: 313

⁴⁶⁷ Hanstad et al 2014: 321-322

⁴⁶⁸ Official Report Singapore 2010: 52

⁴⁶⁹ Official Report Innsbruck 2012: 129, 164; Hanstad et al 2014: 334

⁴⁷⁰ Official Report Innsbruck 2012: 7, 12, 165

⁴⁷¹ Official Report Innsbruck 2012: 165

⁴⁷² Official Report Innsbruck 2012: 13, 165; Hanstad et al 2014: 334

Sports Park, which was used for the hockey and rugby events during the YOG. The Nanjing Youth Olympic Sports Park became a public sports facility as the legacy of the YOG.⁴⁷³ Other venues were already existing facilities from past international and national sports events, including the 10th National Games. These venues were upgraded for Nanjing 2014 and some venues were temporary structures. The Nanjing International Expo Centre was an upgraded temporary venue to host boxing, taekwondo, fencing and weightlifting events.⁴⁷⁴ The Jiangning Sports Centre was renovated after the 2nd Asian Youth Games by applying two layers of natural grass on the football field, to be used for the YOG football events.⁴⁷⁵ Some of the original plans for venue constructions have been changed along the way to reduce the costs and make the event legacy more feasible. For example, the shipyard and the security check areas of the sailing venue were built as temporary infrastructure instead of permanent facilities as originally planned. At the fencing venue the lighting system had to be adjusted for the competition. Instead of changing the hardware, the software was upgraded, saving over 10 million RMB (approximately 1.26 million EUR). The venue of the Sports Lab project was moved from the Nanjing Olympic Sports Centre to the Yuzui Wetland Park to ensure a sustainable legacy by creating an outdoor sports centre in the park after the Games.⁴⁷⁶ The YOV was constructed taking sustainability into consideration and turned into an international community after the YOG.⁴⁷⁷

The infrastructure development and the staging of the Games left an important legacy on the city of Nanjing from the economical, societal and environmental point of view and put the city on the global map. One of the significant legacies was the opening of the Nanjing Olympic Museum.⁴⁷⁸ Overall the city of Nanjing benefited greatly from the YOG through the exposure of the city, international presence, youth, sport, culture and art development, exchanges and collaborations, sustainability awareness, innovations in spatial structure system and strategic planning of the city, as well as through economic and social development of Nanjing.⁴⁷⁹

⁴⁷³ Official Report Nanjing 2014: 37, 102

⁴⁷⁴ Official Report Nanjing 2014: 34

⁴⁷⁵ Official Report Nanjing 2014: 36

⁴⁷⁶ Official Report Nanjing 2014: 37

⁴⁷⁷ Official Report Nanjing 2014: 41

⁴⁷⁸ Official Report Nanjing 2014: 102, 104

⁴⁷⁹ Official Report Nanjing 2014: 108

Lillehammer 2016 was built on the legacy of the 1994 Lillehammer Winter Olympic Games, using the same venues, and upgrading them to the needs of the YOG. Eight venues out of the total number of eleven competition venues of the YOG were constructed for the 1994 winter Games.⁴⁸⁰ The biggest infrastructure project of Lillehammer 2016 was the building of the brand new YOY with passive house technology using bioenergy for heating, which serves as student housing with its 360 apartments since the conclusion of the Games, leaving a lasting legacy to the city and the students.⁴⁸¹ New ice rink was constructed for ice hockey training and curling as well, which is used for grassroots sports since then.⁴⁸² Permanent investments were made in Lysgaardbakene and Hajfell, ensuring the long-term use of these upgraded sports venues in international competitions. Due to the successful budget control of the YOG, Lillehammer 2016 created surplus which is used for creating an Olympic legacy centre to disseminate the legacy and the spirit of the two Olympic events held in Lillehammer for future generations.⁴⁸³

Several sports infrastructure development projects were initiated before the YOG in Buenos Aires to improve the already existing venues and build new facilities which are necessary in the long-term. The YOG helped to accelerate the infrastructure development plan of the city towards the year of 2030.⁴⁸⁴ The Youth Olympic Park was constructed, including swimming pools, athletic tracks, hockey pitches, basketball courts, beach volleyball courts and beach handball courts. This sports centre serves as a high-performance training facility for the top athletes in Argentina. In addition to the construction of the Youth Olympic Park, infrastructure development was conducted for the YOG on the Mary Terán de Weiss stadium, building a sliding roof over it which made the stadium the largest indoor arena in Argentina with more than 15 000 seats. As an indoor arena, it can host several major events, such as basketball, volleyball competitions or cultural events. The event was a catalyst for urban infrastructure developments too, as part of the city's development strategy. The construction of the YOY created a new neighbourhood in Buenos Aires, providing affordable housing for more than 6000 people (around 1150 families). With the construction of the YOY and the Youth Olympic Park the YOG contributed to the development of the southern area of Buenos Aires and created new employment opportunities for thousands of people. Public health care centres

⁴⁸⁰ Official Report Lillehammer 2016: 11; Lesjo 2017: 132

⁴⁸¹ Official Report Lillehammer 2016: 28, 245; Lesjo 2017: 133

⁴⁸² Official Report Lillehammer 2016: 25, 246; Lesjo 2017: 132-133

⁴⁸³ Official Report Lillehammer 2016: 245-247

⁴⁸⁴ Official Report Buenos Aires 2018: 119

of the city were also improved as part of the masterplan, with the expansion and renovation of the Cecilia Grierson Hospital. The Centre for Early Childhood Development was expanded, helping the families of 200 young children. The transportation infrastructure was also improved by building a new Metrobus route and the Olympic Bridge Southern Shore, which many residents can benefit from. The improvements that were made in Buenos Aires due to the YOG changed the life of the people in and around the city.⁴⁸⁵

In Lausanne, mainly existing facilities were used instead of building new sports venues. Each three cantons, that were part of the event involved their local resources and adapted the event to the local specificities, instead of huge investments. For example, the speed skating events were held on the frozen lake of St. Moritz, instead of building a new venue for it. For the YOV new building was constructed in Lausanne called Vortex. There has been a significant need for student accommodation in the region for a long time, and the event made it possible to bring the necessary resources together. The construction of the building left a long-lasting legacy to the city and to the University of Lausanne by providing housing opportunity for the students. Not only the students use Vortex, but it provided temporary housing for medical staff due to the COVID-19 outbreak before the academic semester started. For the sports events held in St. Moritz, a youth hostel served as the second YOV.⁴⁸⁶

Besides the construction of student housing, some developments have been made on the sports infrastructure that the region benefits from. In Les Diablerets, new ski lift structure was built. As a result, the alpine ski slope could be upgraded, and it contributes to the long-term goal of four-season tourism in the region. The reshape of the Snow Park in Leysin is also beneficial for the local economy as it helps the resort to earn reputation as a freestyle centre in Switzerland and on the continent as well. The construction of the Vaudoise Aréna was planned for many years in Lausanne, but thanks to the YOG the process was accelerated, and the new arena became the venue for the ice hockey events of the YOG. For figure skating and short track speed skating a temporary ice rink was installed. The curling events were held in an ice rink temporarily transformed to a curling stadium. These thoughtful developments create a great opportunity for the local economy and are among the most important legacies of the YOG.⁴⁸⁷

⁴⁸⁵ IOC (2020, November 9) BA2018 Revisited: Host city reaping long-term benefits of YOG; Official Report Buenos Aires 2018: 4-5, 119

⁴⁸⁶ Lausanne 2020: Winter Youth Olympic Games Official Report

⁴⁸⁷ Lausanne 2020: Winter Youth Olympic Games Official Report

1. The YOG Brand

To be sustainable in the long term, the YOG must be a **powerful and appealing brand** to all stakeholders. The Olympic brand is one of the best-known brands in the world, generating high interest from all stakeholders, such as host cities, governments, broadcasters, sponsors, media, athletes, entourage, IFs, professional leagues, sports organisations, volunteers, and fans to join the brand and benefit from the “co-creation of value”.⁴⁸⁸ The pillars of the brand are “striving for success, celebration of community and positive human values”. The Olympic brand “extends beyond sport” and provides a “brand promise” to deliver a set of “features, benefits, services or experiences”. The brand equity has proved enormous growth by reaching strong brand awareness, positive brand associations, perceived high brand quality and strong brand loyalty. The Olympic Games are the flagship product of the IOC and they are the “driver brand” as well.⁴⁸⁹

“Extended brand” means entering a new market with a new product within an existing brand. The success of the extension relies on the strength of the existing brand, the fit between the parent brand and the new product, the relationship of the brand extension with the brand, promotional support and on the positioning of the extended brand. As the brand extension of the Olympic brand targeting the young audiences, the YOG has high potentials to be successful, but there are also threats, such as diluting the Olympic brand, however it is unlikely due to downward extension of the brand.⁴⁹⁰ Thomas Bach mentioned, that further differentiation of the YOG from the Olympic Games is to be considered by adding more new events on the schedule.⁴⁹¹ On the other hand, the creation of the YOG was mainly driven by the vision of Jacques Rogge, without having extensive research on the needs, interests, engagement and support of the consumers, which can have a negative impact on the success of the brand extension, taking into consideration all stakeholders of the YOG.⁴⁹² Therefore it can be a challenge to make the YOG brand relevant to all stakeholders, engage everyone and cater for all the needs. The research of Parent shows that the stakeholders having the highest influence on the YOG’s development are the IOC, media, and the athletes’ parents. This means, that the “survival” and the future of the YOG is strongly dependent on their satisfaction. The athletes’

⁴⁸⁸ Hanstad et al 2014: 275

⁴⁸⁹ Hanstad et al 2014: 277-280

⁴⁹⁰ Hanstad et al 2014: 280-283

⁴⁹¹ Hanstad et al 2014: 297

⁴⁹² Hanstad et al 2014: 284-285

parents are crucial as the athletes are underage, so the parents' approval and support are necessary to participate in the YOG.⁴⁹³

The junior world championships might be competition to the YOG on some level. It is important to note, however, that one of the goals of the YOG is to “bring back Olympic values to the youth”, which means that if this goal is met, the commercialisation and other aspects are less important.⁴⁹⁴ According to the research examining Innsbruck 2012, the awareness of the event among locals was low, and the engagement and interest of the NOCs, IFs, media, and sponsors was also not very high. At the same time, the excitement of the athletes showed that they enjoyed the “incredible experience”, which can justify the goal of the YOG to target youth as the new audience.⁴⁹⁵

m. Strategical Partnerships, Sponsoring, Investment in Youth and Procurements

Building **partnership between stakeholders** and authorities is very important for the event, and these partnerships can create a fruitful long-term legacy after the YOG, which helps the local economy and the life in the region and beyond as well. The YOGOC Innsbruck 2012 took the event as an opportunity to cooperate with partners and authorities to ensure a Games legacy for the future generations.⁴⁹⁶ The Lausanne 2020 YOGOC focused on the involvement of all stakeholders and important institutions in the cantons, to build relationships that are beneficial for the whole region in the future as well. Partnerships were initiated instead of sponsorship agreements. The Central Organising Committee coordinated the organisation of the event centrally, while involving local committees at each site and external staff from the partner organisations. The new partnerships can help to boost the economy by proactive cooperation in the future. Some examples for cooperation between sectors are the partnership between sport and academia, sport and culture, as well as between Switzerland and France.

Lausanne 2020 was the first in the YOG history to organise events across borders and host the YOG relay crossing between Switzerland and France to represent the binational nature

⁴⁹³ Parent et al 2013: 15

⁴⁹⁴ Hanstad et al 2014: 288

⁴⁹⁵ Hanstad et al 2014: 287

⁴⁹⁶ Official Report Innsbruck 2012: 163

of the event. Besides that, an agreement was signed between the French department of Jura and the Swiss Nordic Ski teams following the YOG, which gives the permission to the teams to use the renovated sports facilities of ski jumping, biathlon and Nordic combined events free of charge for 20 years. The binational cooperation appeared in several other fields: joint training courses and educational projects were organised. A cooperative agreement was signed between Lausanne 2020 YOGOC and Paris 2024 Olympic Games Organising Committee, as the two entities have a very similar vision focusing on innovations, environmental protection, sustainability, involvement of the communities, and using existing or temporary venues. This cooperation is a great example for transfer of knowledge between two entities and supporting each other while benefiting from the cooperation.⁴⁹⁷

Besides the partnerships, the **sponsoring program** is also important element for the economic sustainability and the future of the YOG. Innsbruck 2012 managed a successful sponsorship program, engaging companies from different fields in different areas. In addition to the eleven IOC Top Partners, the YOGOC received support from 18 domestic partners which were divided in four categories: National Premium Partner, Official Sponsor, Official Supplier and Supporter. Five institutional partners were also engaged in the project. Each partner contributed to the success of the event with products, services, financial support, and competences.⁴⁹⁸ In Nanjing, the number of domestic sponsors reached 24, besides the 10 TOP Partners, which all contributed to the success of the event in different ways.⁴⁹⁹

Not only the fruitful partnerships, but the **investment in youth** is contributing to the long-term economic boost of the region. As explained in the social sustainability segment, this is one of the main missions of the YOG, to be organised for, by and with youth. Training the youth, creating opportunities for youth, and encouraging entrepreneurship has a positive effect on the economy.

The responsible **procurement processes** can also contribute to the growth of economy. In Innsbruck 2012 the 1600 furniture and curtains for the YOY were all produced by local manufacturers that help people who are long-term unemployed to re-enter the job market and unemployed women to find a job. After the YOG, most of the furniture was donated to local

⁴⁹⁷ Lausanne 2020: Winter Youth Olympic Games Official Report

⁴⁹⁸ Official Report Innsbruck 2012: 104

⁴⁹⁹ Official Report Nanjing 2014: 72

charity organisations.⁵⁰⁰ To support the local industry, the official Innsbruck 2012 uniform project was implemented by a local manufacturer as well, the products being produced in northern Italy.⁵⁰¹

n. Budget

Keeping the **budget** low is a key element of the YOG, with a more human level and down to earth approach avoiding gigantism in costs and in size. The innovative and sustainable solutions can help to minimise the budget and be able to organise the event in a tight financial framework. The travel and accommodation costs of the participating NOC delegations, as well as International Technical Officials are covered by the IOC. Daily TV highlights are also produced, financed by the IOC.⁵⁰² However, the IOC cannot guarantee financial support for the host through TV and marketing rights.⁵⁰³ A major part, usually over 50% of the funding comes from national, regional, or local governments based on the bids, therefore the public funding has a significant importance. Revenues are generated from domestic sponsors and official suppliers, while small amounts are generated from ticketing, licensing, lotteries, donations, and disposal of assets. The income from ticketing only covers 1-5% of the revenues.⁵⁰⁴ The highest expenditures come from the YOV operations, sports venues refurbishment and temporary works, workforce, technology, and the culture and education program.⁵⁰⁵

Unfortunately, there is a lack of information and research on the organisational costs, budgeting, cost-benefit analyses, and economic impact of the YOG.⁵⁰⁶ The official reports of the YOGs include little to no data on budget, the only source of information can be the bid files. Besides having very little information about the event budgets, the problem with the analysis is that the event budgets are very complex, including the direct budget of the YOGOC, the authorities and the IOC, as well as hidden costs in other organisations, therefore it is difficult to assess.⁵⁰⁷ In the bidding, the bidding committees must submit a YOGOC budget including

⁵⁰⁰ Official Report Innsbruck 2012: 164, 168

⁵⁰¹ Official Report Innsbruck 2012: 167

⁵⁰² IOC 2008: 97

⁵⁰³ Hanstad et al 2014: 111

⁵⁰⁴ Hanstad et al 2014: 113

⁵⁰⁵ Hanstad et al 2014: 113

⁵⁰⁶ Hanstad et al 2014: 101

⁵⁰⁷ Hanstad et al 2014: 109-110

the direct costs, as well as non-YOGOC budget, which includes the costs of infrastructure for transportation, sports, cultural and educational programs, and the YOV. The bidding budget does not always reflect the final budget, there can be remarkable differences. Singapore 2010 planned with a budget of 75.4 million USD, however the final budget turned out to be more than four times higher. Some paradoxes can be identified in terms of budgeting and service levels from the IOC's point of view. The bid of Athens and Turin for 2010 was criticised by the IOC for planning with too high budget, however the final budget of Singapore 2010 turned out to be same as the bidding budget of these cities. Other example is from Innsbruck 2012, where according to the original plan of the IOC everyone would use shuttle buses, including IOC members. However, in the end IOC members received private transportation.⁵⁰⁸

Most YOGs have no detailed information available on the final budget. The final budget of YOG 2012 in Innsbruck was 23.7 million EUR (30.2 million USD), which is 33% higher than the budget submitted in the bid.⁵⁰⁹ The anomalies between the bid budget and the final budget of the YOG in 2010 and 2012 can be partially explained by the lack of information on service levels and no benchmark to plan with from previous editions.⁵¹⁰ The aim of the YOGOC Innsbruck 2012 was to organise the YOG on a budget to prove that hosting such an event can be cost-efficient and attractive to other cities too.⁵¹¹ The key was to be flexible and open to compromises and new approaches in order to find the balance and be efficient. Each Functional Area implemented innovative ideas to stay on budget and ensure a long-term legacy.⁵¹² Overall the budgeting was successful as the organisation did not exceed the revised budget that was submitted in 2010 and the reserve fund was not used, out of which 800 000 USD was spent on legacy projects after the YOG.⁵¹³ Nanjing 2014 used a new innovative approach in ticketing operations to cut down the risk and the costs. This meant that the ticket sales company paid a deposit to the YOGOC and once the profit exceeded the amount of the deposit, the profit was shared with YOGOC.⁵¹⁴

Based on the information available on the financing of the YOGs, the budget of the winter YOGs seems to be reasonable and show that the YOG can be organised on a human

⁵⁰⁸ Hanstad et al 2014: 110-111, 124

⁵⁰⁹ Official Report Innsbruck 2012: 9; Hanstad et al 2014: 117, 119

⁵¹⁰ Hanstad et al 2014: 119

⁵¹¹ Official Report Innsbruck 2012: 16

⁵¹² Official Report Innsbruck 2012: 29

⁵¹³ Hanstad et al 2014: 119

⁵¹⁴ Official Report Nanjing 2014: 77

level, while the summer YOGs have significantly higher costs, so it would need to be downscaled to avoid becoming mini-Olympics.⁵¹⁵ The case of Innsbruck 2012 and Lillehammer 2016 show that a win-win situation can be created, and both the Olympic Movement and the host city can benefit from staging the YOG through smart planning and keeping the budget low with a down-to-earth approach. In both cases, the YOG perfectly fit in the development strategy of the city and in the development of youth sport. These host cities had the expertise to organise a large-scale sport event, while the YOG helped to accelerate development projects, such as improving the housing of locals and students through building the YOY.⁵¹⁶

o. Host City Selection

Having a look at the **host cities of the YOGs**, we can identify some patterns regarding the geographical locations and the sporting environment and legacies. The “global distribution” of the host cities support internationalism and goes back to the internationalistic philosophy of Coubertin.⁵¹⁷ Overall, the IOC’s strategic goal is to “bring the YOG to all types of cities” to “promote Olympism throughout the world”.⁵¹⁸ Some of the host city selections support this statement, however, there are differences between the summer and the winter YOG host cities in these patterns. The first YOG attracted 9 bidding cities, out of which most would never likely to bid for the Olympic Games.⁵¹⁹ On the other hand, for the winter YOG 2016, there was only one bidding city, therefore the structure of the bidding and the event had to be reconsidered to be more attractive to potential hosts.⁵²⁰ Based on the evaluation reports, the biggest emphasis is given on legacy, governance and financial support, YOY, existing venues and CEP concept when evaluating and choosing a host city.⁵²¹

⁵¹⁵ Hanstad et al 2014: 123

⁵¹⁶ Hanstad et al 2014: 108-109

⁵¹⁷ Krieger 2016: 246

⁵¹⁸ IOC 2018: 4

⁵¹⁹ Hanstad et al 2014: 38-39; IOC OSC 2015 Factsheet 4: 1; Krieger 2016: 246-247

⁵²⁰ Hanstad et al 2014: 123

⁵²¹ Hanstad et al 2014: 115-116; IOC 2018: 4

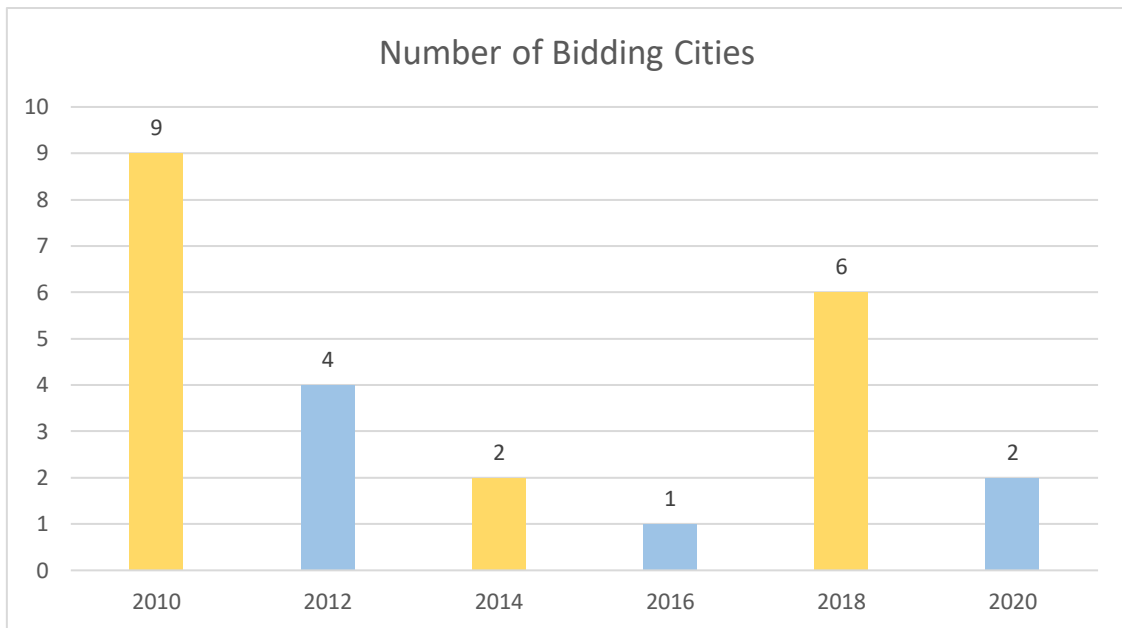


Figure 7: Number of bidding cities for the YOGs⁵²²

The host cities of the first and second summer YOG, Singapore and Nanjing are both located in Asia, while the third summer YOG went to South America in Buenos Aires. These cities have never been the host to the Olympic Games; therefore, it means involvement of new host cities in the Olympic Movement and engaging new communities with Olympism through the participants' interactions with locals.⁵²³ This pattern is continued by the future YOG host city Dakar in Senegal. The IOC's goal was to involve Africa more actively in the Olympic Movement by bringing an Olympic event to the continent, claiming "it's time for Africa".⁵²⁴ Therefore, the IOC was negotiating directly with potential candidate cities in Africa, attributing the Games to Senegal at the final decision. However, the Evaluation Commission Report also stated that there are challenges regarding staging the YOG in Senegal. The strong engagement of all stakeholders and close monitoring of the situation will be needed to deliver a successful event.⁵²⁵

This was the first time in the history, when the IOC approached potential hosts. The selection procedure was modified to make it shorter, simpler, and less expensive for the bidding cities.⁵²⁶ During the IOC Session in Rio in 2016, the YOG 2.0 Recommendations were

⁵²² IOC OSC 2015 Factsheet 4: 1-5

⁵²³ Krieger 2016: 247

⁵²⁴ IOC 2018: 4

⁵²⁵ IOC 2018: 33-34

⁵²⁶ IOC 2018: 4, 6

approved, which included that the YOG must be “more accessible, affordable and sustainable” for the interested cities to become a host. The recruitment of potential future host cities directly by the IOC was also part of the recommendations. An updated version of the Host Selection Process was prepared with reducing the costs, complexity, and the service levels of the YOG. The focus of the selection process is to adapt the event to the local needs and the local context, without new constructions being undertaken. This aims to ensure that the legacy of the YOG will meet the needs of the region and the YOG will be a “catalyst” for youth and sport development and will have a positive social impact.⁵²⁷

The sports calendars are very busy, there are many different sport events taking place in every sports discipline globally. The Olympic calendar has also become busier, as the summer YOG is in the year of the Winter Olympic Games, winter YOG is in the year of the Summer Olympic Games.⁵²⁸ The Agenda 2020 Recommendation 25 proposed to move the YOGs to non-Olympic years, starting from the summer YOG 2022 moving to 2023.⁵²⁹ However, Dakar was awarded the YOG in 2022, and later moved to 2026 due to the “large scale of the operational challenges which the IOC, the National Olympic Committees (NOCs) and the International Federations (IFs) are facing following the postponement of the Olympic Games Tokyo 2020”.⁵³⁰

In terms of winter YOG host cities, the pattern is different from the summer YOG host cities. Instead of involving new Olympic host cities, those regions were the host to the YOG which are strong winter sports centres, already having the specific winter sports infrastructure in place and have experience in Olympic events. This means that the plan to give the opportunity to new cities to be the host to Olympic events has not been realized yet in winter, especially with having only one city bidding for 2016.⁵³¹ The first and the second winter YOG cities have an Olympic history. Innsbruck was the host to the 1964 and the 1976 Winter Olympic Games⁵³², while the 1994 Winter Olympic Games were held in Lillehammer. The third winter YOG host city Lausanne has not been Olympic host before, however, it is the Olympic capital itself since 1994, being the home to the IOC, the Olympic Museum, as well as several international sports

⁵²⁷ IOC 2018: 4

⁵²⁸ IOC 2008: 96

⁵²⁹ IOC 2014: 19

⁵³⁰ Morgan, L (2020, July 15) Inside the Games: Dakar 2022 Youth Olympic Games postponed until 2026

⁵³¹ Hanstad et al 2014: 230

⁵³² Official Report Innsbruck 2012: 12

organisations and by bringing the Games “home”, a long-term dream was realised. Additionally, St. Moritz, the host region besides Lausanne in 2020 is the “birthplace of winter sports”, hosting the Winter Olympic Games in 1928 and 1948.⁵³³ The next winter YOG in 2024 is attributed to Gangwon province in Korea, where the host city of the 2018 Winter Olympic Games, PyeongChang is located. Therefore, the winter YOGs are built on the legacy of the winter Olympic Games. The three winter YOGs held up to now all took place in Europe, the 2024 edition will be the first winter YOG outside of Europe, in Asia.

On the IOC Session in 2019 a new approach was approved for the selection of the host cities, which ensures flexibility and targeted dialogue with potential hosts. For the YOGs and Olympic Games two separate Future Host Commissions were set up for winter and summer, to communicate with the interested cities and advise the IOC about the interests. The role of the commission is to “explore, monitor and encourage interest in future Games, to assess interested parties’ value propositions, to assist interested parties in formulating a strong vision for their projects and developing sustainable proposals matching up with their long-term development strategy”. After the dialogues IOC approaches the cities that could be potential hosts. Bid can be submitted by a region, multiple cities together and a whole country as well, not only by a single city. The first event that was attributed through the new approach was Gangwon 2024, the next winter YOG which will be hosted by a region and not a single city for the first time.⁵³⁴

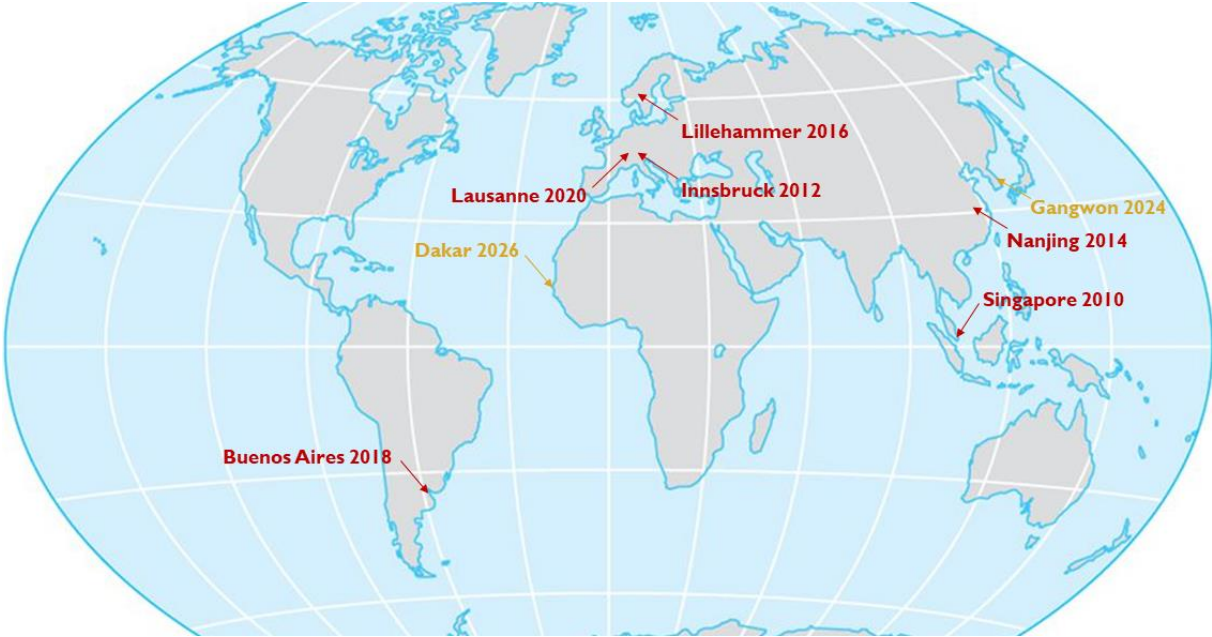


Figure 8: Map of the YOG host cities

⁵³³ Lausanne 2020: Winter Youth Olympic Games Official Report

⁵³⁴ IOC 2020: 4-5

CHAPTER V. CONCLUSION

The aim of the study was to examine the YOG from the social, environmental, and economic sustainability perspectives and analyse all the findings that can affect the sustainability of the event in a positive or negative way. In order to be successful in the long term and leave a positive legacy, the YOG must be sustainable. The concept of the YOG, as well as the three summer and three winter editions of the YOG were examined, that were held between 2010 and 2020. The research showed that sustainability is embedded in the YOG and its educational program, it is observed in many areas from the bidding throughout the implementation. To examine the long-term legacies of the YOGs, the studies should be implemented at a later stage, however, the sustainability elements of the YOGs and good examples can already be seen.

The YOG brand itself must be attractive and engaging to all stakeholders to be sustainable. As the extension of the powerful Olympic brand, the YOG can be a success, however the positioning of the YOG and its relationship to the Olympic brand must be clear. Since the creation of the YOG was mainly driven by the idea of Jacques Rogge, not by the needs of consumers and stakeholders, there can be difficulties in the long term to engage stakeholders. The brand awareness of the YOG and the interest of the NOCs, IFs, media, and sponsors was low based on the example of Innsbruck. The most important stakeholders of the YOG are the IOC, media and the athletes' parents, whose satisfaction will influence the future of the event. As there are many other sports events for youth, the YOG must stand out and offer a unique concept and a strong brand to be relevant and to engage the stakeholders.

Building a long-lasting legacy is targeted by the IOC and the YOGOCs based on the candidature files and official reports. The YOG is strong on the social aspect and setting high standards in environmental sustainability. The social sustainability of the YOG is the most researched among the three areas, more articles and materials can be found on the Learn & Share and the youth empowerment, than on the environmental and economic research of the YOG. Therefore, the current study also contains a lot of information on the social aspects. In the economic aspect, there is less information available to compare and assess what can be considered affordable and sustainable. It was highlighted from the beginning, that IOC wants to avoid gigantism and apply a more down-to-earth approach with downscaling, limitations and reducing costs for the YOGs.

Since the inauguration of the YOG, further adjustments and recommendations have been made to make the organisation of the Games more affordable, accessible, and sustainable for the hosts with lower costs, reduced complexity, and lower service levels. The bidding has been also simplified and made less expensive, and for the upcoming YOGs instead of an open bidding a direct approach was used by the IOC. The aim would be to organise the YOG on low budget, but this was not the case for all YOG editions, some reaching very high amounts by the end of the event. The budget of the winter YOGs appear to be reasonable, however, the summer YOGs have significantly higher costs. As there is no financial support from broadcasting rights, the financing of the YOG heavily relies on public funding. There is a lack of detailed information on YOG budgets and organisational costs. The budget of the YOG requires a complex analysis, as it includes separate budgets: the budget of the YOGOC, authorities and the IOC, and hidden costs. Cost efficiency is key to organise the YOG on a budget.

In the bidding file of the YOG, host cities must highlight their legacy concept and there is a significant emphasis on the event sustainability during the bid evaluation process. This means that without the focus on sustainability and planned legacy, bidding cities cannot be successful in the bidding procedure. The goal of the IOC with the YOG is to promote Olympism around the world by involving new cities and regions to host an Olympic event, which could not be potential hosts to the Olympic Games. The host of the summer YOGs have been selected accordingly, as Singapore, Nanjing, Buenos Aires, and Dakar are all new to the Olympic Movement. Dakar is not only a new city, but it is the first Olympic host city on the African continent, which was directly approached by the IOC with an intention bring an Olympic event to Africa. The winter YOGs have a different scenario, due to having lower interest, limited possible host cities, and requiring very specific winter sports facilities in one region. All hosts, Innsbruck, Lillehammer, Lausanne and Gangwon are Olympic cities and regions, having hosted the winter OG in the past or being the Olympic capital itself. From the sustainability perspective the host city selection seems reasonable, since for winter YOGs due to the already existing winter sports centres unnecessary infrastructure does not have to be built, while for the summer YOGs new cities can be involved that have the necessary infrastructure. Through the IOC Observer Programme and Visual Transfer of Knowledge Programme the future YOGOCs can learn from the previous Games organisers.

The host city's exposure through the marketing before and during the YOG ensures high visibility through social media, which provides an opportunity to the city to position itself

internationally and attract its target groups. The reach through media coverage is depending on the Games (winter or summer), but the Games can have significant reach. The winter YOGs are on a smaller scale, therefore the reach and interest are incomparable to the summer Games. The summer YOGs have a more worldwide reach, while the winter YOGs have a limited reach, mainly in the participating countries. Out of the six editions held, three were organised in Europe, which means that from the geographical perspective the YOG might have the highest impact in Europe, however these three were winter YOGs with lower reach than the summer YOGs. Despite the high reach in some cases, it is difficult to prove if it is well utilized to transfer the messages of the YOG.

Singapore's reach is estimated around 266 million. However, the interest in Nanjing 2014 broke records, only the Opening Ceremony was viewed by over 200 million people in China, and in total 769 million viewers followed the YOG on TV. The social media channels of Nanjing 2014 were followed by 1.265 million people. Comparing it to the most successful media coverage in terms of winter YOG: Lausanne 2020 had 13 million visits on its media platforms. Reaching the youth through different social media channels is important in today's digital world.

Hundreds of thousands of spectators visited all YOGs, including thousands of foreign visitors. Most events were sold out and the number of spectators show growth both in the winter and summer YOGs: from 110.000 (2012 Innsbruck) to 350.000 (2020 Lausanne) in case of winter editions, while in summer from 283.788 (2010 Singapore) to over 1 million (2018 Buenos Aires). Due to the exposure of the city and the high number of visitors the tourism can increase in the future as well, and the city's or the region's position on the international market can be strengthened, however, it is not proved whether it happens thanks to the YOG.

The YOG program is flexible and adaptable to the host city's infrastructure, culture, and environment. The local needs play an important role in planning the YOG and the event legacy to be able to achieve "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". Some host cities include the YOG in the long-term youth and sport strategy of the region, ensuring that the event aligns with their long-term goals. This way, the YOG can be an accelerator for developments in sports, youth, and education, as well as foster collaborations between local stakeholders (schools, universities,

sport clubs, federations, authorities). Building partnerships between stakeholders can be beneficial for the region and contribute to the economy too.

The flexibility of the YOG means that both the sports program and the culture and education program can be built based on the local specificities. Not all Olympic sports must be included on the program and new events can be proposed by the YOGOC, depending on the already existing infrastructure and on the sport traditions of the hosting region. No new sports facilities should be built to reduce the costs and avoid abandoned venues. In special cases, when the city's long-term plans include the construction of a new venue and the YOG would just accelerate the construction, it is possible to build new infrastructure for the YOG justifying its necessity and its long-term use. This is very important from the environmental and economical perspective as well. Olympic Games are often associated with the abandoned venues, which can cause environmental issues due to the unnecessary structures, as well as financial implications due to the high costs of maintaining the venue. The IOC aims to avoid this issue in the case of the YOG, making it more sustainable. Temporary venues are also encouraged to be built. For the past YOGs the major infrastructure development project was the building of the YOY, which helped to solve housing problems for students and locals, leaving a very important legacy on the region. Urban development projects were implemented in some cases, which the locals benefit from, avoiding any big investments just for the event itself. The existing sports facilities are upgraded and renovated for the YOG, which provide high level sport venues for the region both for leisure and high-performance sport without unnecessary investments, benefitting the locals.

The YOGOC must pay special attention on the environmental aspects to reduce the footprint of the event. For the constructions and renovations at the YOGs innovative and environmentally friendly solutions were used on each event and the environmental protection principles were taken into consideration. These innovative solutions included water- and energy saving systems, reducing consumption, eco-efficient operations, low-carbon emission, minimising waste, recycling, and responsible waste management. Due to the large amount of waste produced on a major event, sustainable waste management is essential. YOGOCs arranged recycling of the waste and collected waste selectively and educated people about the importance of it. The initiative of the YOGOC in Innsbruck to recycle the marketing materials is a great example, giving a new life to these materials as bags and other products, reducing the

waste up to 90%. The reduction of food waste on a large-scale event is also very important, as it was targeted by the YOGOC in Nanjing too.

Nanjing' strategy of "renovation over construction, repair over replacement, rental over purchase, and borrowing over rental" is a great direction to follow for a sustainable event. The example of Innsbruck in responsible procurement processes, engaging local manufacturers and employ locals contributes to the region's economic growth. To reduce the carbon emission, public transportation and common shuttle buses are used for the YOG. The virtual Torch Tour in Nanjing ensured a low carbon emission torch relay giving the opportunity everyone to join through the app. In Lausanne environmentally friendly fuel was used in the cauldron, and first time in Olympic history the flame travelled from Greece on a commercial flight instead of a private jet.

In cities with high air pollution a major event can worsen the situation. In Nanjing, having generally bad air quality, the municipal government imposed measures for the duration of the YOG to reduce air pollution. This improved the air quality significantly to meet the standards for an international competition, however, it was a only temporary action so the problem of the air pollution was not solved in the long term.

Lillehammer 2016 and Buenos Aires 2018 YOGOCs received ISO certification to recognise the YOG as a sustainable event, which is a remarkable achievement for a sport event. The YOGOC in Nanjing developed an Environment Management System which was used during the event and is still in use by the city since then. Future event organisers can also benefit from the system and take advantage of the manuals prepared in the topic through the system.

YOGOCs cooperated with the stakeholders and authorities to incorporate environmentally friendly solutions and to organise a green event and build long-term legacy. Through the high reach of the YOG it is a great opportunity to raise awareness about environmental issues, to educate and to implement innovations to make the event environmentally sustainable. Environmental protection was an important part of the education program at the YOGs. Not only the participants, but locals also participated in the activities organised in this theme, spreading the message on environmental protection.

Education is a key element of the YOG. The YOG builds on the philosophy of Olympism, which suggests that sport should be blended with culture and education. The YOG aims to offer a balanced sports program and culture and education program, which makes the event outstanding among all the other sports events. The Learn & Share program is very diverse, offering a lot of learning experience for everyone attending the YOG: athletes, coaches, officials, volunteers, other non-athlete participants, local youth and to some extent to the public too. The program is constantly developing and improving, which shows that it is an integral part of the event and the IOC aims to organise it on the highest level to achieve its objectives while fitting it to the local environment. The Learn & Share program can reach a lot of people. The highest number was recorded in Nanjing, having in total 1.23 million visits recorded in the activities of the program. This means that the program can influence many people: not only the direct audiences (athletes, coaches, officials, non-athlete young participants) but also indirect audiences (youth around the world, visitors, locals, and other stakeholders). Among the athletes, the attendance rate in the program is high, most athletes participated in several activities. A number of researches have been conducted about athletes' experience in the Learn & Share, showing different results. Some level of dissatisfaction was expressed, but overall ratings showed high level of satisfaction, which means that it is an outstanding experience for the athletes to be part of the Learn & Share. The highest rated element was the meeting and interaction with others from all over the world. Some athletes admitted that they would like to have even more interactions among nations to get to know their peers. This shows that the Learn & Share program has a strong emphasis on friendship, one of the three Olympic values.

The question is whether the program can be considered effective by forming friendships and fostering interactions. While it is a very positive outcome, is there more that the participants take away from the Learn & Share or is it just a "team-building" event? The long-term effects of the program must be analysed to see the influence of the Learn & Share on young people's life and to see to what extent it is sustainable. The Learn & Share is not a long-term education program, it is focusing on the duration of the YOG itself. Do the young people become ambassadors to inspire others in their societies after attending some activities in these few days? The program has other challenges too, such as language barrier between participants, and coming from different backgrounds with different knowledge. Concerns are raised about the balancing of the sport and education program too. To the participants and officials, the focus is on the sports competition, but they enjoy being part of the Learn & Share experience and interact with others in a non-formal way. Some athletes have enough time between competition

to join the Learn & Share activities, some even too much free time, while other athletes from certain sports had little to no time to attend, so the program should be more balanced. Is it even possible to balance it when athletes are supposed to concentrate on their competition and join the Learn & Share in the same? When all athletes stay for the whole event compulsorily in the YOY, there is a higher chance that everyone has time for the educational activities besides the competition. However, with the two-wave system in Lausanne, there is much more limited time to squeeze everything in. While it was developed to allow more athletes to participate and more events to take place, it has disadvantages, limiting the time for interactions and activities besides the competition. It presents challenges in building a balanced sports and education program, and athletes do not have the possibility to attend all side events and both the Opening- and Closing Ceremonies. Balancing the sports and education program and determining the focus could be one of the biggest challenges of the YOG in the long term. Can the balance be further improved? This balance is essential for the YOG to reach its objectives. Targeting many audiences can create a challenge too, as it is difficult to meet the expectation and needs of all target groups (athletes, officials, volunteers, young leaders and so on).

The IOC's intention is to organise the sport competitions according to the highest international standards. However, the IFs and NOCs do not always see the YOG as the highest standard event for youth. Some IFs set specific criteria for the YOG competition to make sure it does not intervene with their own events, while some NOCs do not send the best athletes to the YOG. Engaging all stakeholders and making them interested in the YOG is crucial to maintain a high-level event. Athletes also gave mixed feedback, to some it was the pinnacle of their sport calendar, to some it was lower level than the junior world championships. This raises the question about where the focus should be: sport or education?

Besides the Learn & Share, the other remarkable innovation of the YOG is the sports program. Through the innovative and youthful new events and event formats the YOG contributes to the development of the sports, as it can serve as a testing ground for sports innovations for the Olympic Games too. The new events are considered popular and successful (for example the skills challenges, 3x3 tournaments, breaking, sport climbing, roller sports, kitesurf), in some cases replacing some of the traditional sports with another discipline that is more popular among youth (futsal instead of football, beach handball instead of handball). Some events of the YOG were already introduced on the OG (women's ski jumping, mixed events in biathlon, luge, figure skating, golf, rugby 7s).

To make the events more suitable and safer for youth and reduce the costs of the competition, modifications have been made to the traditional rules of some sports. This is either modification in equipment (laser pistols in shooting, lower maximum weight of javelin), or modification of the event format (four discipline in modern pentathlon, basketball 3x3, only two events in sailing with the cheapest equipment). In other sports, due to financial aspects the equipment is provided by the YOGOC based on a draw (horses for equestrian and boats for canoe and kayak), reducing costs and providing equal chances at the same time. In some sports athletes must compete in all disciplines (cycling, fencing), focusing on the all-around skills of the athletes. The sports program is based on the needs and interests of youth, besides considering local specificities.

While being innovative and targeting youth, the sports program also receives criticism and raise concerns. Some sports are violent and raise ethical questions (boxing, shooting) and health concerns (boxing); while others are still considered to be too demanding for youth in this age (triathlon, weightlifting, modern pentathlon). Concerns about new events and innovations also arise (male and female athletes competing on the same course in Alpine skiing despite of physical difference) and the low number of quotas in some sports are also criticised. Concerns about high level elite competition for youth also appear, as it may cause harm to the young athletes due to high pressure and immaturity. Early specialization can also cause problems, and the threat of doping and cheating can appear. The quadrennial model means that a lot of young talents are excluded, as athletes only from specific birth years can attend.

With the promotion of sports, sports initiations, engagement of locals and through the infrastructure development, the YOG can improve the access to sport, increase sports participation and leave a sporting legacy on the region. Sports initiation projects were successful with tens of thousands of visitors both at summer and winter YOGs. Not all YOGOCs displayed the sporting legacy detailed in the official report, but Singapore's example shows how the sport development processes can be accelerated by the YOG and how the interest in sport can be increased due to the YOG, generating more participants and more spectators in sport, as well as more funding and more income generated by the higher interest, and having more sports events thanks to the high standard venues. The increased cooperation between sport entities, sport clubs and other stakeholders, the experience and expertise gained from hosting the YOG, as well as the upgraded venues allow them to become hosts to international sports events in the future.

The target of the YOG is the youth in the broader sense, not only the young athletes. As the YOG is an event for youth by youth, it creates a great opportunity to empower youth through different roles as young leaders, reporters, announcers, volunteers, organisers, managers, officials, designers, and artists. Through the different youth programs, young people have the possibility to engage in responsible positions and increase their employability in their field. Providing a platform for young talents can contribute to raising the leaders of tomorrow who are equipped with the necessary experience and skills after the YOG take other responsible roles and contribute to the society. The best young reporters from the summer YOG are invited to the winter YOG to use their skills; volunteers, organisers and young leaders stay involved in many cases for the next YOGs which helps to build a community of sport event professionals. Within the YOGOC, the average age is usually low, with having young people under 30 in management and leadership positions too.

The YOGOC and IOC can also benefit from involving young people, as youth can be a catalyst for initiatives and new ideas. After redesigning the Young Leaders program, the IOC is aiming for the long-term involvement and development of young sports professionals to contribute to the Olympic Movement and the society as social change-makers through sports projects. Several Young Leaders became members in IOC commissions since the inauguration of the program, which is an indicator for the success of the project.

Several examples show that the YOGOCs aim to involve and reach out to youth in every area, locally and around the world as well. The involvement starts long before the start of the YOG: youth camps, festivals, contests, sports competitions, initiations, educational events, workshops, cultural events, performances, concerts, exhibitions, and other events are organised in the theme of the YOG, bringing the message of the YOG to the local and international youth. Schools and universities are often involved before and during the YOG through different projects. Giving the opportunity to school children and university students to be part of the event in some form is a great way to contribute to the education of the youth and make them familiar with Olympism, importance of physical activity and healthy lifestyle, career opportunities in sport, and other topics covered during the YOG, while improving their social skills.

With these events and activities, thousands or even millions of people can be reached already before the start. Reaching out to locals in all ages and engage them is a very important

step in building up excitement around the YOG and spread the messages. The community engagement and making people feel part of it is a big advantage of the YOG, through celebration events, festivals, and the Torch Tour. The reach of the Torch Tour can be remarkable as well, involving hundreds or even thousands of torchbearers and tens of thousands of visitors in several different locations within the host country and outside the country too. The innovative virtual torch tour in Nanjing had over 115.000 torchbearers and more than 112 million visits worldwide through the app. In general, the summer YOGs are bigger in size and have a remarkably larger reach than the winter editions.

There is a high interest in the volunteer program of the YOG, reaching thousands of people and building a community with a sense of belonging, engagement, cross-cultural and cross-generational experience which everyone can benefit from. It is however debated whether the volunteers stay active after the event, or they were only attracted by this specific event. Based on a research in general the interest of volunteers in volunteering decreases significantly after the event, which can be explained by the motives: they are volunteering for individualistic reasons (networking, learning, improving skills, better employability) rather than due to their long-term connection to the organisation. This creates difficulties in keeping the volunteers in the system.

YOG has a strength in fostering building friendships among youth and cross generations too through the several programs, side events and platforms for interactions. Building friendships was emphasised by most participants as the highlight of their experience and highlighted by Rogge in his speech to the youth. For many young people, the YOG is a once in a lifetime opportunity to be part of such a diverse international environment and meet their peers from all around the world. The regulations of the YOG set by IOC support diversity, universality, and equality, by ensuring equal chances to young people from all over the world to attend. The number of participants and participating nations are growing, as well as the number of events too. There is however a limitation, to avoid gigantism. Reaching gender equality the first time in the Olympic Movement was a great milestone in 2018 in Buenos Aires and later in 2020 in Lausanne as well. The mixed gender and mixed NOC events are also a great tool to foster gender equality, as well as to reduce the nationalistic nature by allowing the athletes to compete together as a team with athletes from the opposite gender and athletes from other nations. Not having records and medal tables recorded promotes transnationalism and follows Coubertin's vision of competition between individuals, not nations. Mixed events have

high popularity, however some athletes did not have a positive experience with it, as they had no experience in it and there was language barrier in many cases.

With the YOG, IOC provides a platform for youth to showcase their talent in their field, to network and equip themselves with skills and knowledge through a memorable experience that can help them in their professional career and personal life as well. Making a positive impact on young people's life and give them the floor to create is a great step towards sustainability. Training young people and create opportunities for them to develop can have a positive impact on the economy in the long term. Empowering youth and investing in youth can be considered as one of the strongest assets of the YOG.

The economic growth, social development and environmental protection must play an important role in the planning of any major events. As a sport event, the YOG can be considered very innovative and sustainable, with its flexibility to adapt to the local needs and with its strong focus on sustainability and on the education and empowerment of youth. All the actions show the commitment of the IOC and the host cities to make the YOGs sustainable, however, the long-term effects are still yet to be discovered and researched. To be a sustainable and successful event in the future, it is important to get feedback from stakeholders and evaluate the event and see what should be improved. The legacy of the YOG should be kept alive in each host city.

From my personal experience the Youth Olympic Games are a huge inspiration to young people around the world. Either as an athlete, volunteer, or any other non-athlete participants, the YOG has a lot to offer to the youth. Volunteering at two editions of the winter YOGs inspired me to deepen my knowledge in the Olympic Movement and Olympism, to become an active volunteer at many sport events including the Winter Olympic Games in PyeongChang, and to pursue my Masters in Olympic Studies. From the young people's perspective, I believe it can be a wonderful life-changing initiative that is a lot more than just another sports event.

There are some limitations to the study. Sustainability is a broad and complex area, requiring an expensive research. For an in-depth study, the three dimensions should be examined separately. Some of the sustainability aspects are difficult to measure, such as the intangible legacies. There is different research and different data available on each YOG, not

all editions have the same information available. There is also lack of studies in some areas, for example the financial aspects.

Within sustainability there are several areas that can be studied on its own and can be proposed for future research. To meet the objectives of the YOG, it would be essential to follow up on the career of the participants, how much they took away from their learning experience at the YOG and whether they became ambassadors of Olympism after the YOG. Since balancing the sports and education program is a challenge of the YOG, it could also be researched most thoroughly, how to improve this balance. The financing of the YOG is a less studied topic, therefore it would be important to analyse it. The bids and the strategies of future YOG host cities and bid cities could be studied as well and examine the possible future of the event.

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